

Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	1 ply
Fiberglass Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 layer of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV, or BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%)

of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

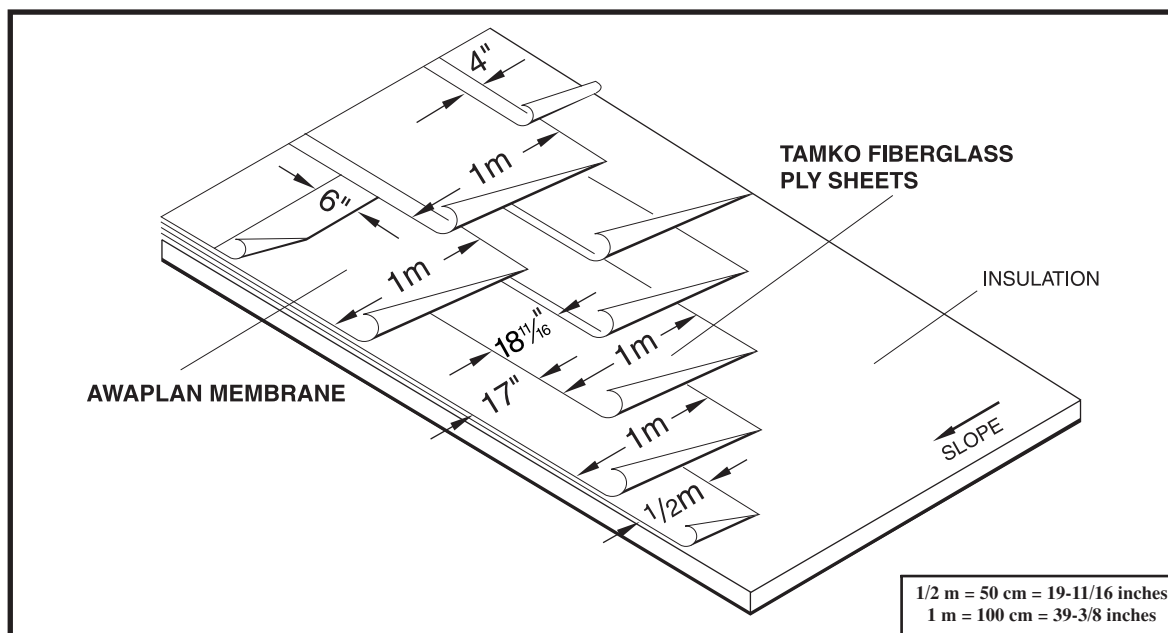
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as

a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM®, or TAM-PLY IV®	
Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN PREMIUM FR	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

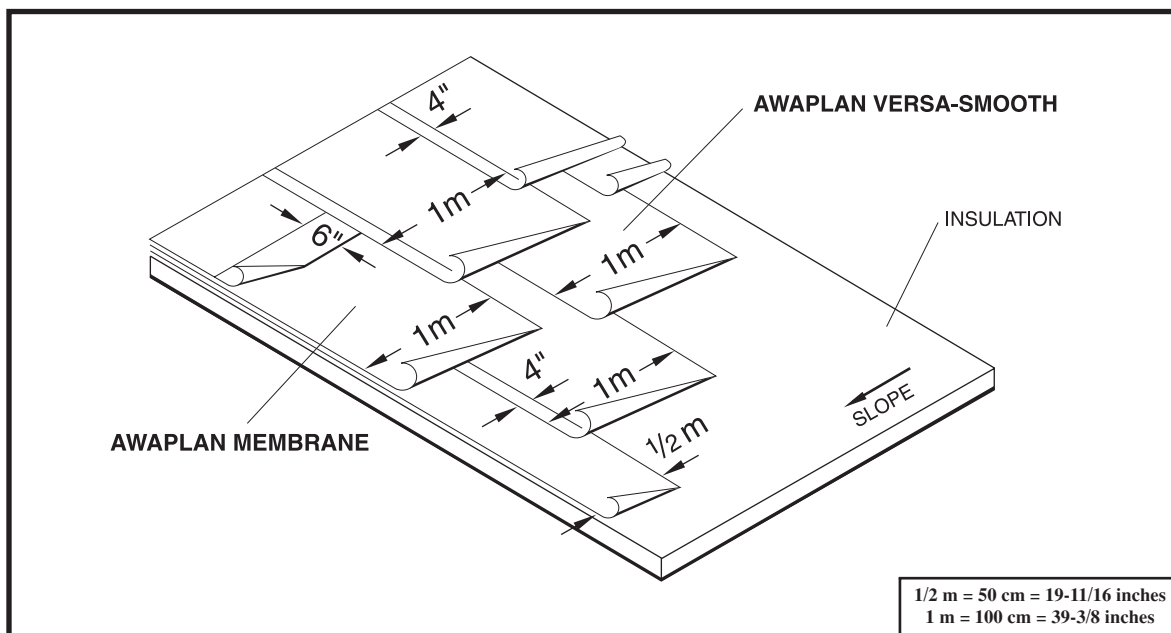
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

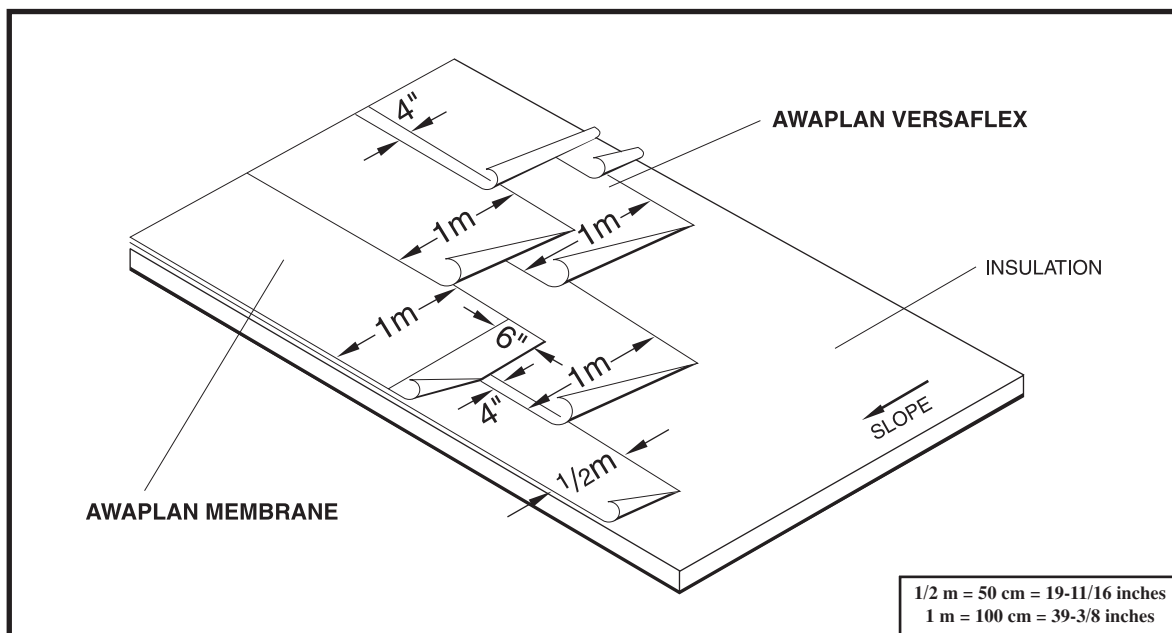
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Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply

(pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

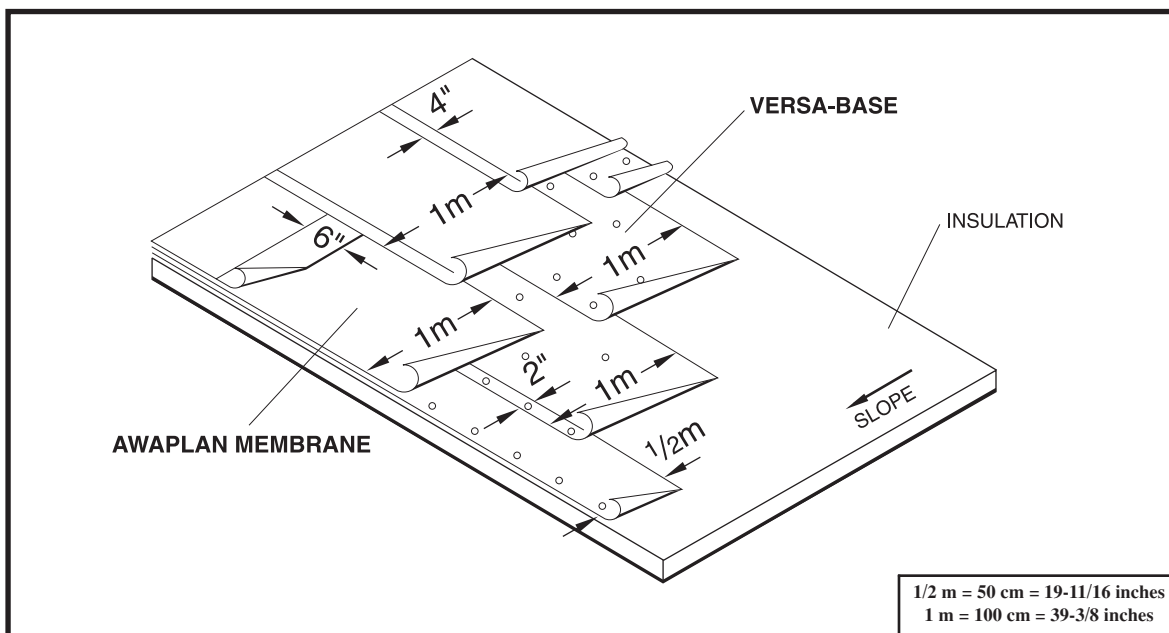
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above

400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

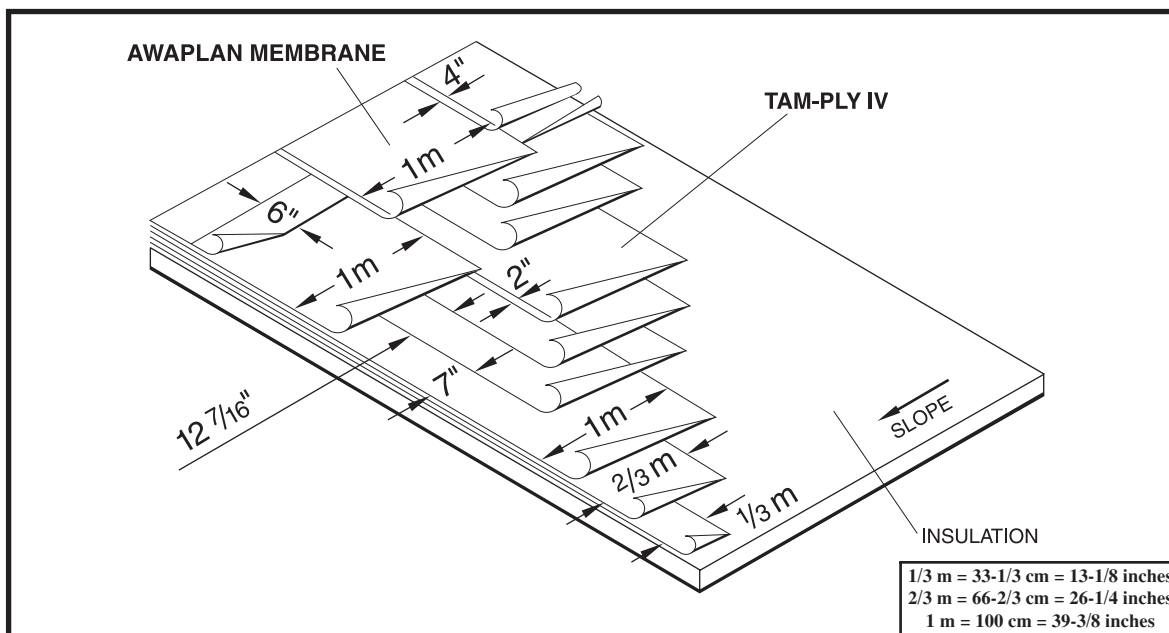
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN PREMIUM FR	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%)

of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

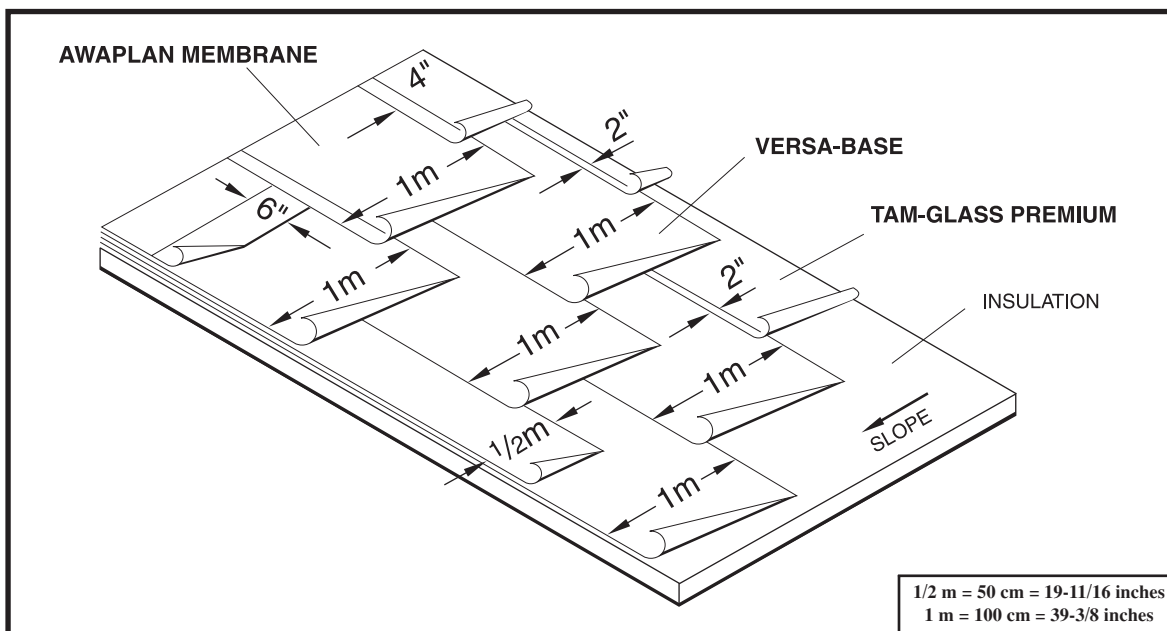
108FR AWAPLAN PREMIUM FR

INSULATED DECKS

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For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

TAM-GLASS PREMIUM: Starting at the low point of the roof, install one ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application

and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

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Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

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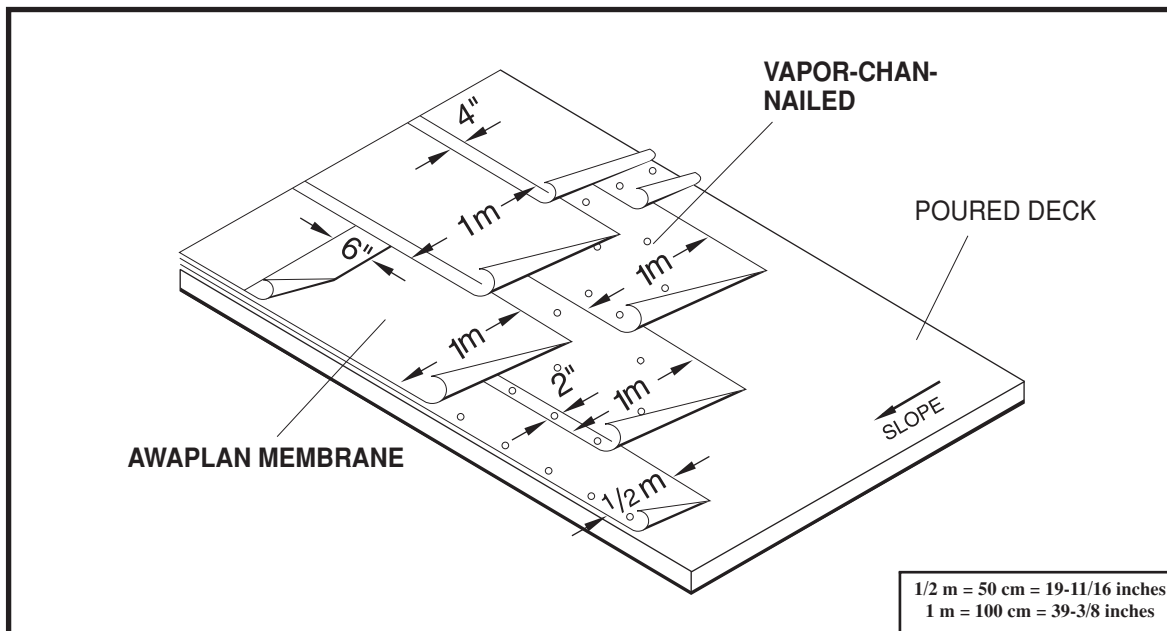
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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure



SPECIFICATION SUBMITTAL

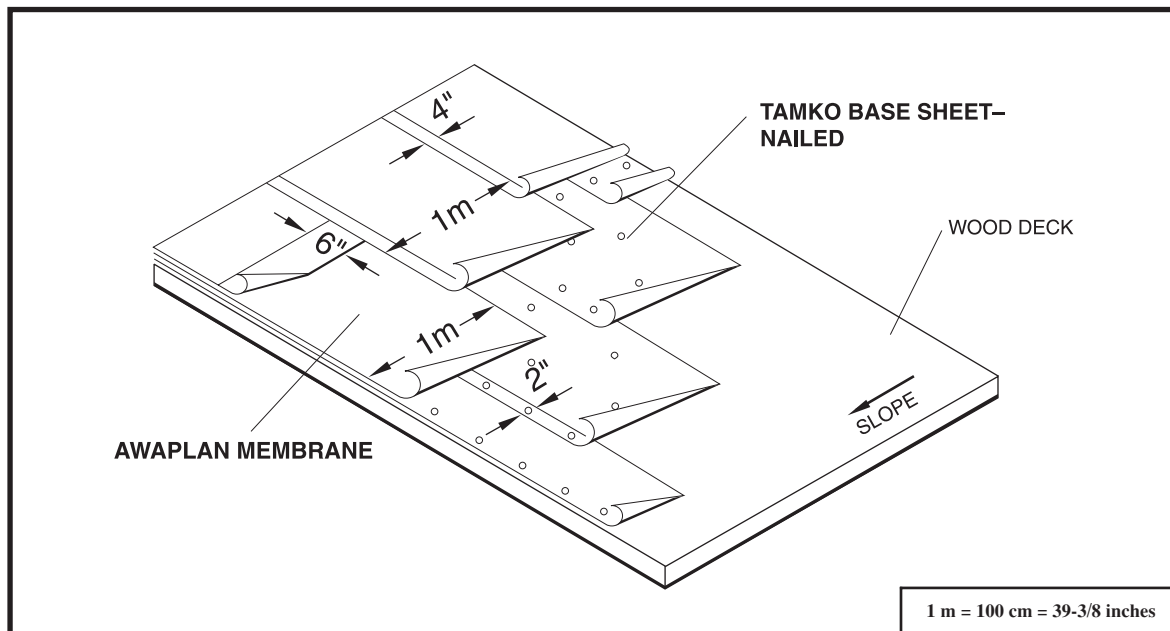
111FR AWAPLAN PREMIUM FR

NAILABLE DECKS (GYPSUM AND LIGHTWEIGHT
INSULATING CONCRETE)

adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO-GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full 1 width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%)

of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

SAFETY IS OF MAJOR IMPORTANCE WHEN HEAT WELDING MODIFIED BITUMENS ON A WOOD DECK. THERE SHOULD BE A SUFFICIENT NUMBER OF FIRE EXTINGUISHERS ON THE ROOF TO HANDLE ANY CONTINGENCY WHICH MIGHT DEVELOP.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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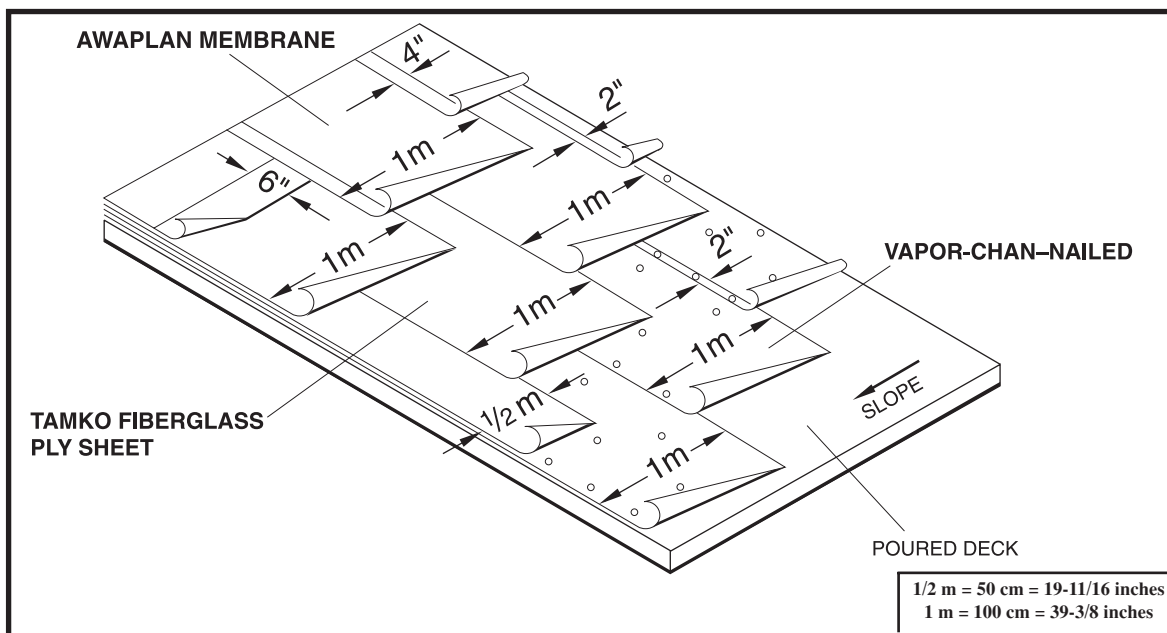
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breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

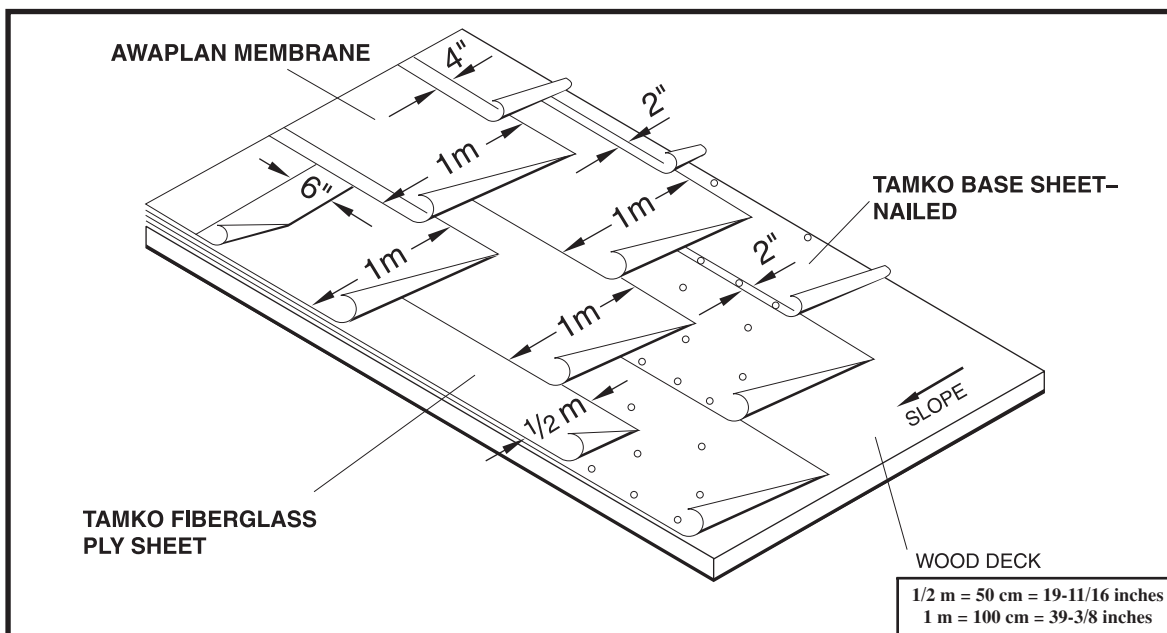
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO-GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

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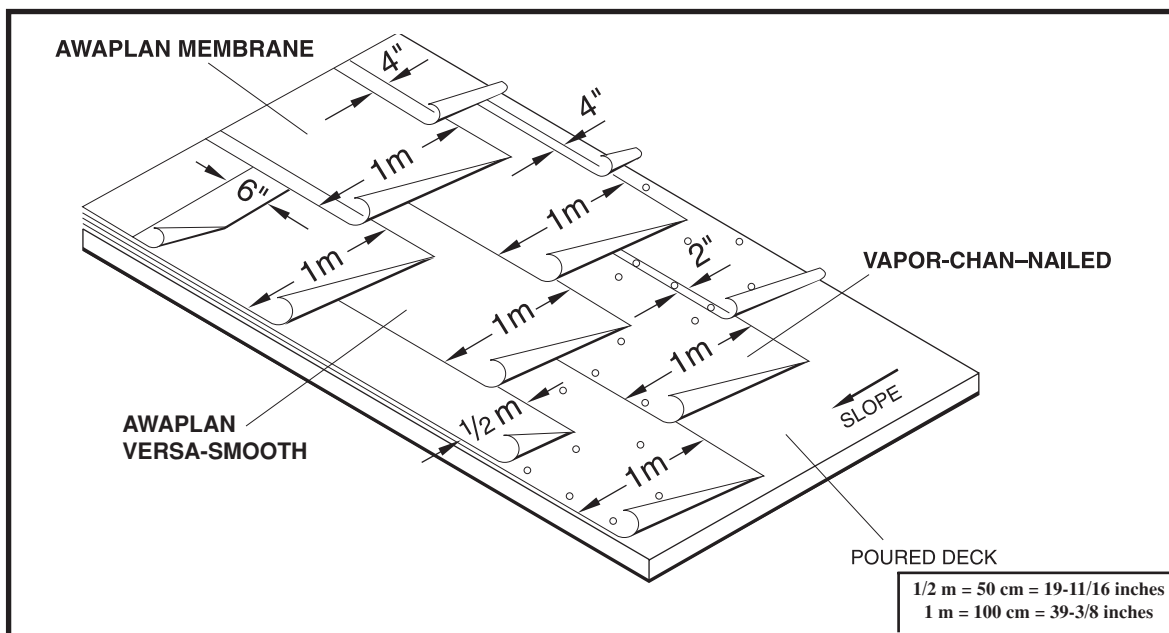
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no

more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

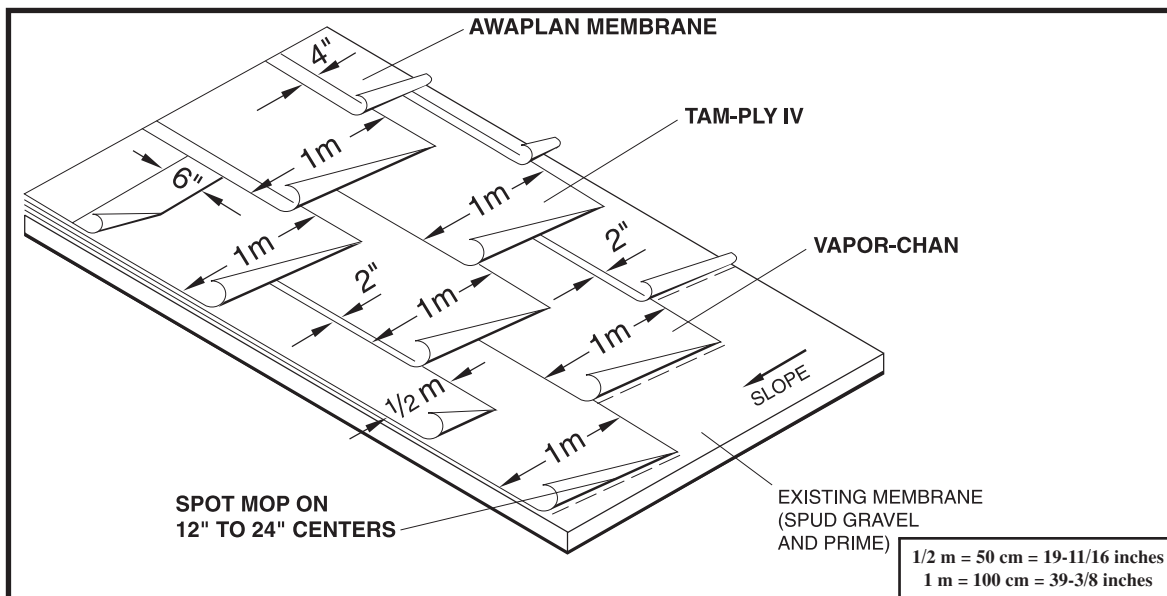
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***Precast Concrete Decks:** This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Concrete Primer (Per 100 sq. ft.)	Approx. 3/4 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Spud the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. The surface should be primed with concrete primer at a rate of approximately 3/4 gal. per 100 sq. ft. prior to the application of new roofing materials.

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

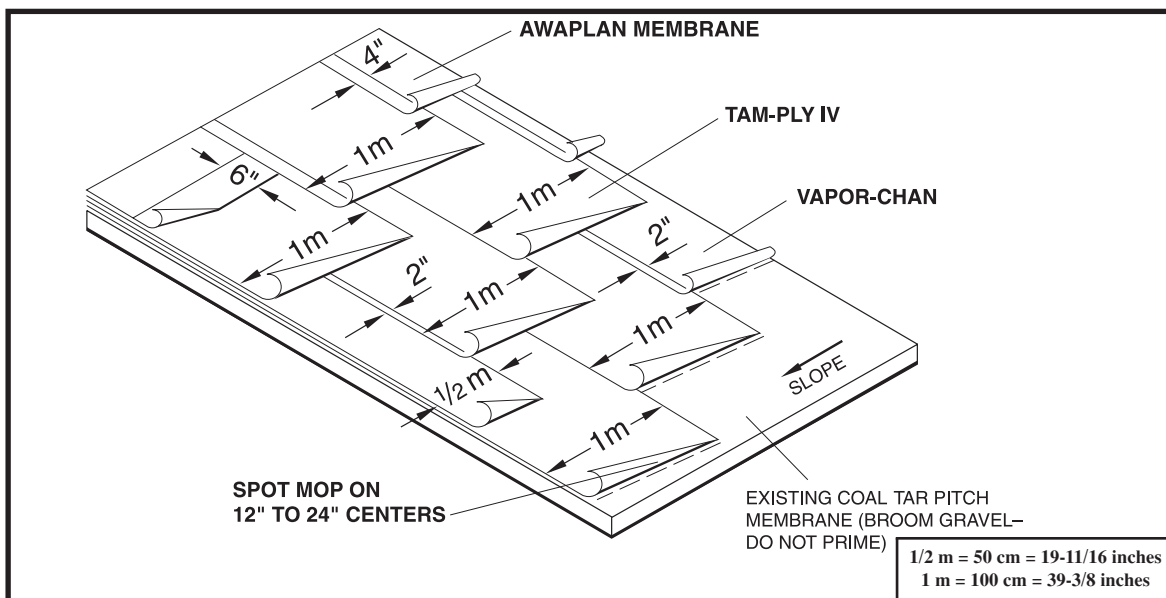
Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Broom the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent from the old system and any existing insulation materials. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. **DO NOT USE ANY PRIMERS.**

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation



SPECIFICATION SUBMITTAL

136FR AWAPLAN PREMIUM FR

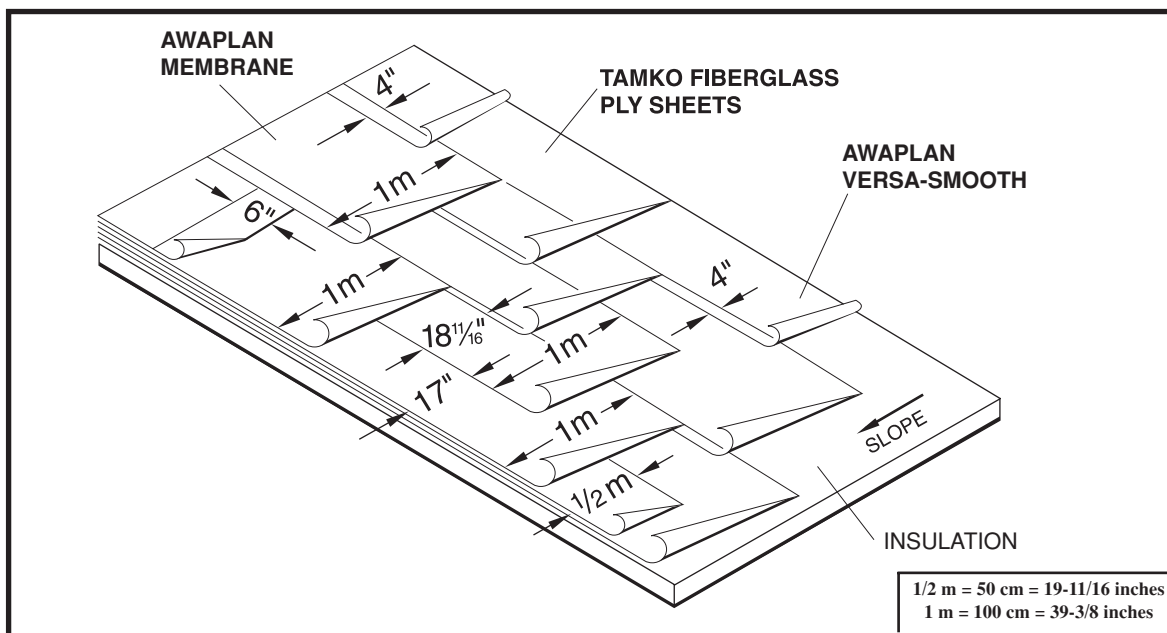
RECOVER OVER EXISTING GRAVEL SURFACED
MEMBRANE (COAL-TAR PITCH)

or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO AWAPLAN VERSA SMOOTH

TAMKO TAM-PLY® OR TAM-GLASS PREMIUM®
Fiberglass Ply Sheet **2 plies**

TAMKO AWAPLAN PREMIUM FR
(Granule Surfaced) **1 ply**

Interply Asphalt (per 100 sq ft.) **Approx. 92 lbs.**

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft.

in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

Fiberglass Ply Sheets: Over the base ply, install **2 plies** of TAM-PLY IV or TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Start with an 1/2 m wide sheet followed by full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. over the preceding ply so that at least 2 plies cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM FR can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM FR roll to form a bead of melted asphalt as the AWAPLAN PREMIUM FR is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com

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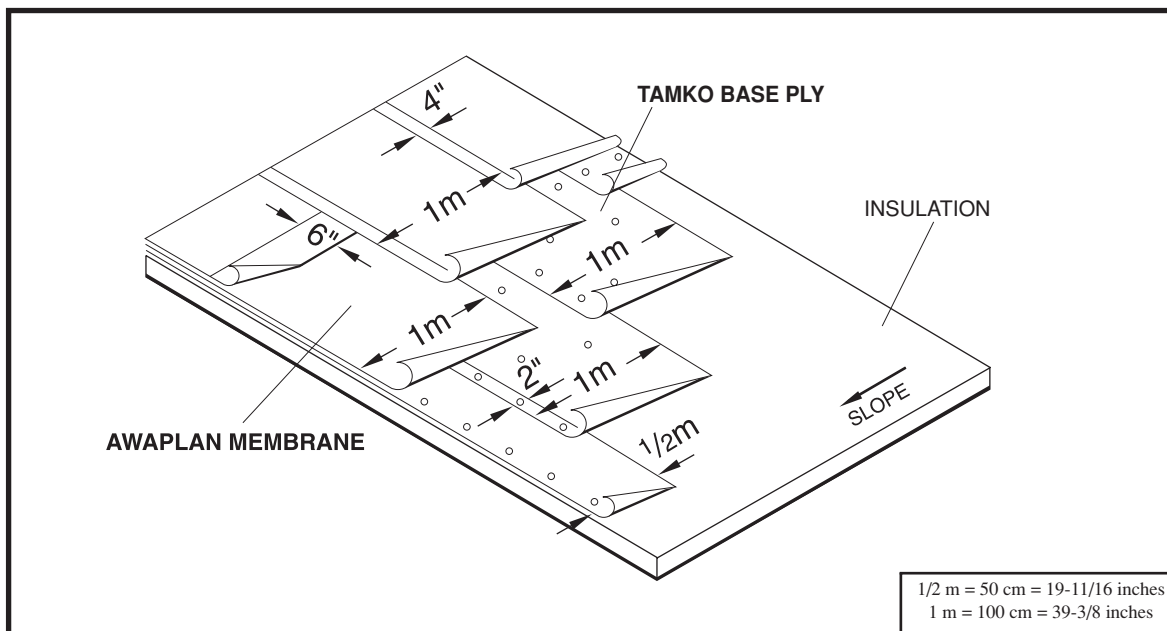
been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	
Fiberglass Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
TAM-PRO® 856	
Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal.
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate or EPS insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV or BASE-N-PLY, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. For specific patterns for wind uplift listings, contact the Technical Services Department.

Alternately, the TAMKO GLASS-BASE, TAM-GLASS PREMIUM, or TAM-PLY IV may be solidly mopped to the insulation with approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM FR membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or hot air welded together. Use care when applying heat as damage can occur to the product by overheating.

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during



SPECIFICATION SUBMITTAL

101FRC AWAPLAN PREMIUM FR

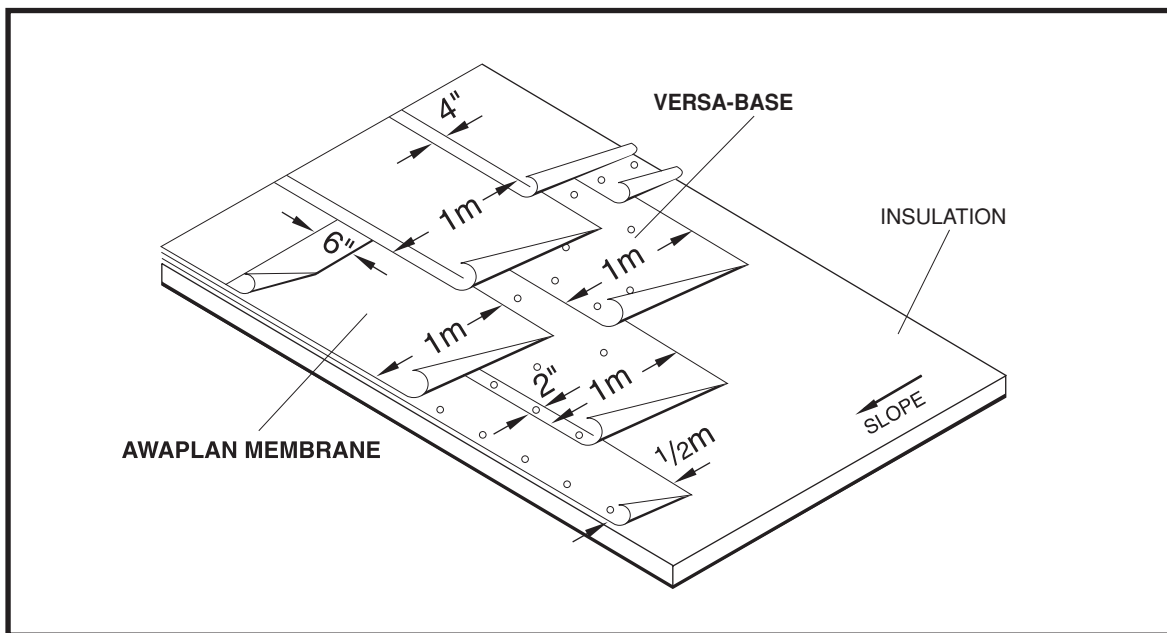
INSULATED DECK

demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal.
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate or phenolic insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Alternately, the VERSA-BASE may be solidly mopped to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM FR membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or hot air welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

107FRC AWAPLAN PREMIUM FR

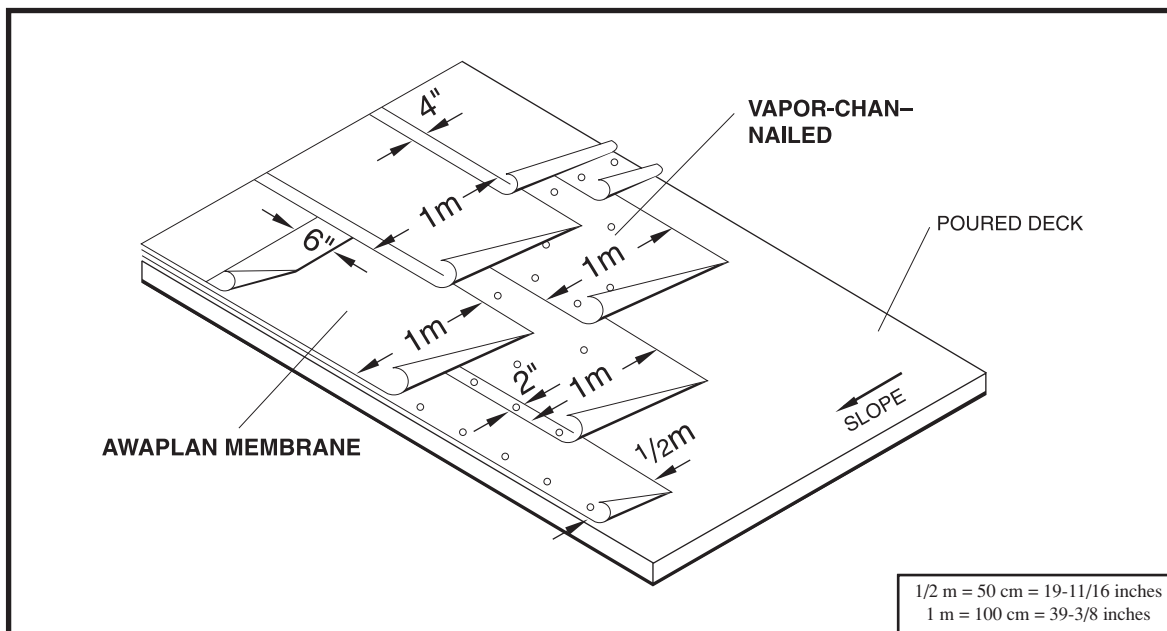
INSULATED DECK

or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (per 100 sq. ft.)	1-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a full 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift, contact the Technical Services Department.**

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM FR membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

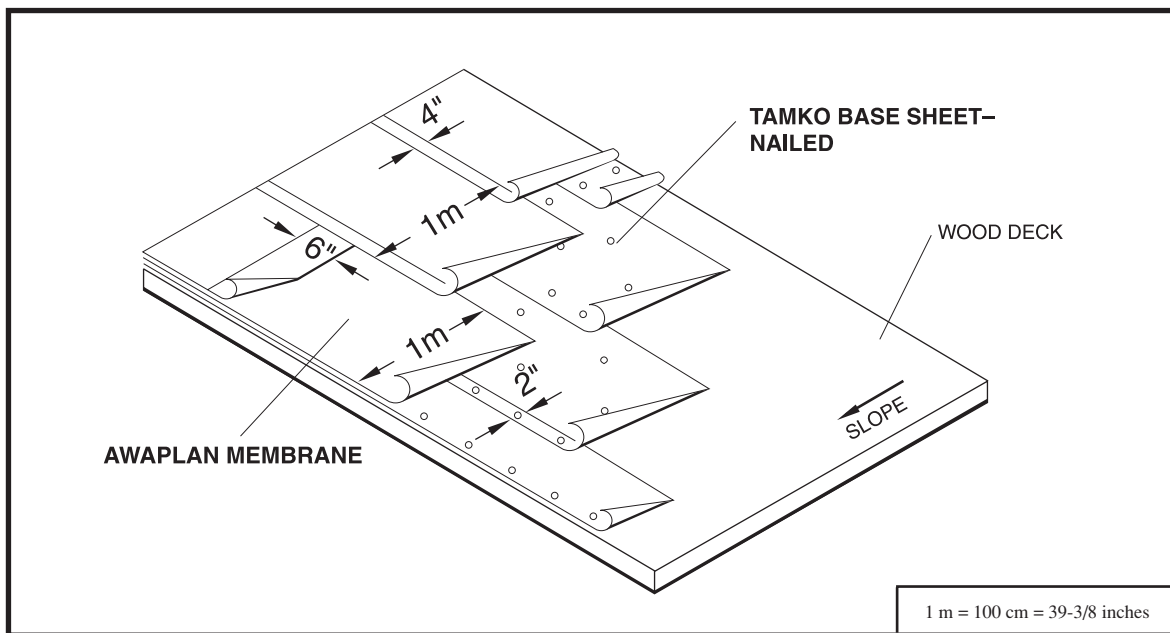
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (per 100 sq. ft)	1-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM FR membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard.



SPECIFICATION SUBMITTAL

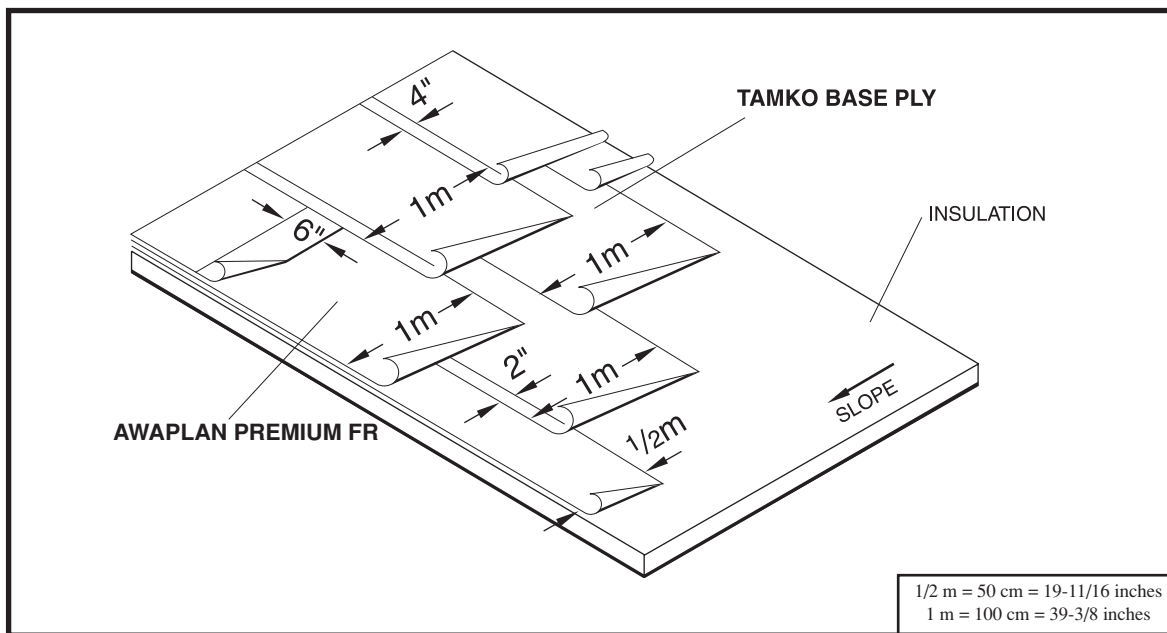
112FRC AWAPLAN PREMIUM FR

NAILABLE DECKS (WOOD)

of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO BASE-N-PLY® Fiberglass Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

BASE-N-PLY: Starting at the low point of the roof, install 1 layer of TAMKO BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U. L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

101FR M³ AWAPLAN PREMIUM FR

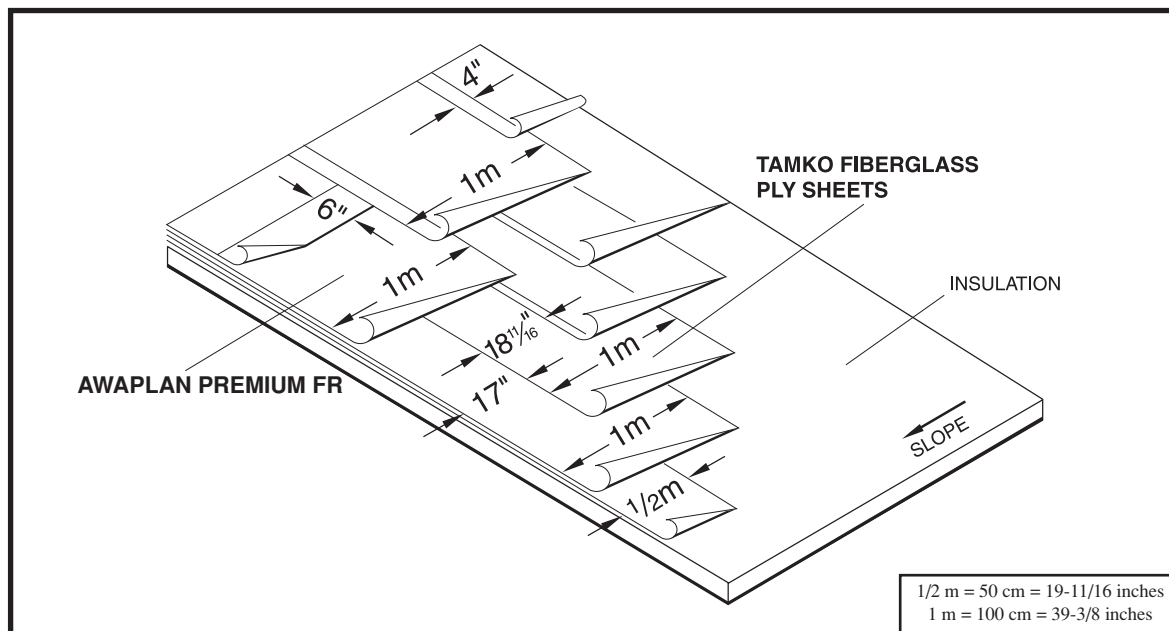
INSULATED DECKS

nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®
Fiberglass Ply Sheet **2 plies**

TAMKO AWAPLAN PREMIUM FR
(Granule Surfaced) **1 ply**

Asphalt (Per 100 sq. ft.) **Approx. 46 lbs.**

M³ Adhesive (Per 100 sq. ft.) **Approx. 1-1/2 to 2-1/2 gal.**

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV inspecification asphalt. Starting from the low point of the roof, apply a 1/2m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

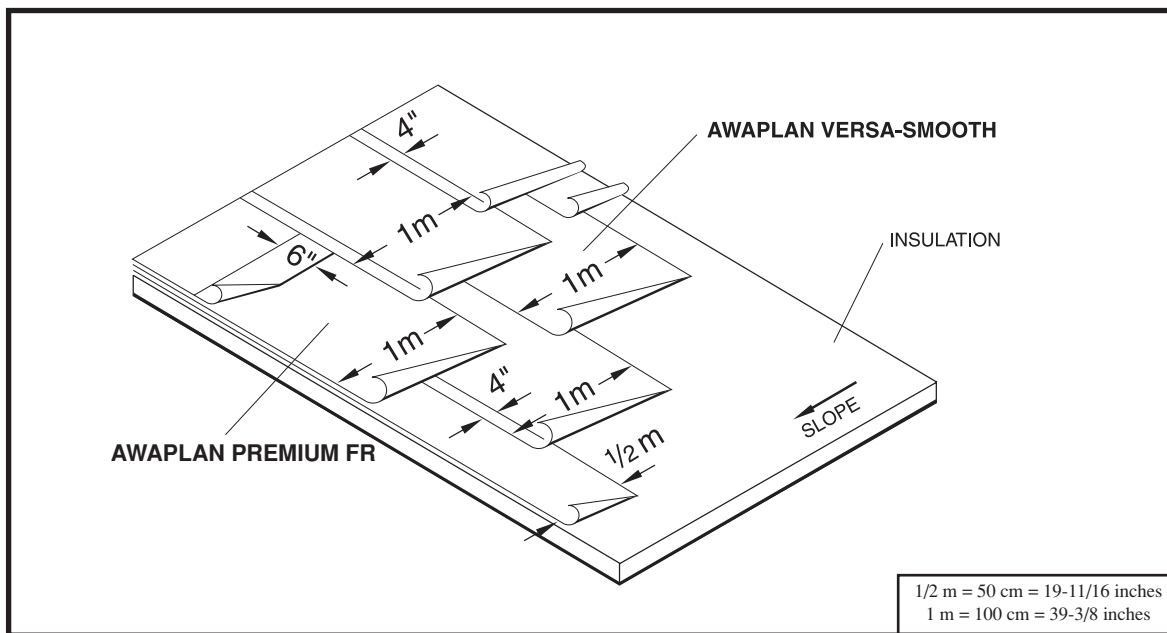
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal.

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

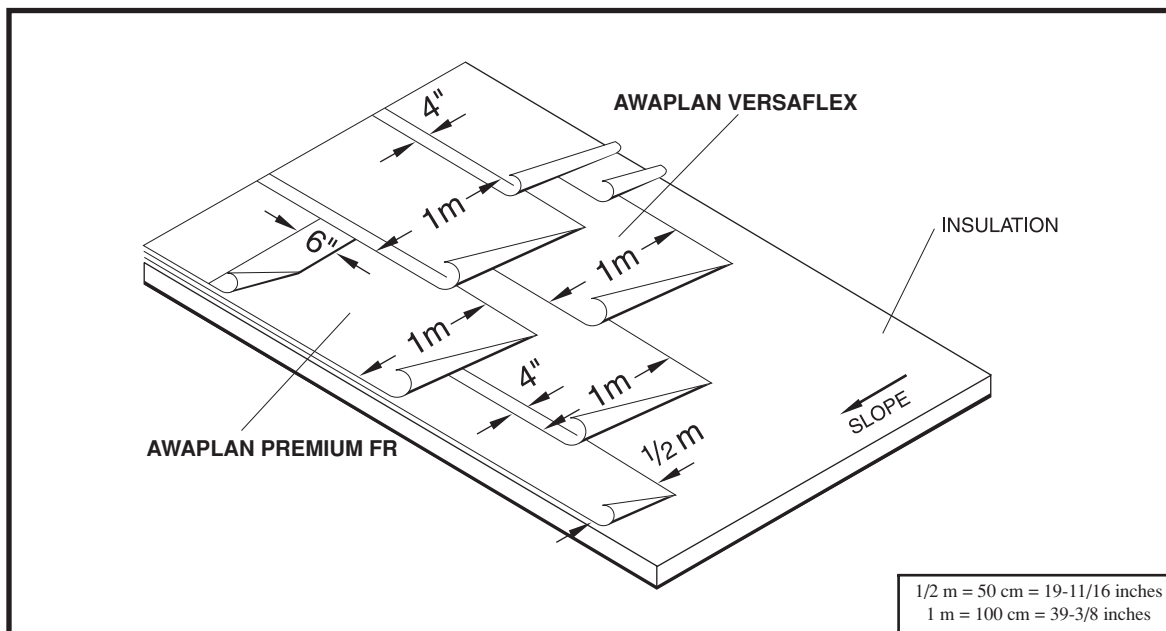
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Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the AWAPLAN VERSAFLEX may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt

should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

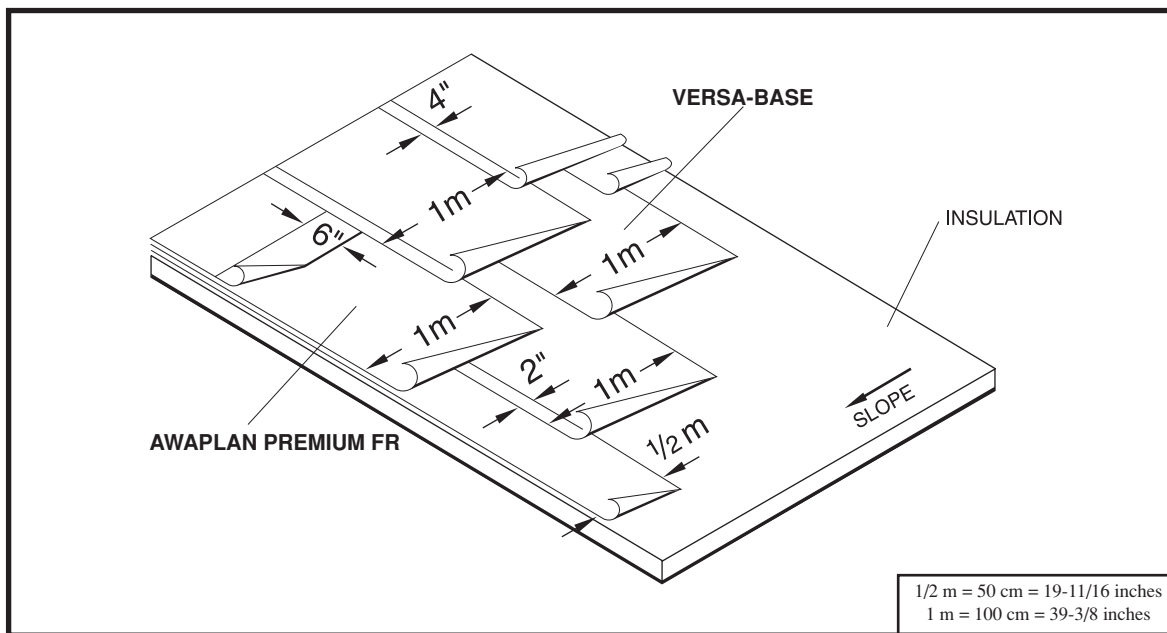
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Material Requirements

TAMKO VERSA-BASE®	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VERSA-BASE: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. The VERSA-BASE should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the VERSA-BASE may be solidly adhered to the insulation (pressed into hot asphalt) with approximately 23 bls. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

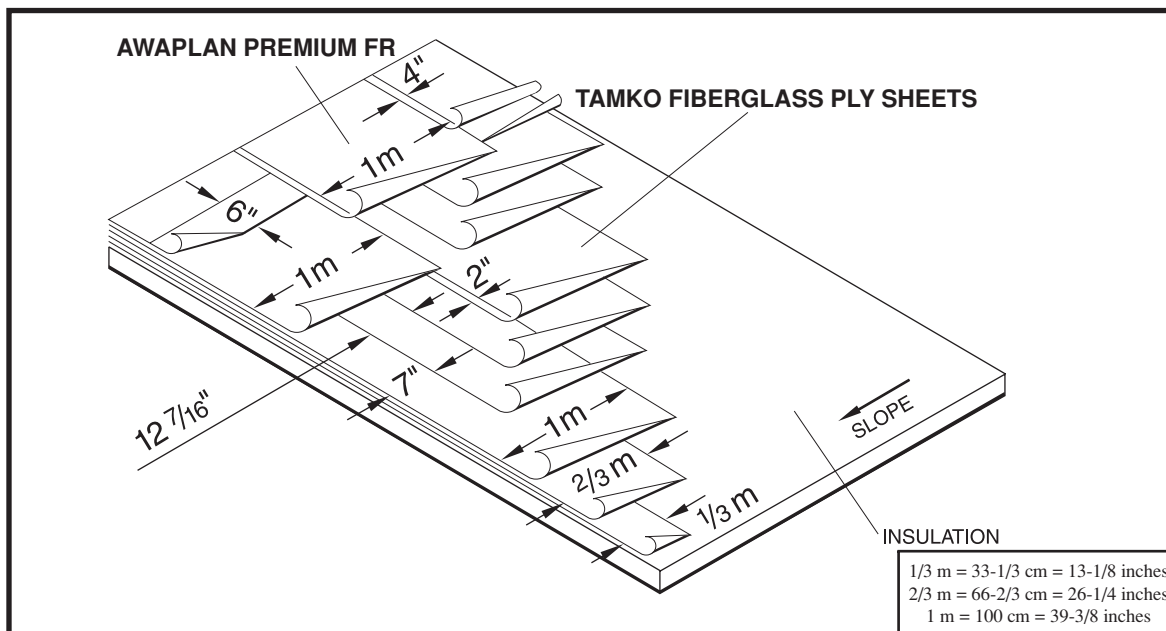
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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26¹⁵/₁₆ in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

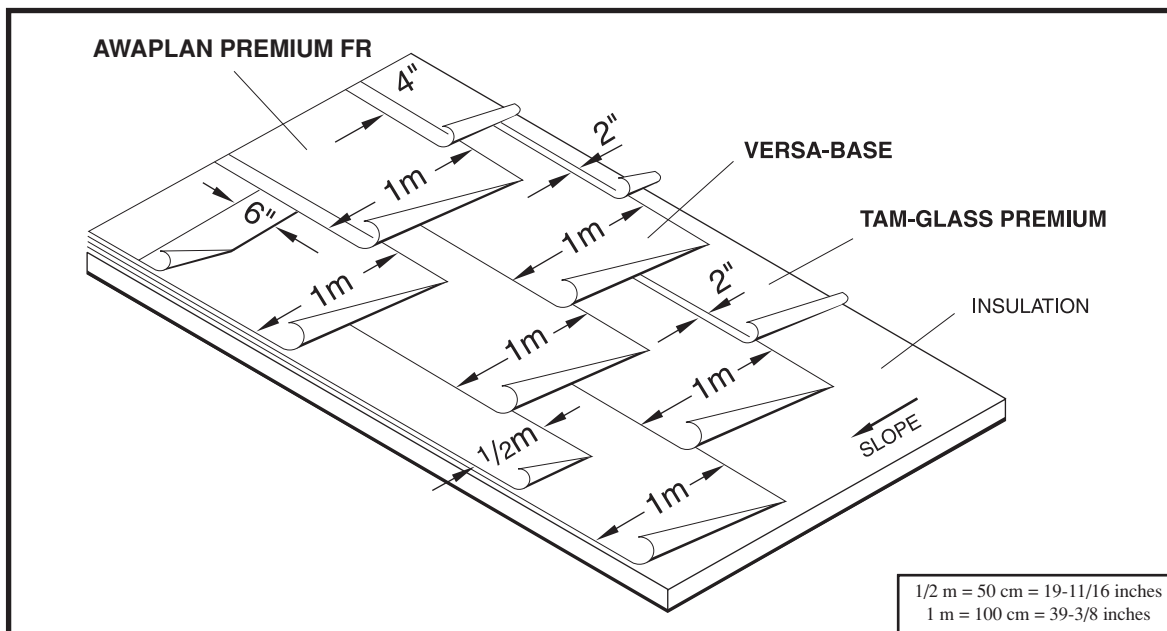
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Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.**, fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

TAM-GLASS PREMIUM: Starting at the low point of the roof, install 1 ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAMKO VERSA-BASE, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

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SPECIFICATION SUBMITTAL

109FR M³ AWAPLAN PREMIUM FR

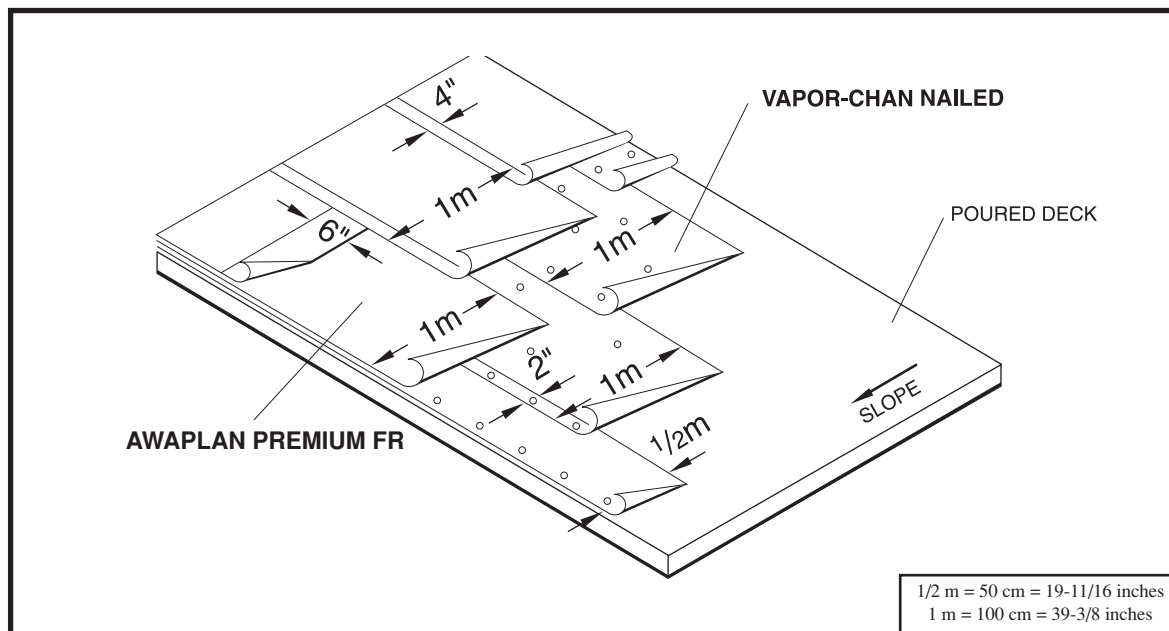
INSULATED DECKS

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM FR membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

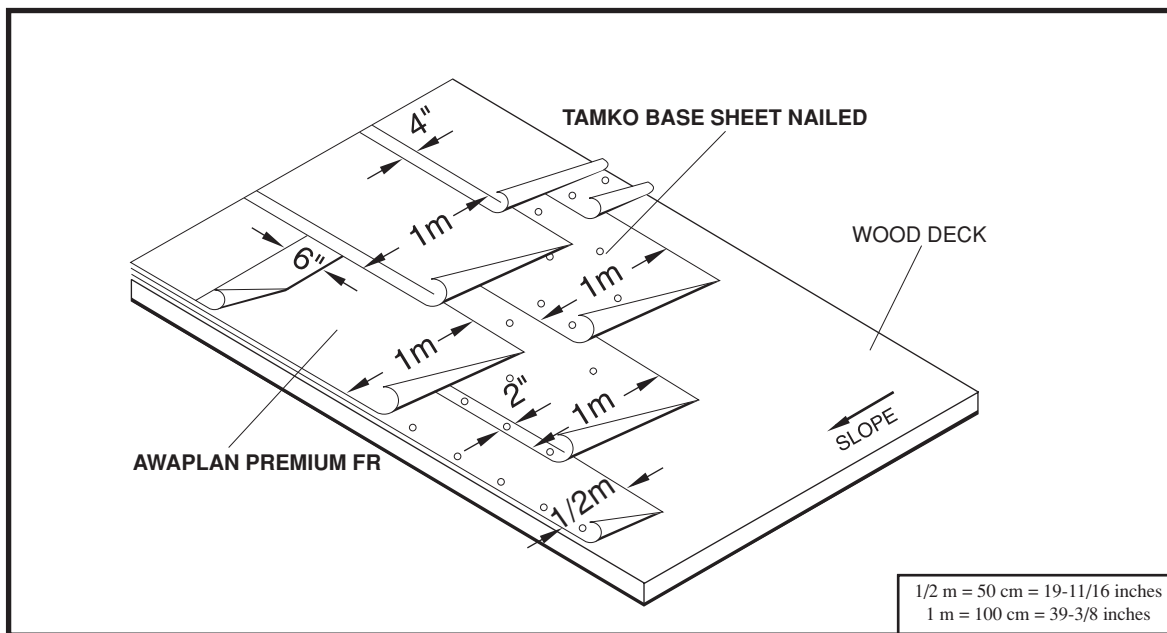
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM FR membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

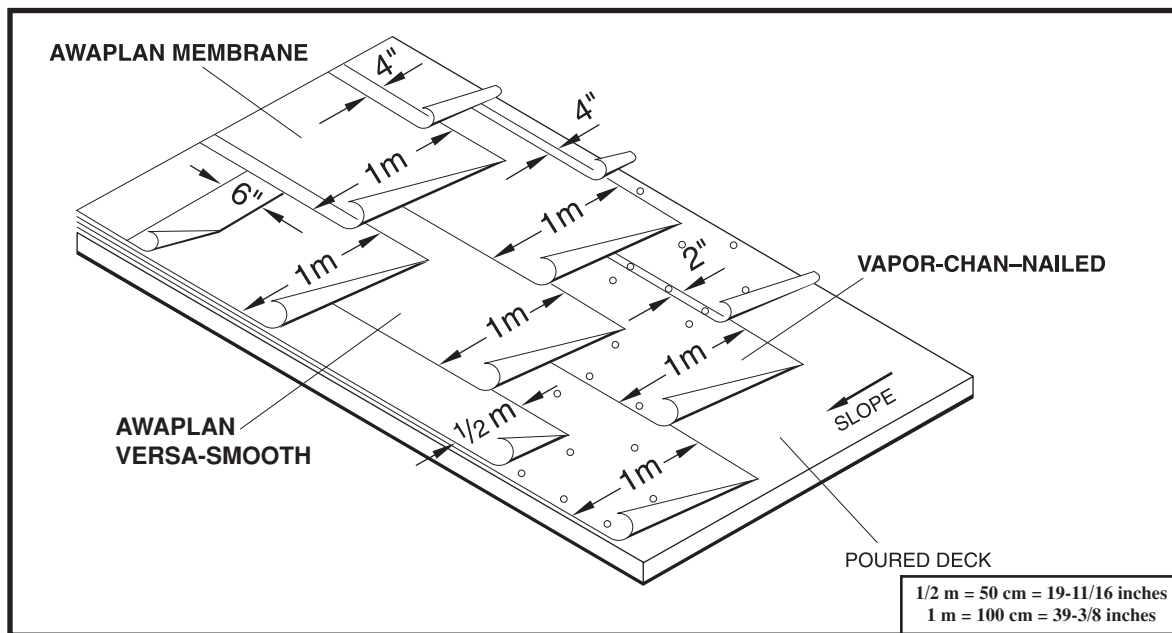
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational

exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Sides laps and end laps

shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

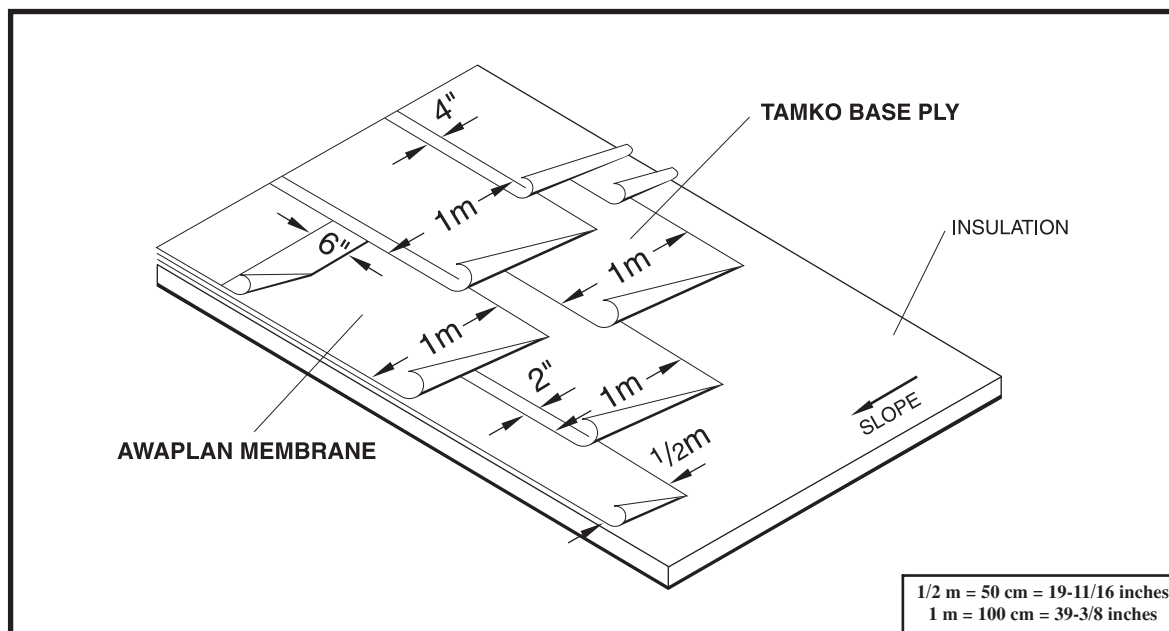
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	
Fiberglass Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Ply: Starting at the low point of the roof, install 1 layer of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV, or BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of

application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "torch applied" or "hot mopped" application, workers must take precautions to assure

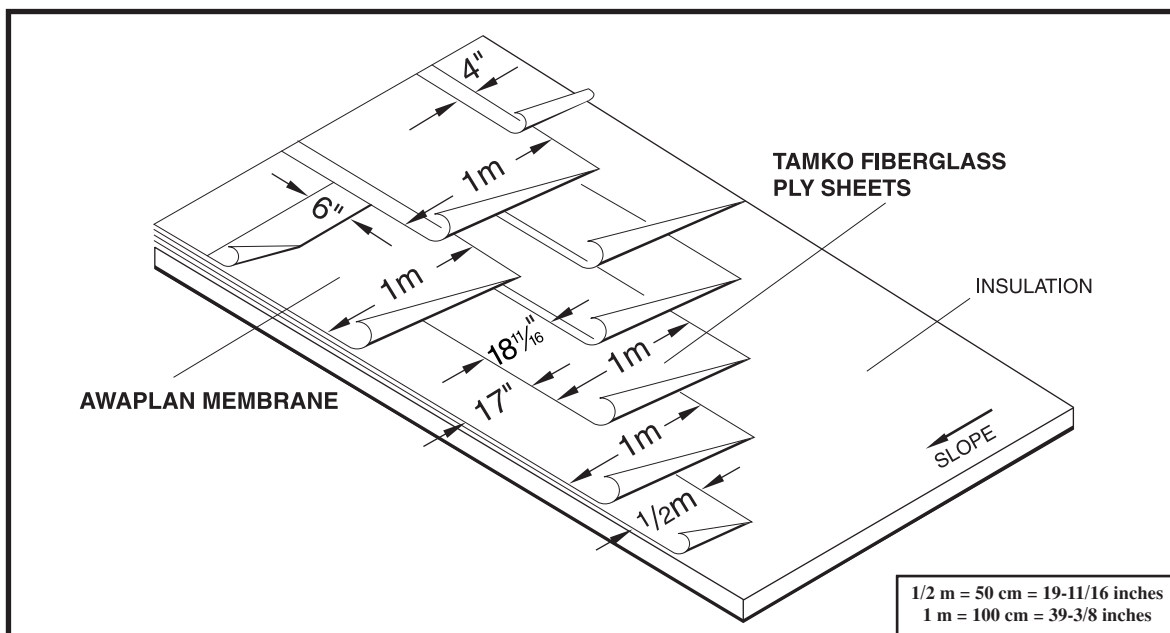
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adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-GLASS PREMIUM®, or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specifi-

cation asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

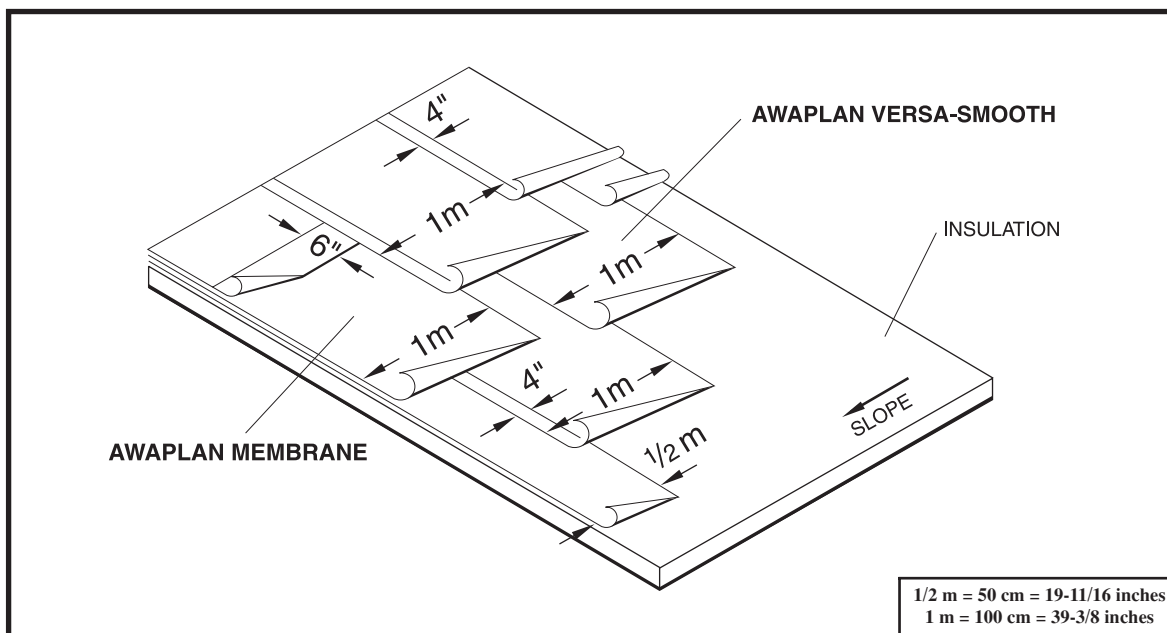
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Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal

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of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

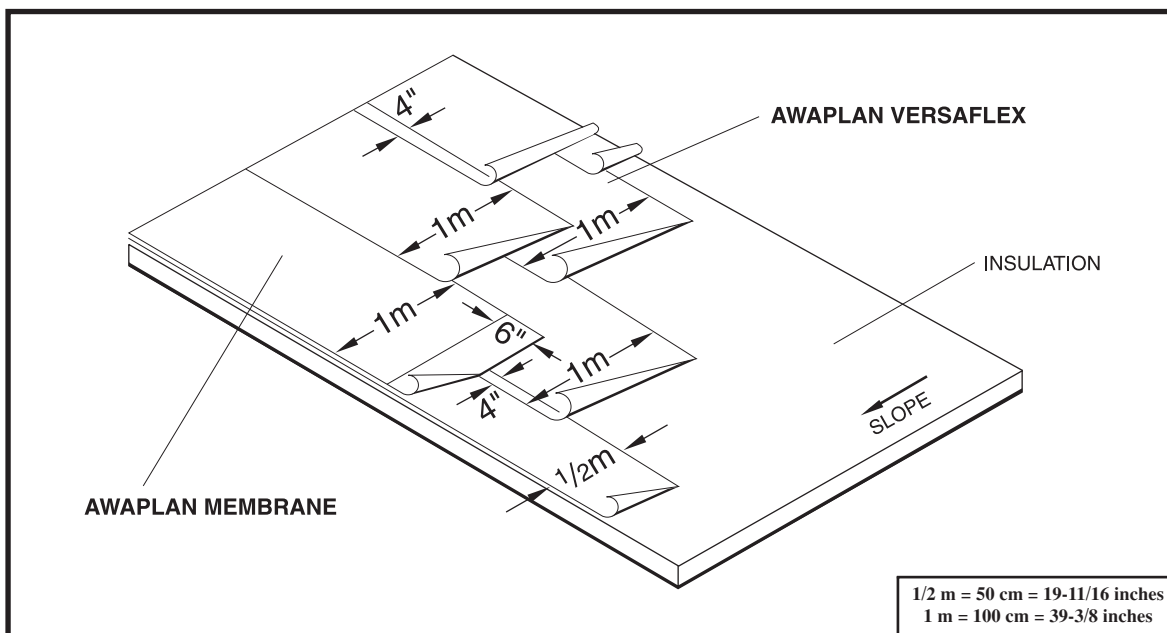
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in

the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt

per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "torch applied" or



SPECIFICATION SUBMITTAL

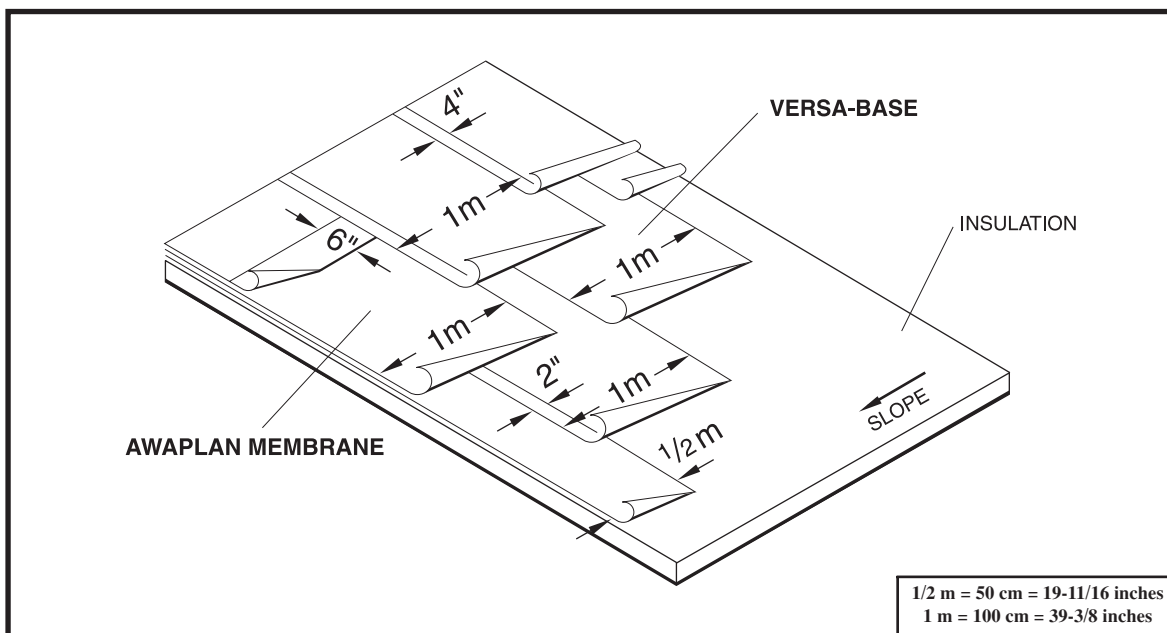
104 AWAPLAN PREMIUM

INSULATED DECKS

“hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of

application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "torch applied" or "hot mopped" application, workers must take precautions to assure



SPECIFICATION SUBMITTAL

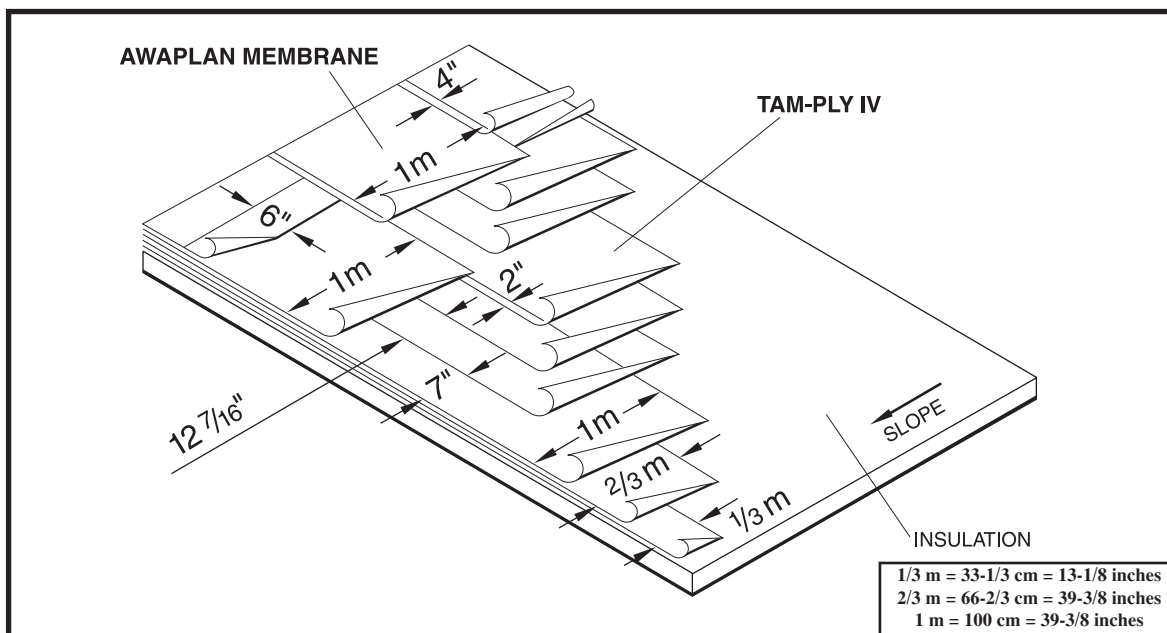
107 AWAPLAN PREMIUM

INSULATED DECKS

adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 25-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt

per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

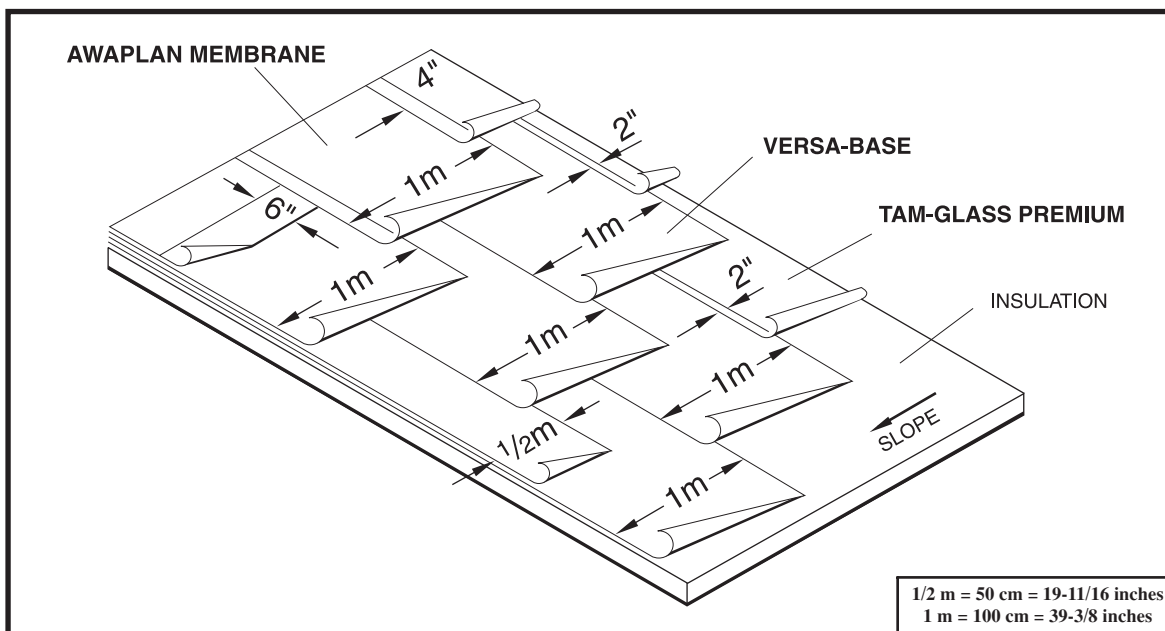
108 AWAPLAN PREMIUM

INSULATED DECKS

“hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

TAM-GLASS PREMIUM: Starting at the low point of the roof, install one ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq.

ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

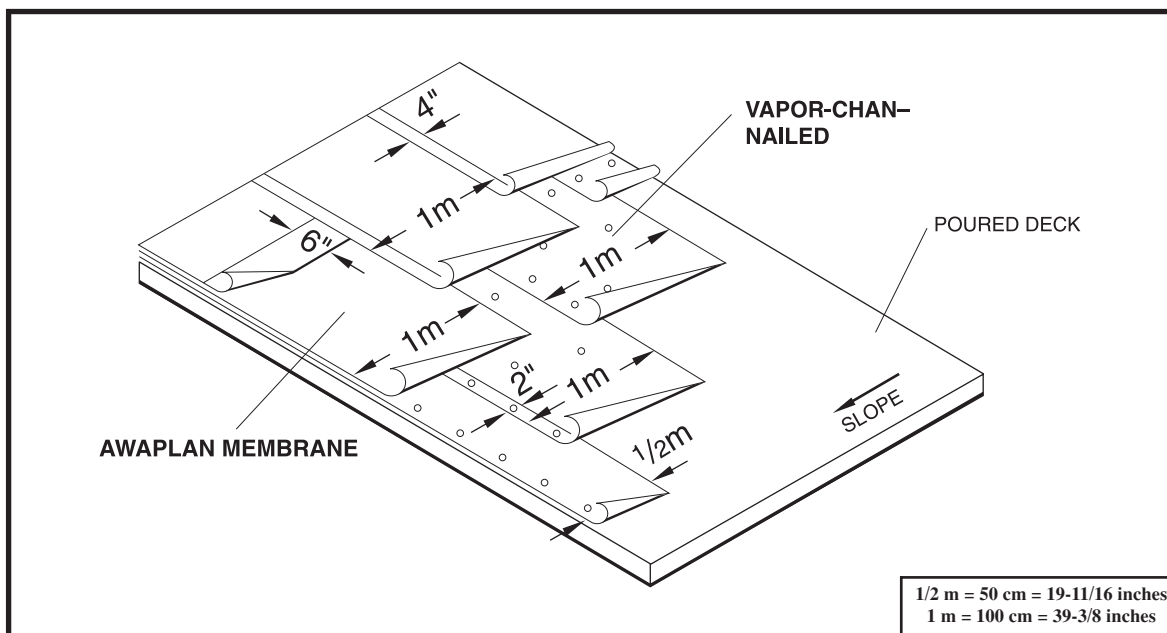
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation

or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

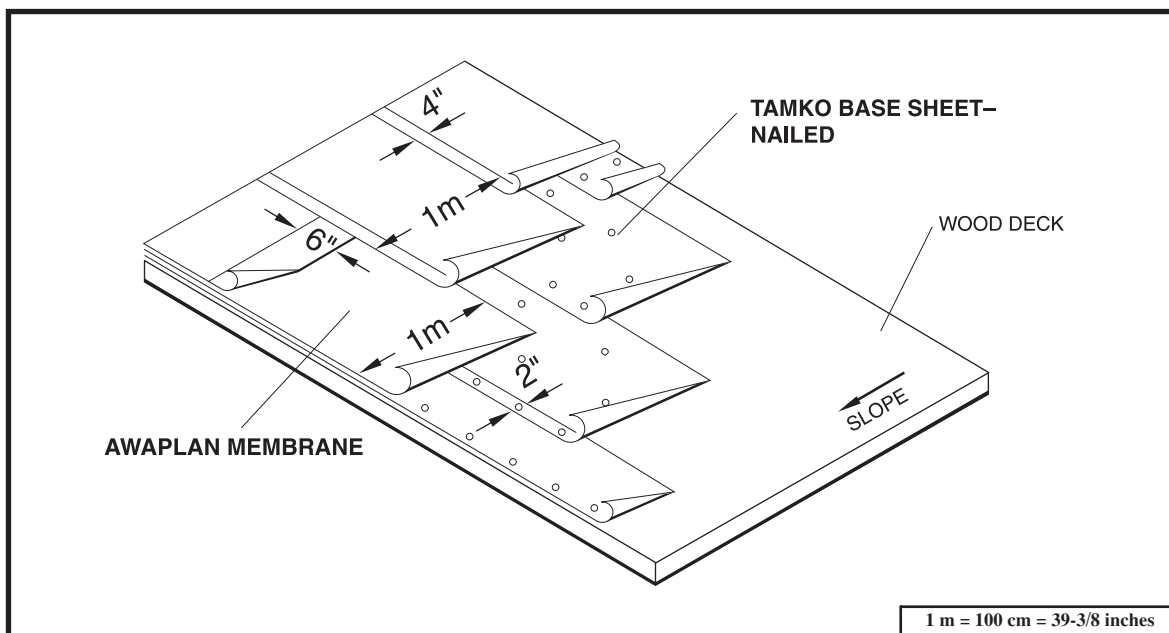
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Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE®, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt

per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the base ply by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. Use care when applying heat as damage can occur to the product by overheating.

SAFETY IS OF MAJOR IMPORTANCE WHEN HEAT WELDING MODIFIED BITUMENS ON A WOOD DECK. THERE SHOULD BE A SUFFICIENT NUMBER OF FIRE EXTINGUISHERS ON THE ROOF TO HANDLE ANY CONTINGENCY WHICH MIGHT DEVELOP.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

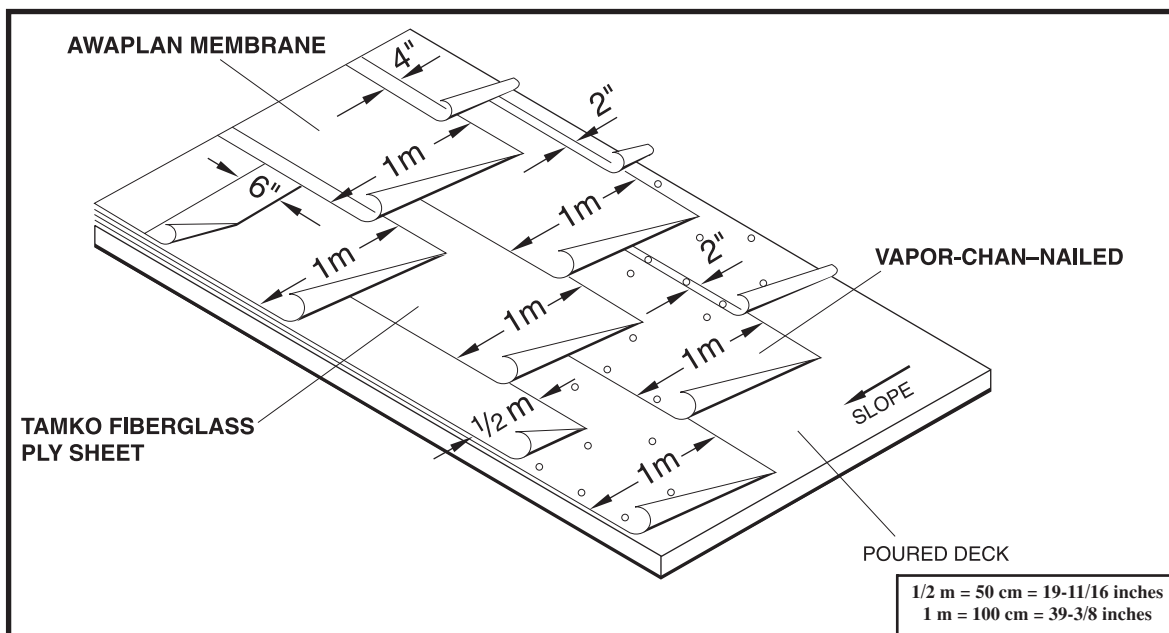
U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in

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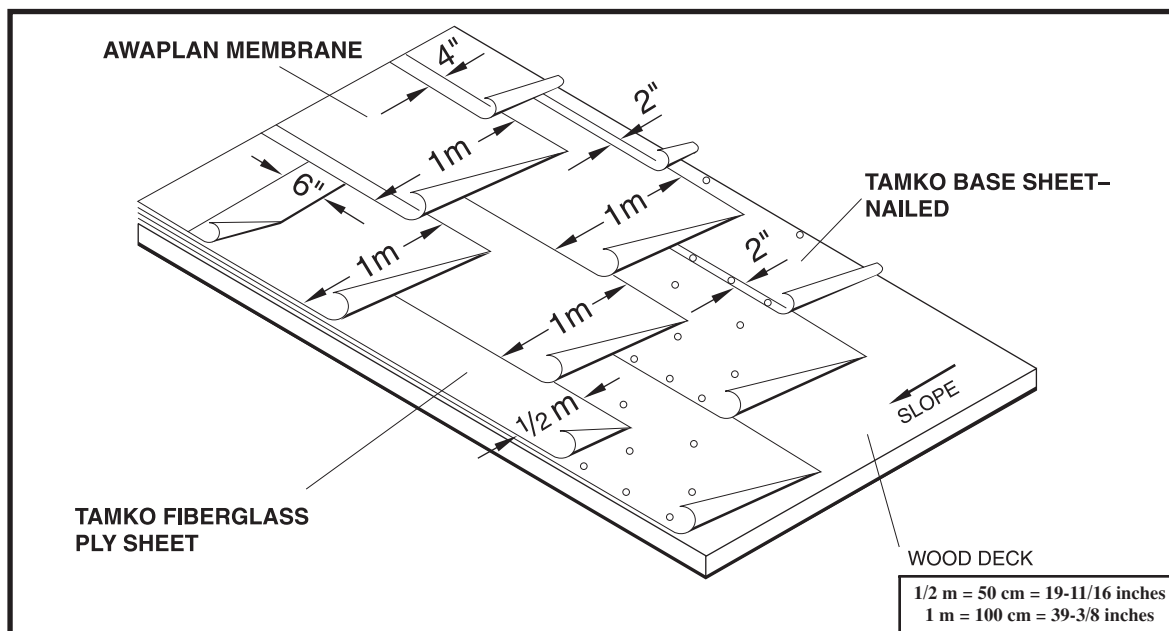
the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE®, or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**
Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped

2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

SAFETY IS OF MAJOR IMPORTANCE WHEN HEAT WELDING MODIFIED BITUMENS ON A WOOD DECK. THERE SHOULD BE A SUFFICIENT NUMBER OF FIRE EXTINGUISHERS ON THE ROOF TO HANDLE ANY CONTINGENCY WHICH MIGHT DEVELOP.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons

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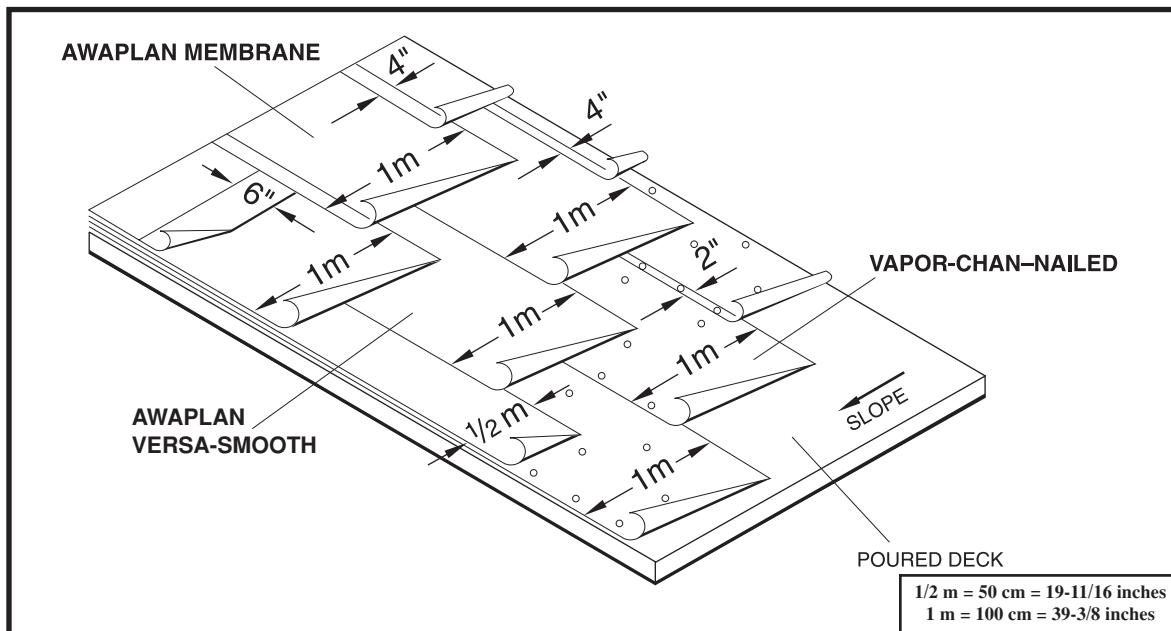
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some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH® Modified Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install a 1/2 m width of TAMKO AWAPLAN VERSA-SMOOTH, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. Follow the half-width ply with full 1 m widths of AWAPLAN VERSA-SMOOTH. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft.

in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base sheet and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard

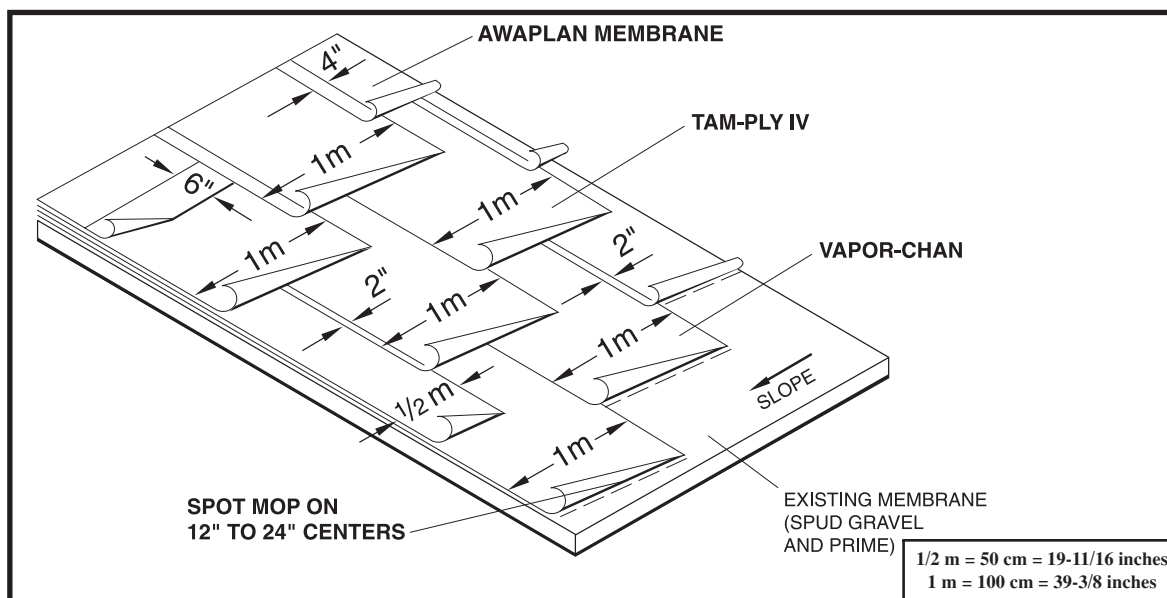
during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

***Precast Concrete Decks:** This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.

135 AWAPLAN PREMIUM

RECOVER OVER EXISTING GRAVEL SURFACED
MEMBRANE OR SMOOTH SURFACED MEMBRANE



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Concrete Primer (Per 100 sq. ft.)	Approx. 3/4 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Spud the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. The surface should be primed with concrete primer at a rate of approximately 3/4 gal. per 100 sq. ft. prior to the application of new roofing materials.

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM granule sur-faced sheet, side lapped 4 in. and end lapped 6 in. The AWAP-LAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

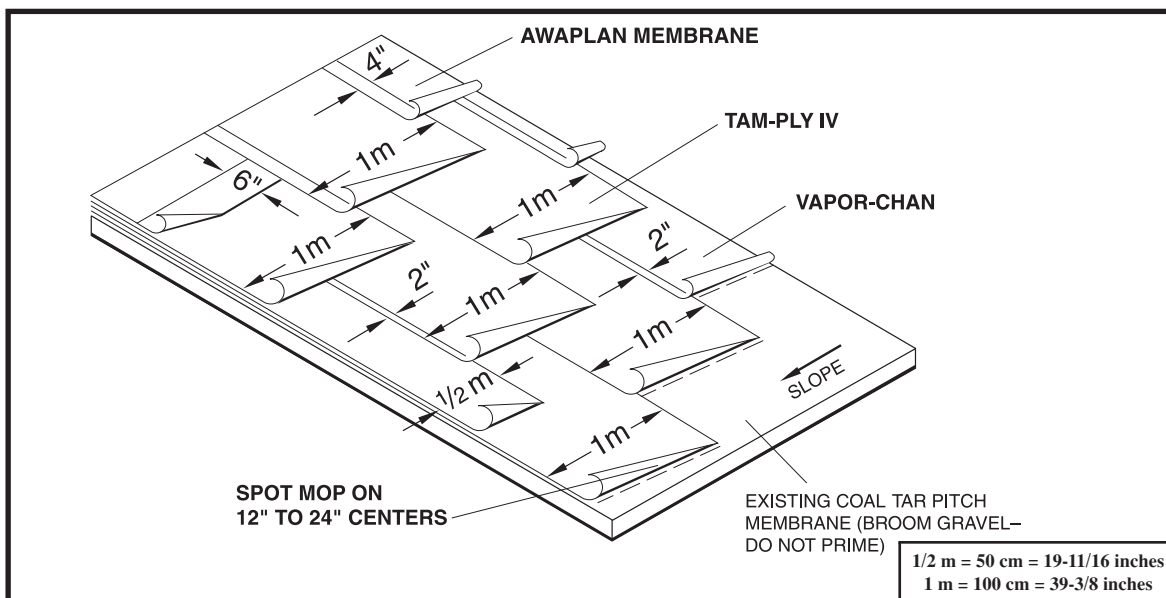
U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN PREMIUM	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Broom the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent from the old system and any existing insulation materials. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. **DO NOT USE ANY PRIMERS.**

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM granule sur-faced sheet, side lapped 4 in. and end lapped 6 in. The AWAP-LAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN PREMIUM can be heat welded and should be solidly adhered to the ply sheet by sufficiently heating the back side with a torch at the juncture of the ply sheet and the AWAPLAN PREMIUM roll to form a bead of melted asphalt as the AWAPLAN PREMIUM is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

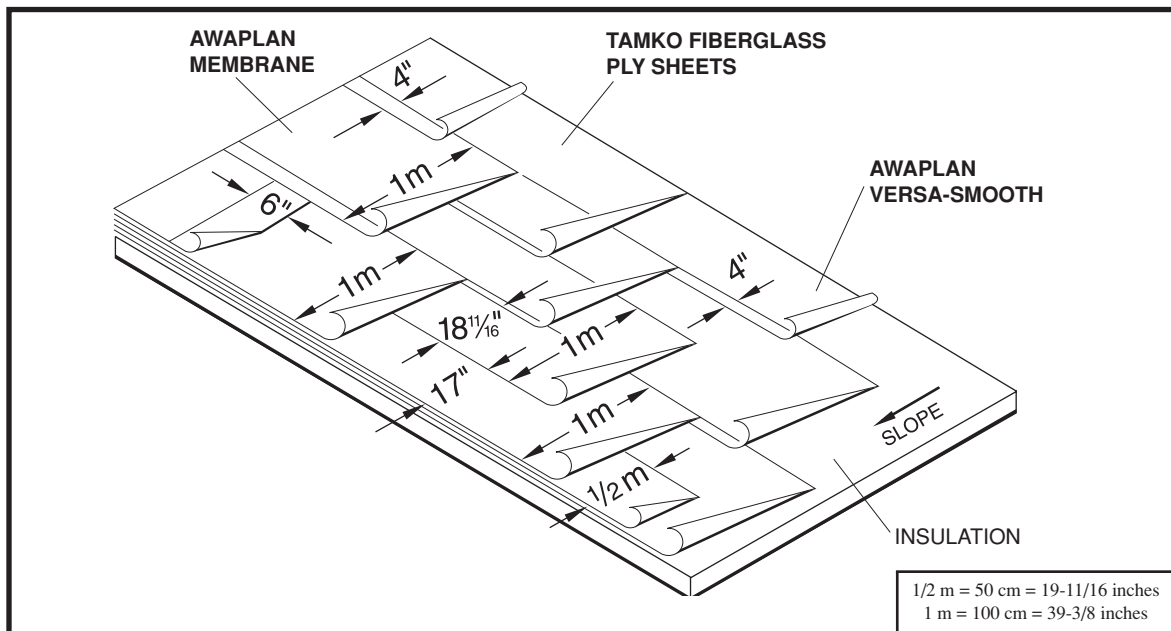
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO TAM-PLY IV® OR TAM-GLASS PREMIUM® Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN PREMIUM® (Granule Surfaced)	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type III for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Fiberglass Ply Sheets: Over the base ply, install **2 plies** of TAM-PLY IV or TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Start with a 1/2 m wide sheet followed by full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. over

the preceding ply so that at least 2 plies cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

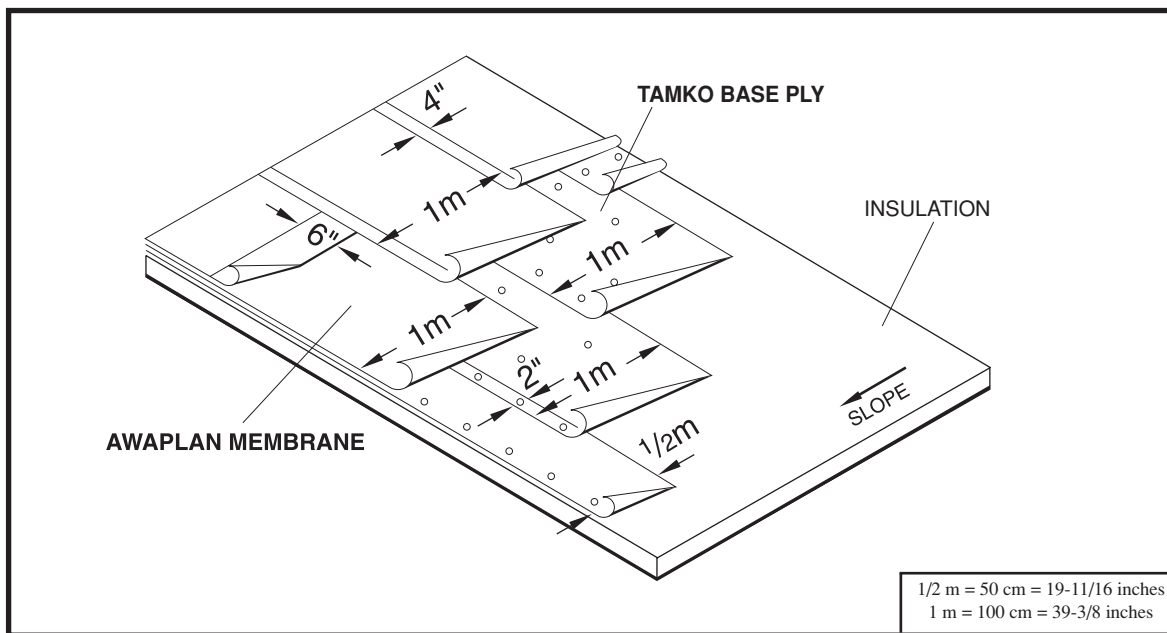
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a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	
Fiberglass Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
TAM-PRO® 856	
Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal.
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate or EPS insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV or BASE-N-PLY, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. For specific patterns for wind uplift listings, contact the Technical Services Department.

Alternately, the TAMKO GLASS-BASE, TAM-GLASS PREMIUM, or TAM-PLY IV may be solidly mopped to the insulation with approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or hot air welded together. Use care when applying heat as damage can occur to the product by overheating.

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

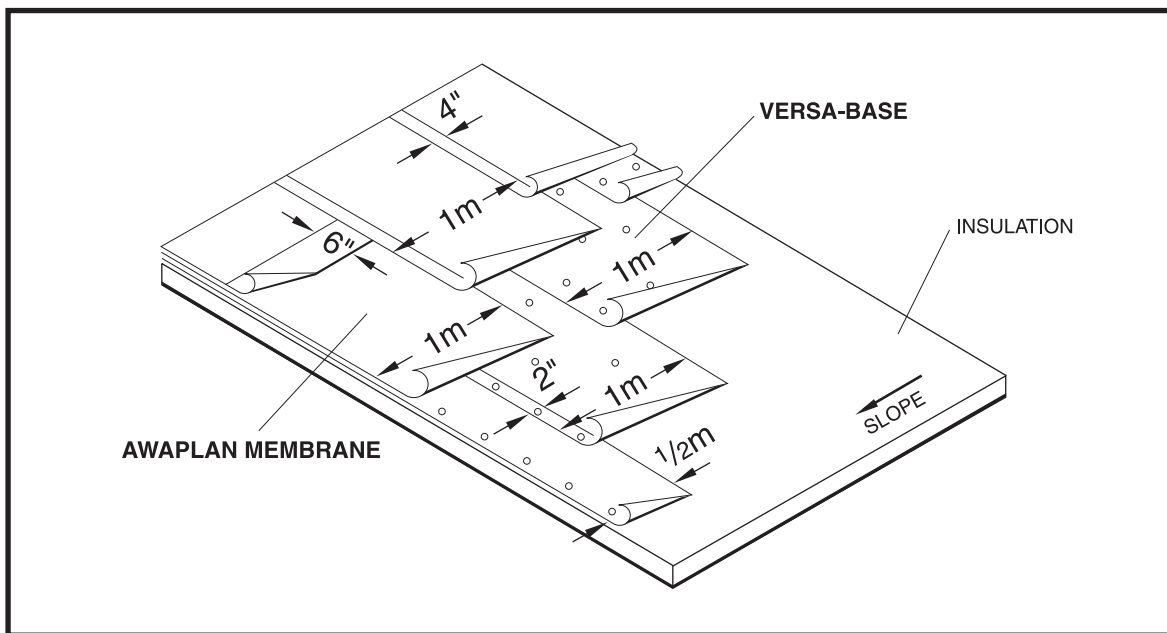
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or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal.
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Alternately, the VERSA-BASE may be solidly mopped to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. Use care when applying heat as damage can occur to the product by overheating.

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical



SPECIFICATION SUBMITTAL

107C AWAPLAN PREMIUM

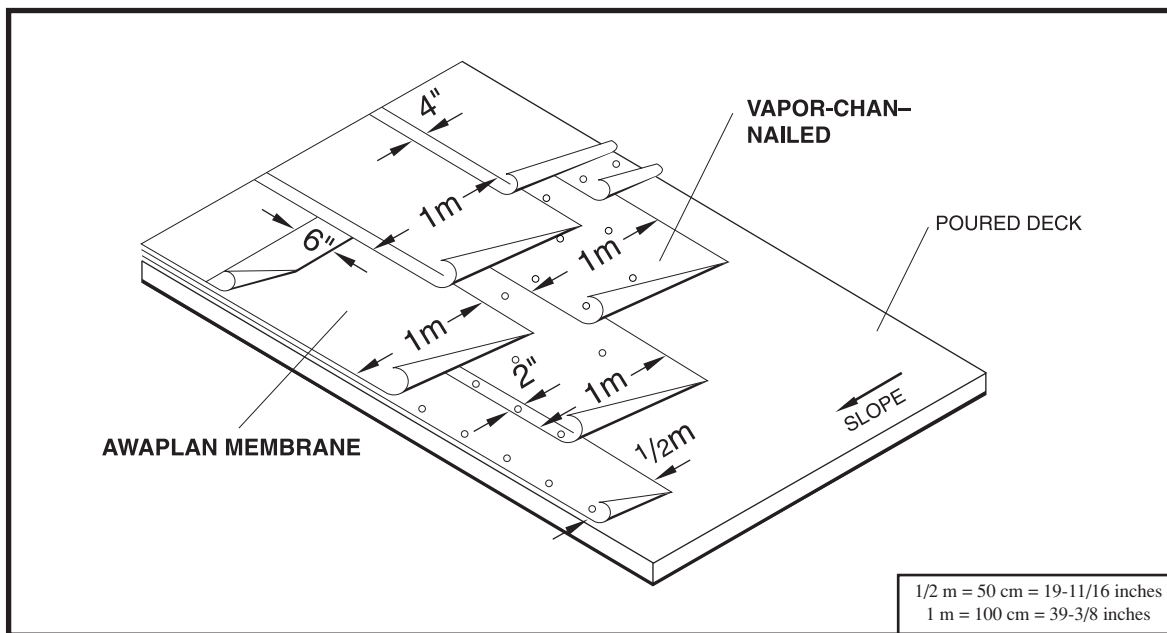
INSULATED DECK

nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (per 100 sq. ft.)	1-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a full 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift, contact the Technical Services Department.**

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

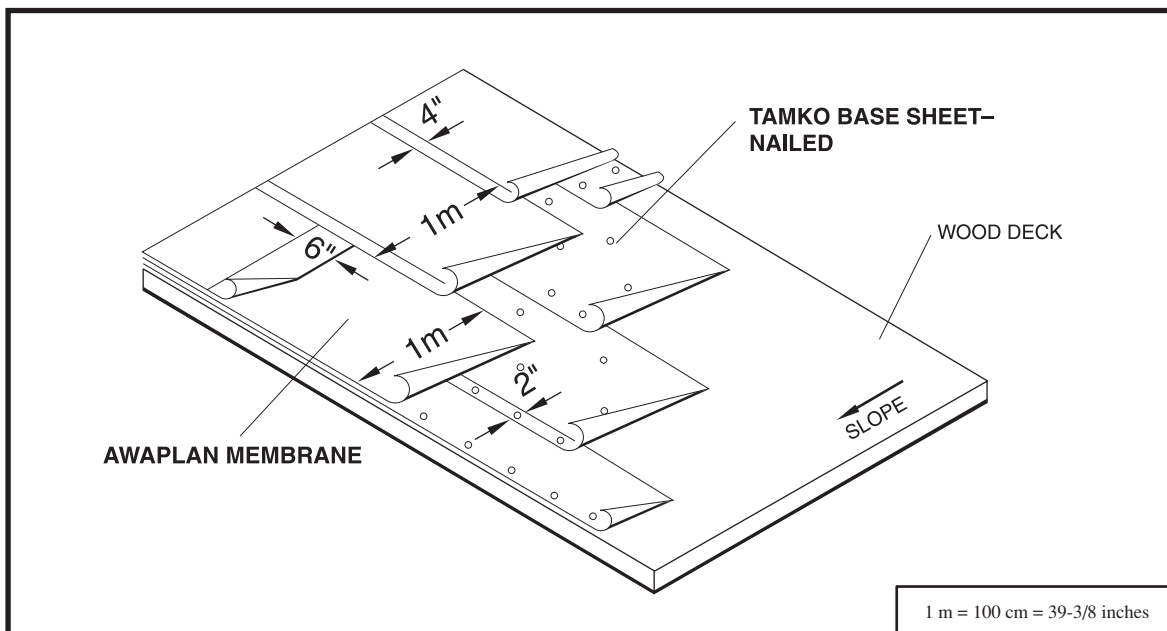
111C AWAPLAN PREMIUM

NAILABLE DECKS (GYPSUM AND LIGHTWEIGHT
INSULATING CONCRETE)

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (per 100 sq. ft.)	1-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard.



SPECIFICATION SUBMITTAL

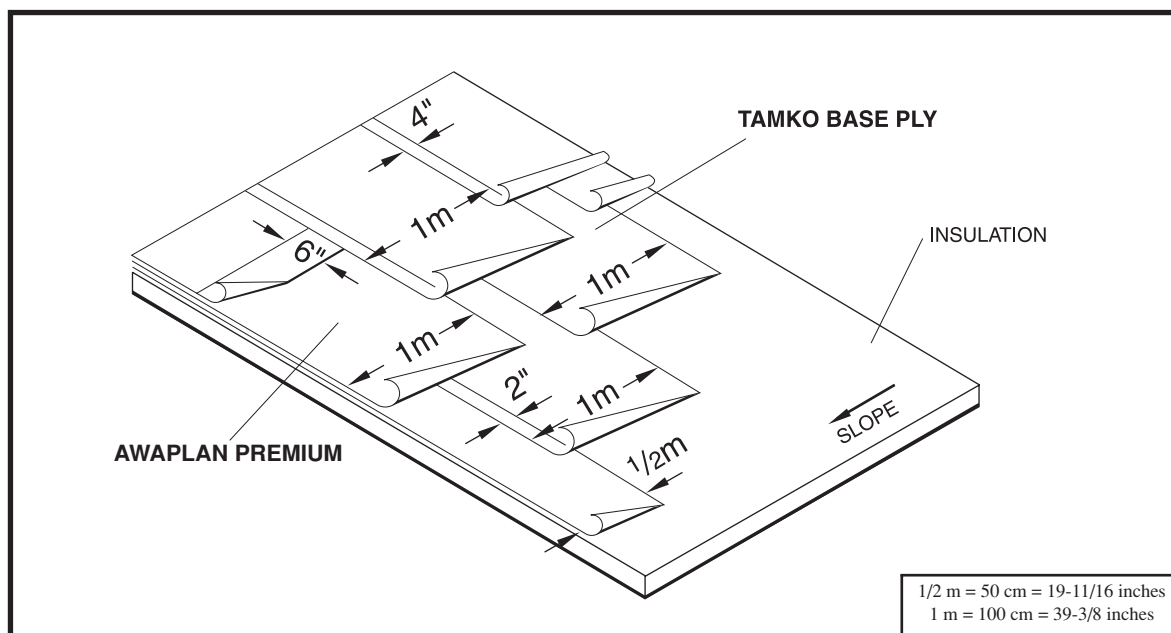
112C AWAPLAN PREMIUM

NAILABLE DECKS (WOOD)

of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO BASE-N-PLY®	
Fiberglass Sheet	1 ply
TAMKO AWAPLAN PREMIUM	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

BASE-N-PLY: Starting at the low point of the roof, install 1 layer of TAMKO BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

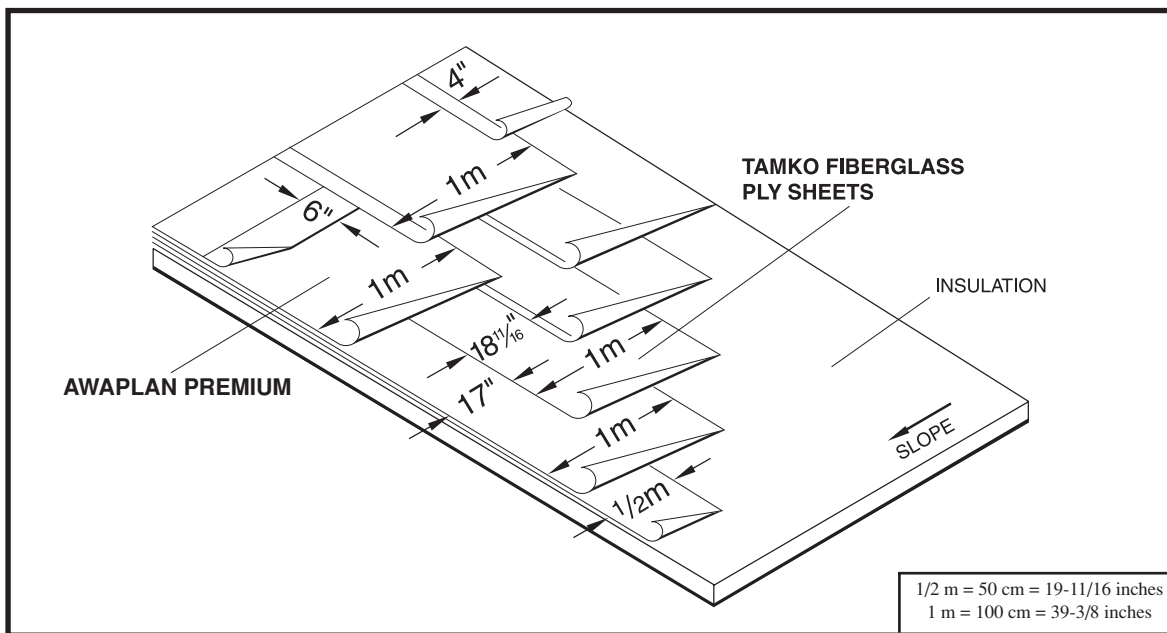
U. L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®
Fiberglass Ply Sheet **2 plies**

TAMKO AWAPLAN PREMIUM
(Granule Surfaced) **1 ply**

Asphalt (Per 100 sq. ft.) **Approx. 46 lbs.**

M³ Adhesive (Per 100 sq. ft.) **Approx. 1-1/2 to 2-1/2 gal.**

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at

least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

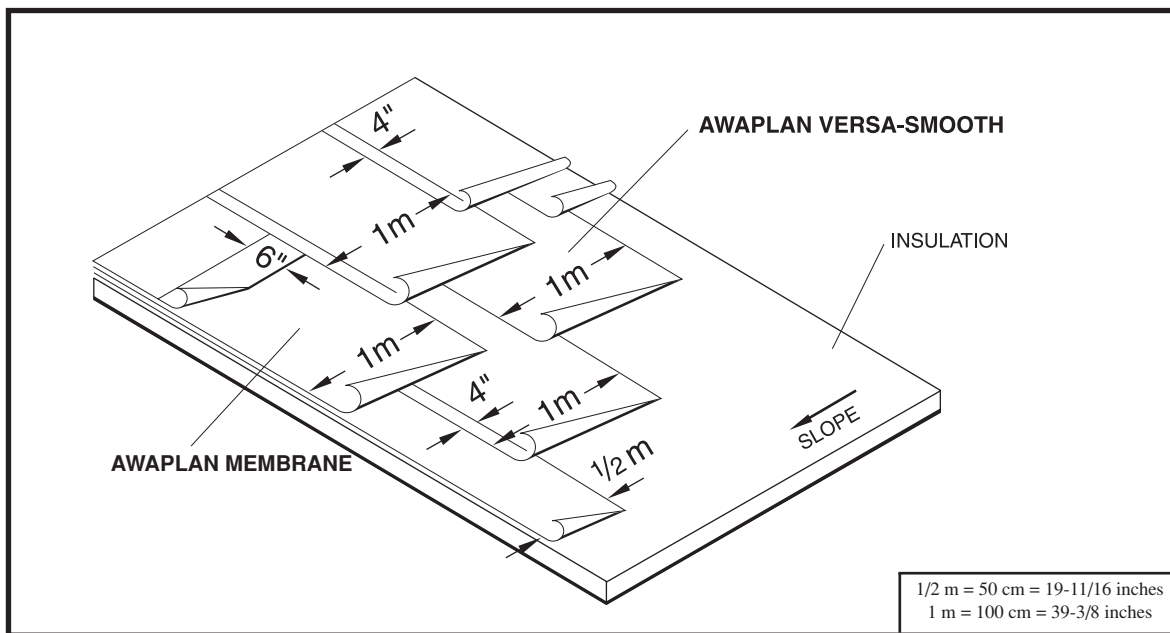
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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH 1 ply

TAMKO AWAPLAN PREMIUM (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO[®] M³ Adhesive.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Sides laps and end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. When spraying M³ Adhesive the adhesive must be a minimum of 100°F at the spray tip. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

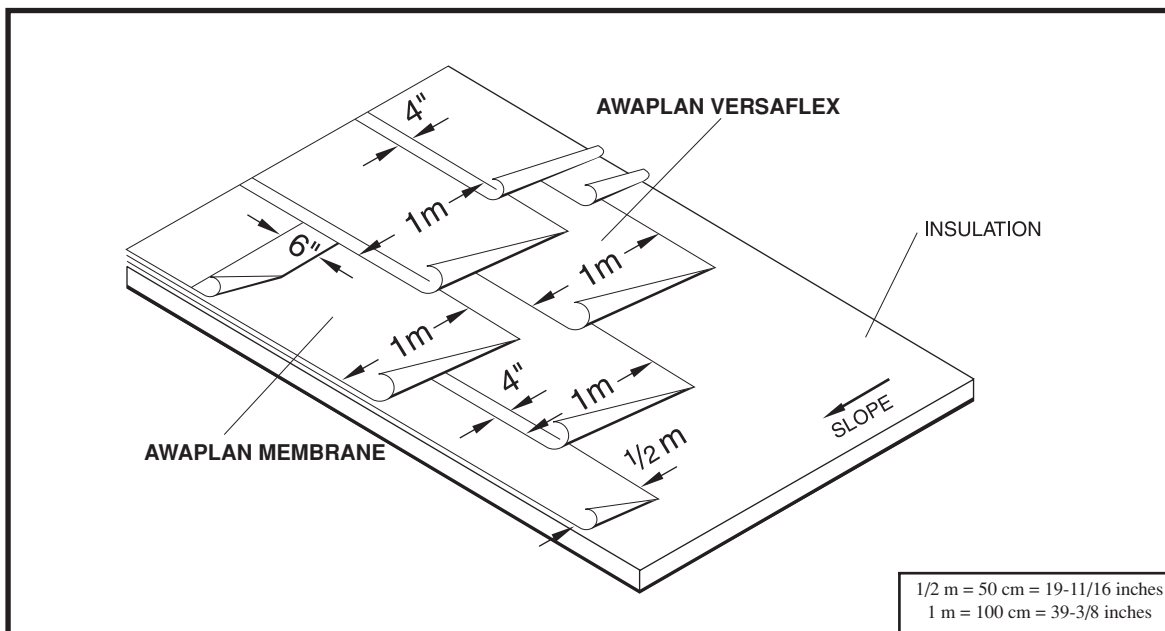
U.L. Requirements:

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Material Requirements

TAMKO AWAPLAN VERSAFLEX 1 ply

TAMKO AWAPLAN PREMIUM (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the AWAPLAN VERSAFLEX may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately

23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

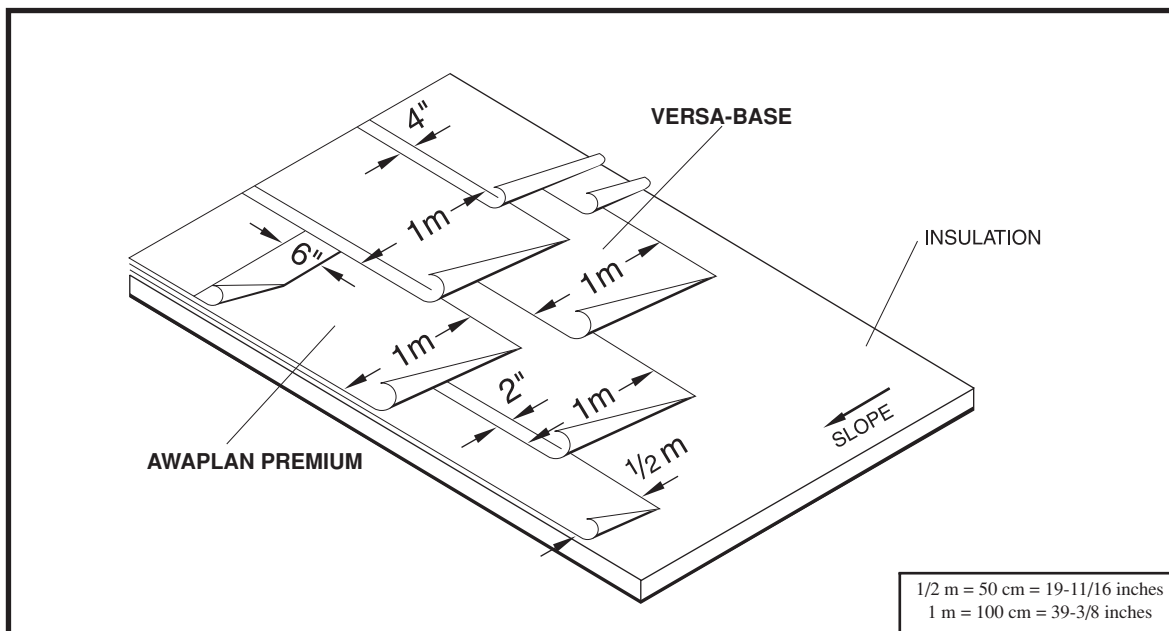
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Material Requirements

TAMKO VERSA-BASE®	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VERSA-BASE: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. The VERSA-BASE should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the VERSA-BASE may be solidly adhered to the insulation (pressed into hot asphalt) with approximately 23 bls. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

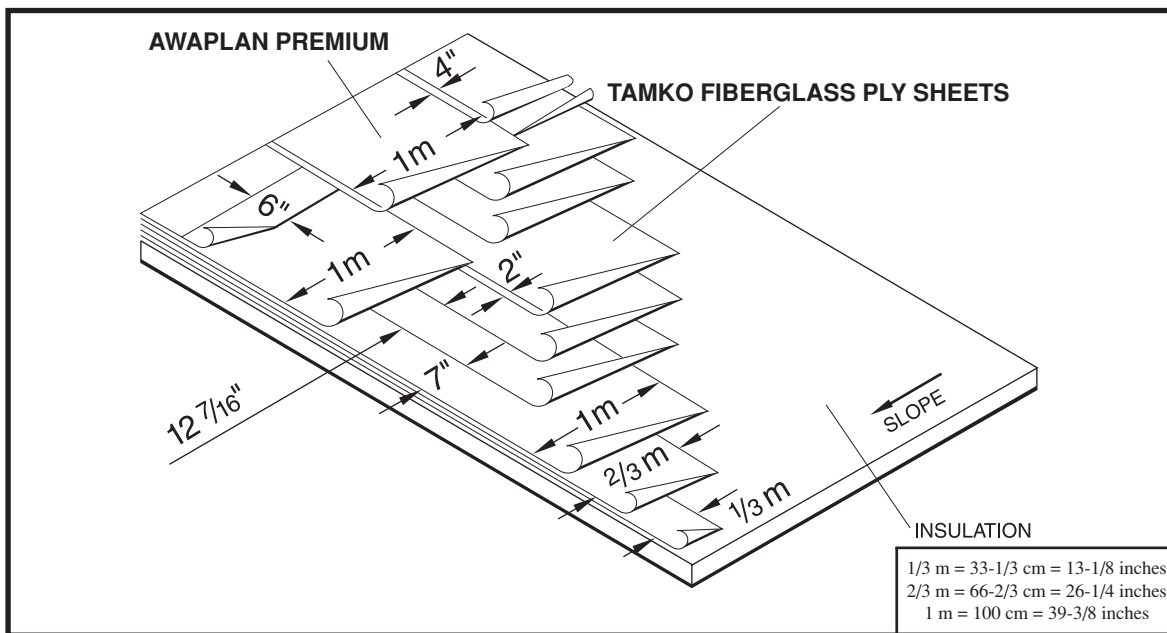
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN PREMIUM	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in..**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%)

of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

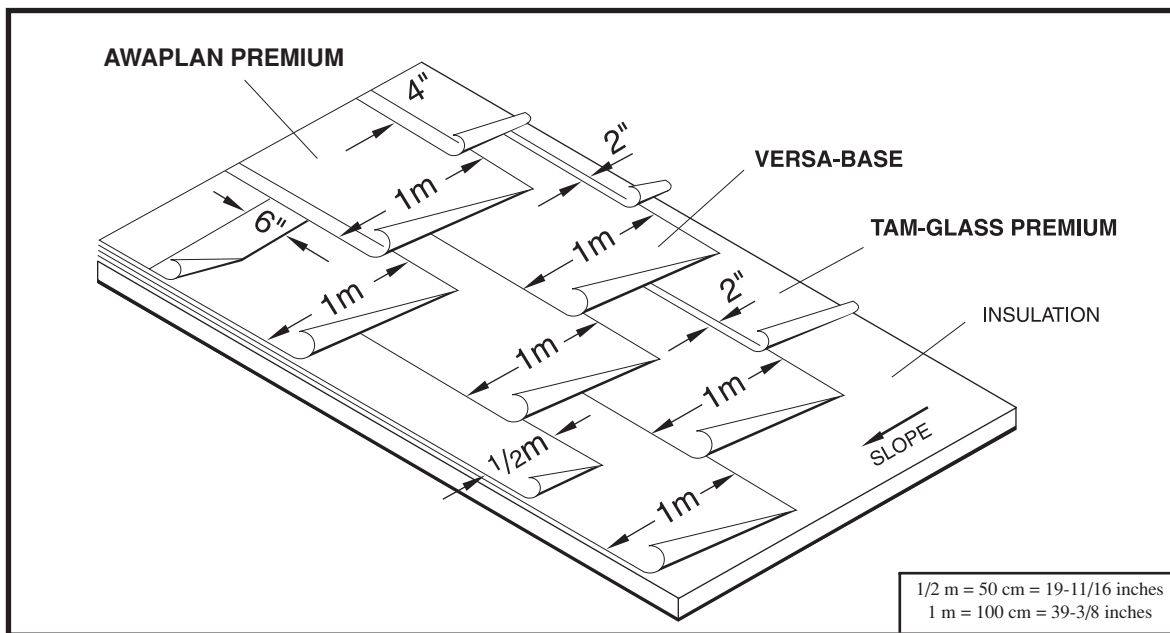
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by

IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Adhesive: The adhesive must be TAM-PRO® M³ Adhesive.

TAM-GLASS PREMIUM: Starting at the low point of the roof, install 1 ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAMKO VERSA-BASE, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

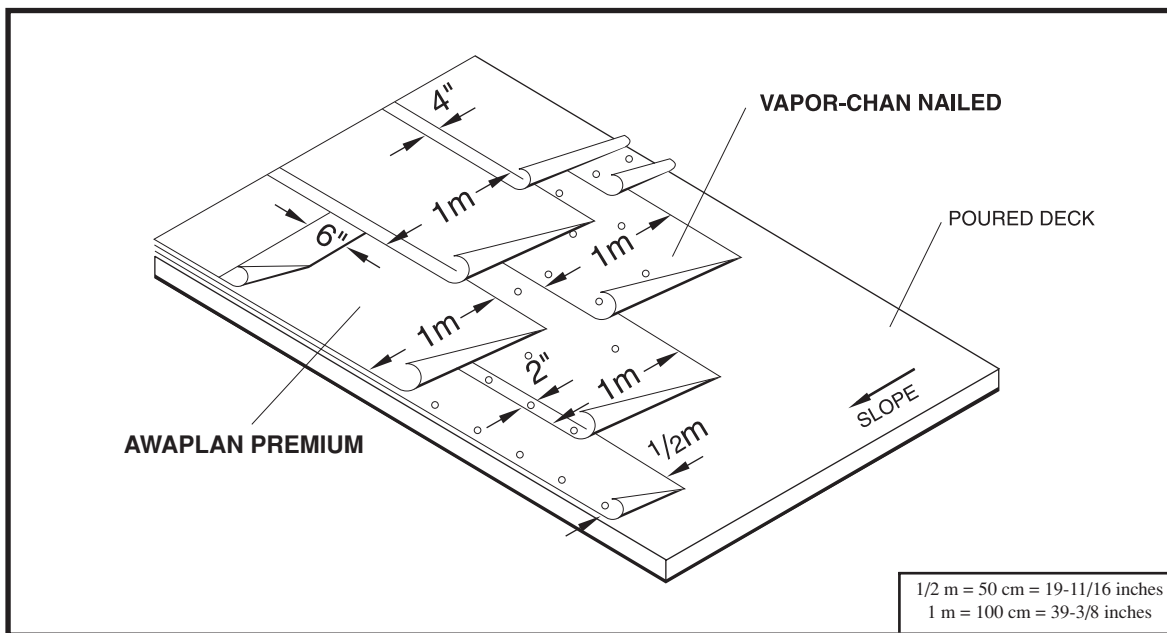
Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet.

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

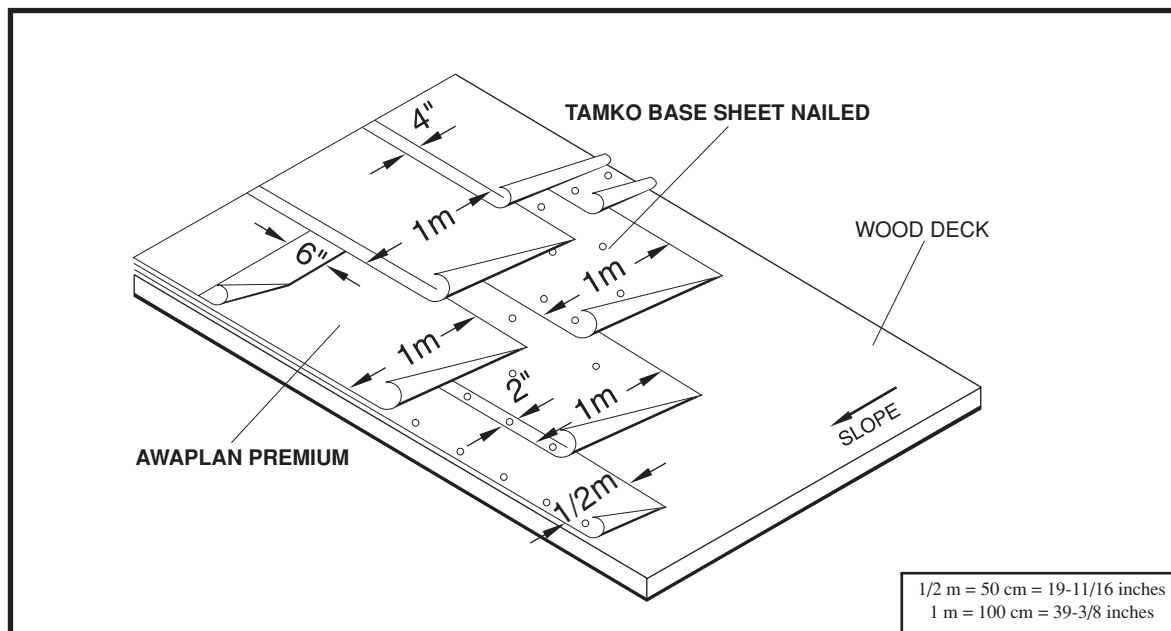
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN PREMIUM (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN PREMIUM: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN PREMIUM membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

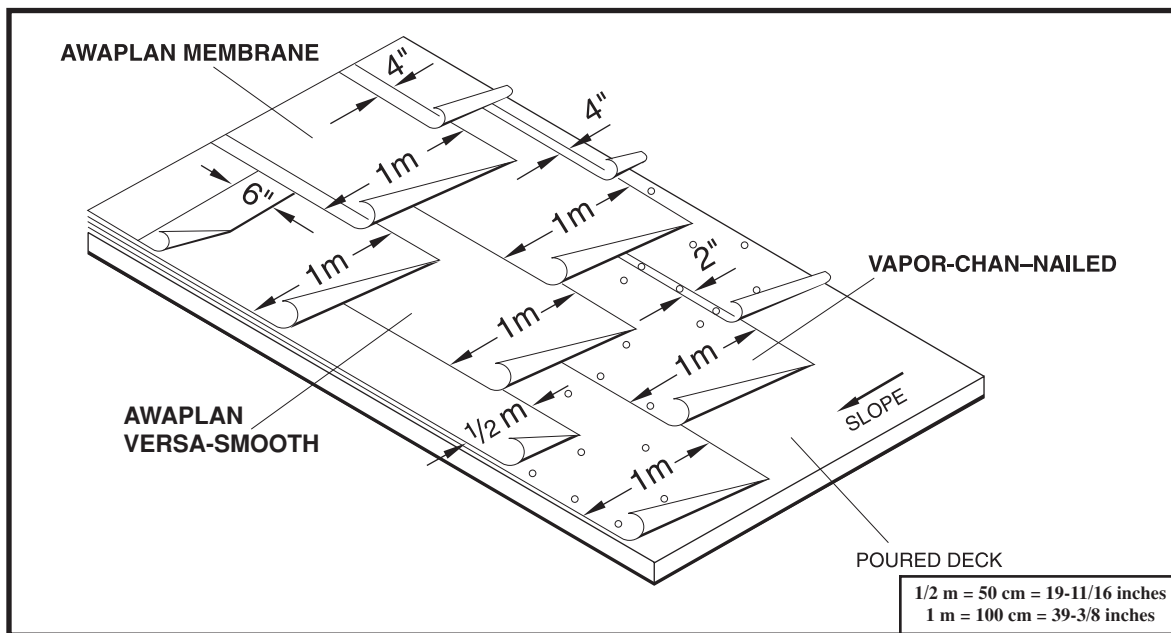
Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN HEAT WELDING is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Sides laps and end laps

shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN PREMIUM FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN PREMIUM FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN PREMIUM FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

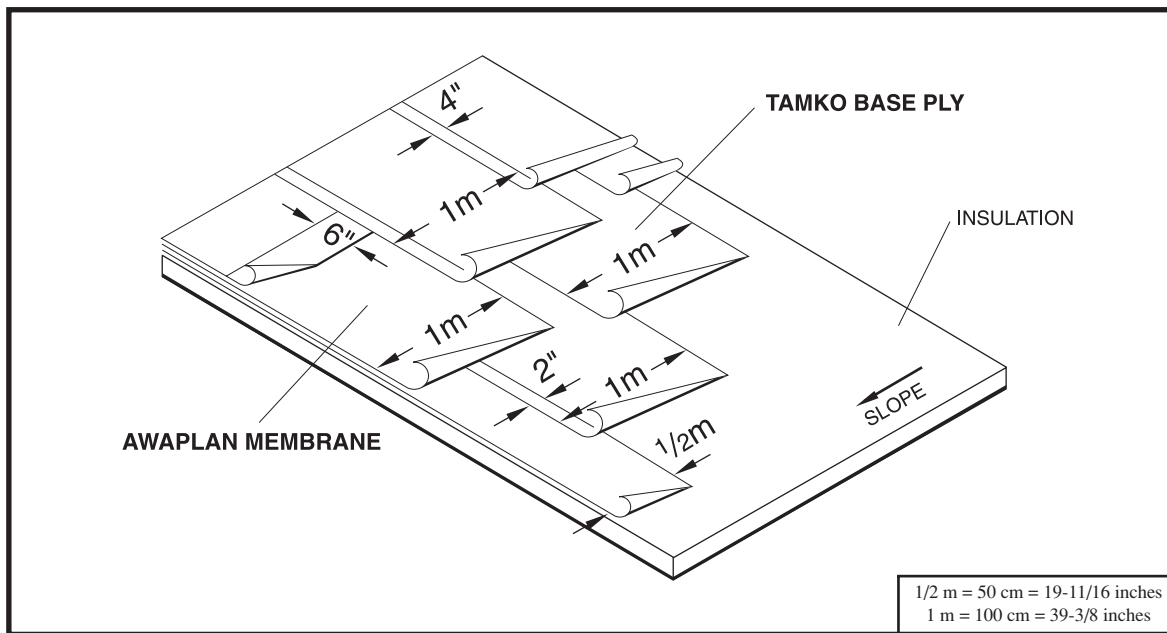
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY® Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Ply: Starting at the low point of the roof, install 1 layer of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV, or BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

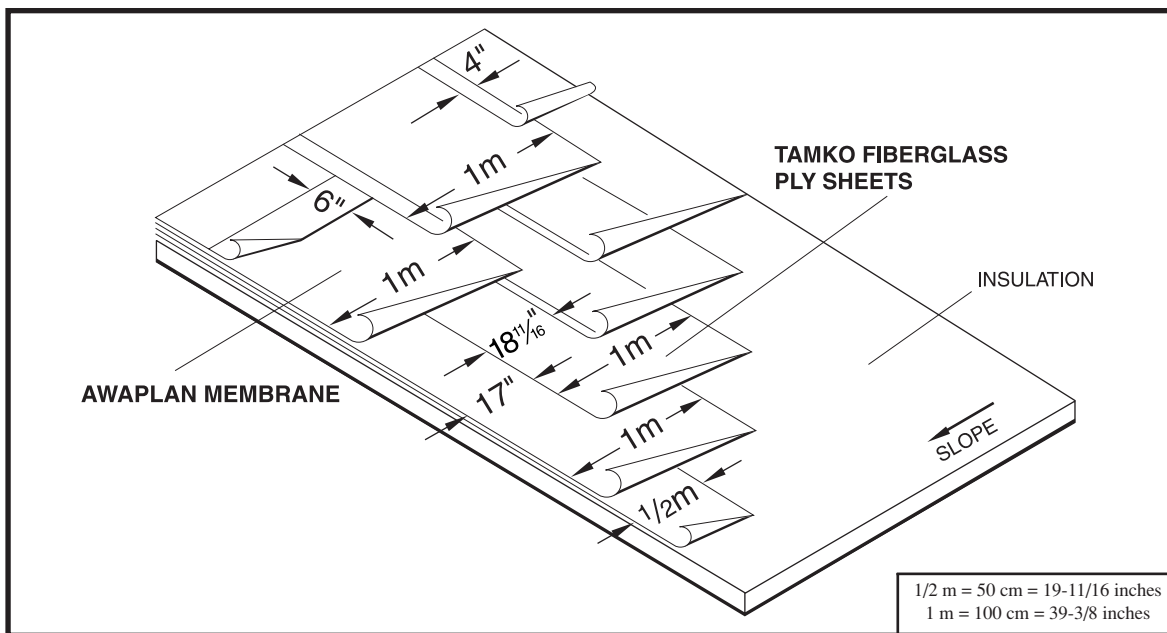
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM®, or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.



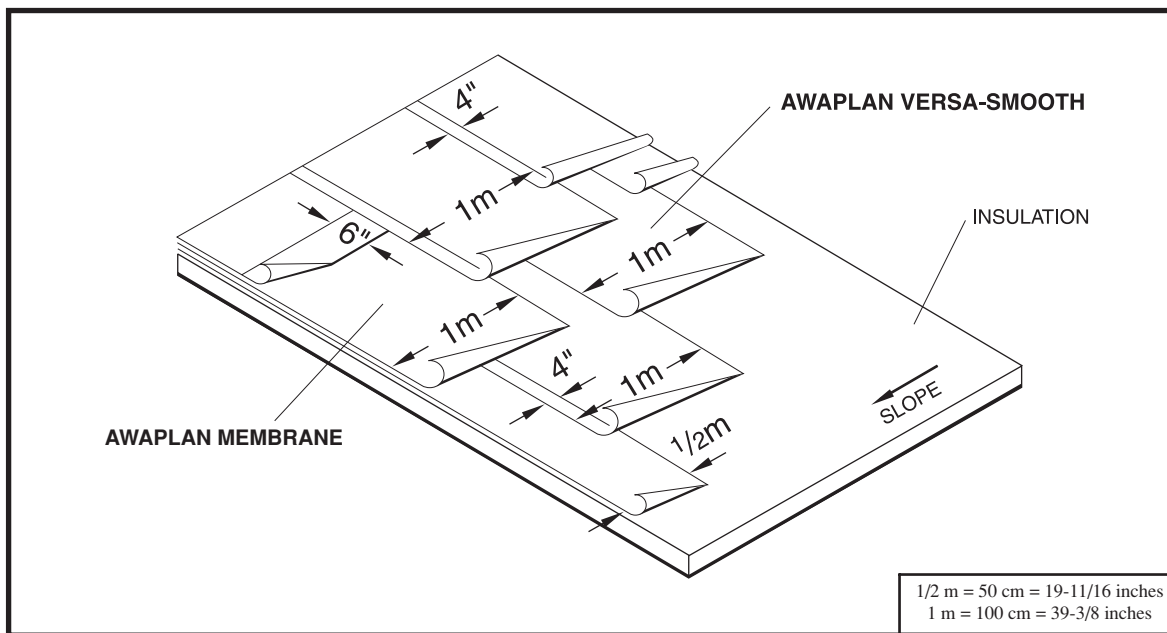
SPECIFICATION SUBMITTAL

202FR AWAPLAN 170 FR

INSULATED DECKS

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

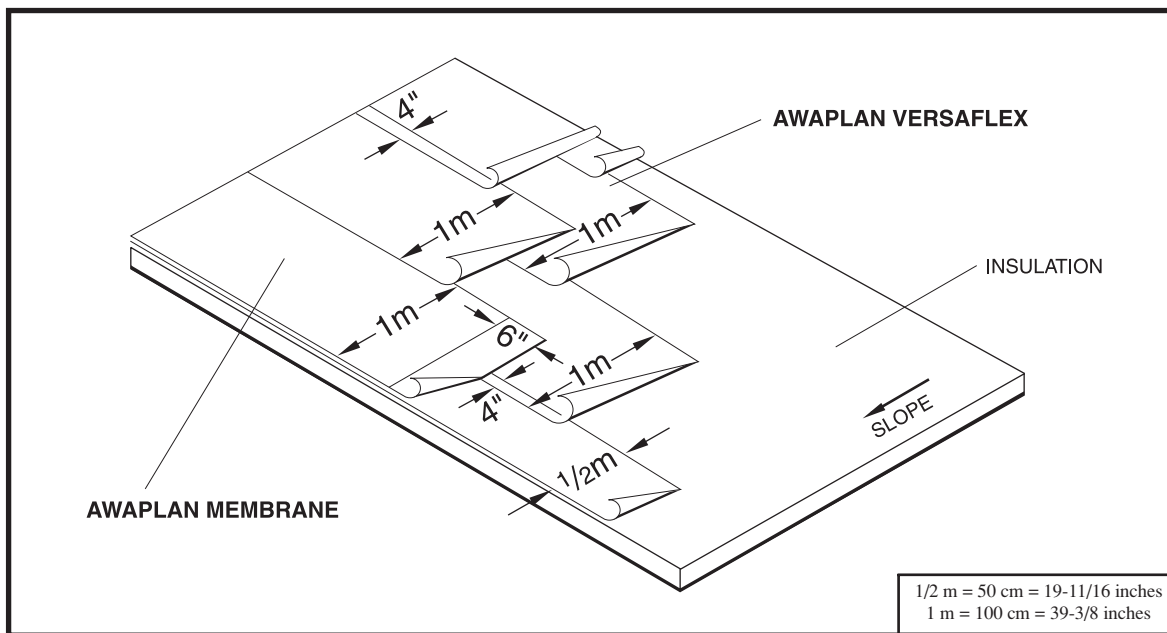
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons

some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

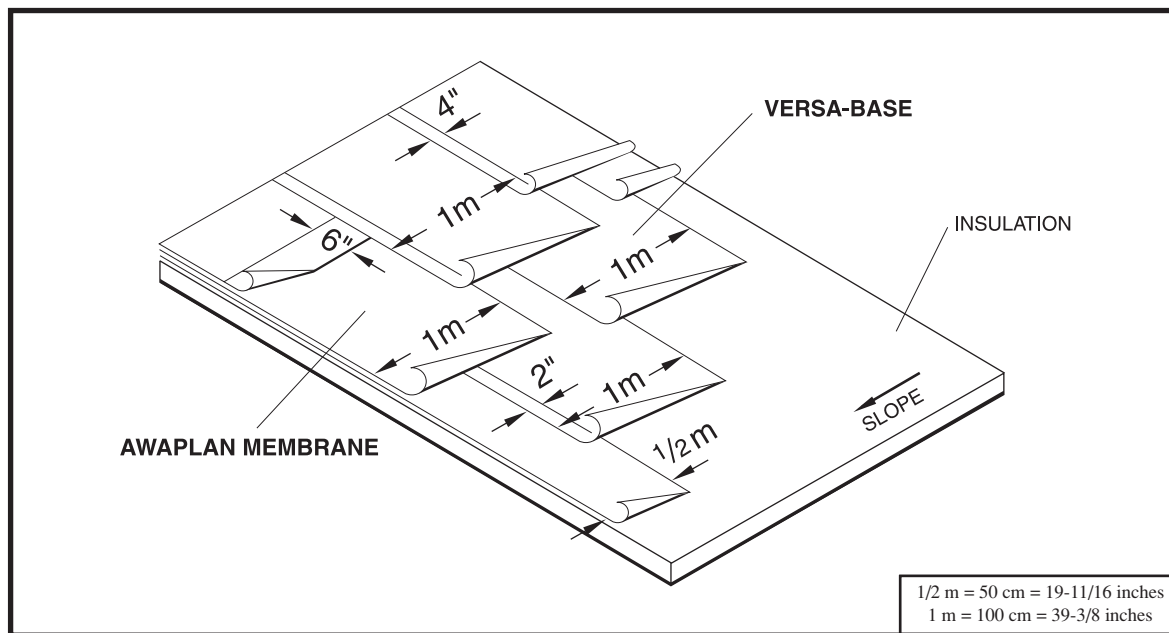
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation



SPECIFICATION SUBMITTAL

207FR AWAPLAN 170 FR

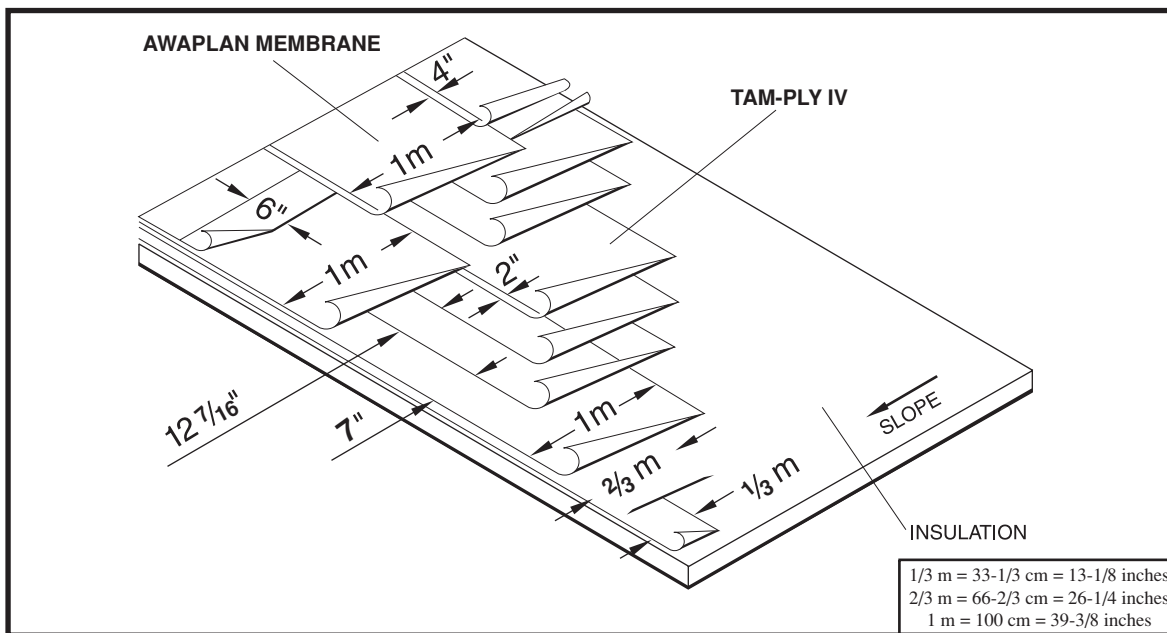
INSULATED DECKS

or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN 170 FR	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.



SPECIFICATION SUBMITTAL

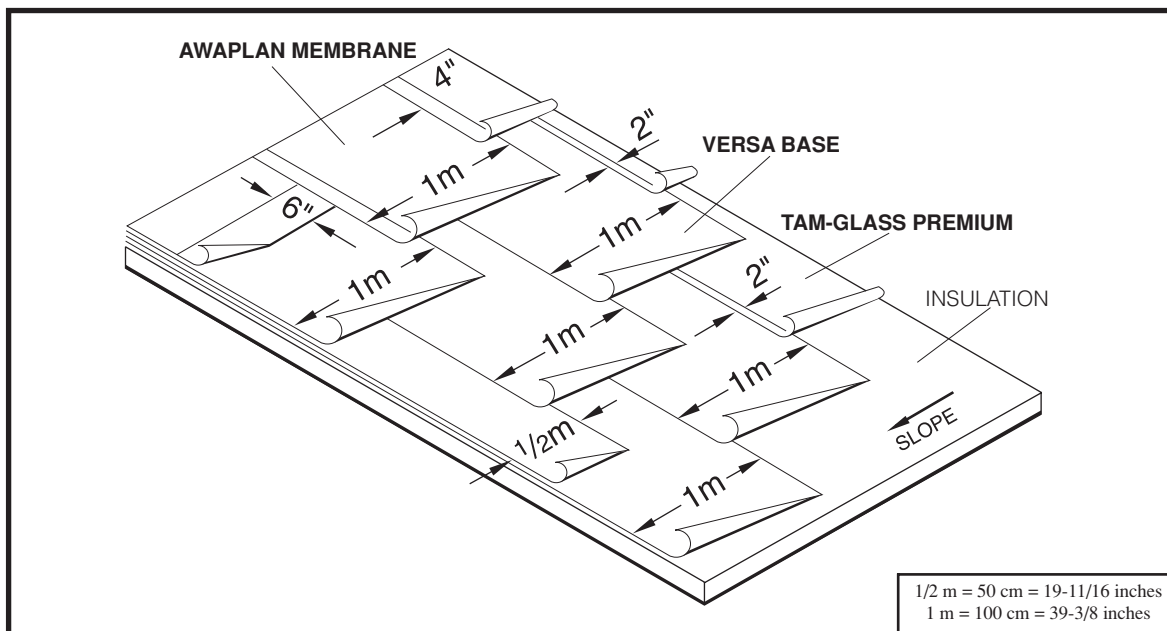
208FR AWAPLAN 170 FR

INSULATED DECKS

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’S web site at www.tamko.com
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Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

TAM-GLASS PREMIUM: Starting at the low point of the roof, install one ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply

with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during



SPECIFICATION SUBMITTAL

209FR AWAPLAN 170 FR

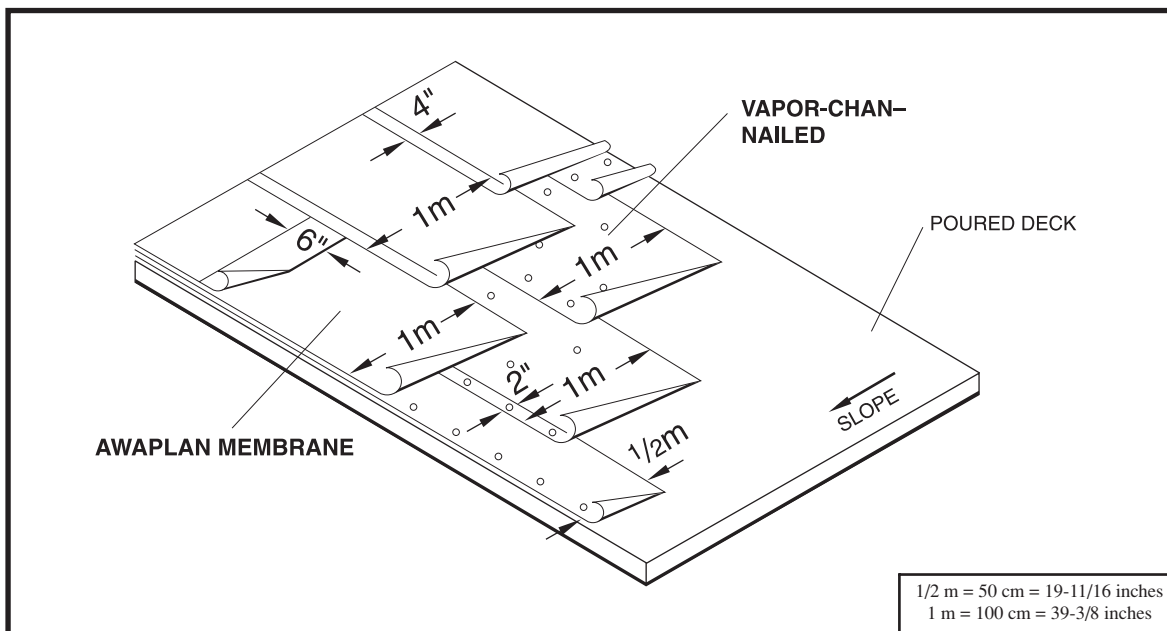
INSULATED DECKS

demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during



SPECIFICATION SUBMITTAL

211FR AWAPLAN 170 FR

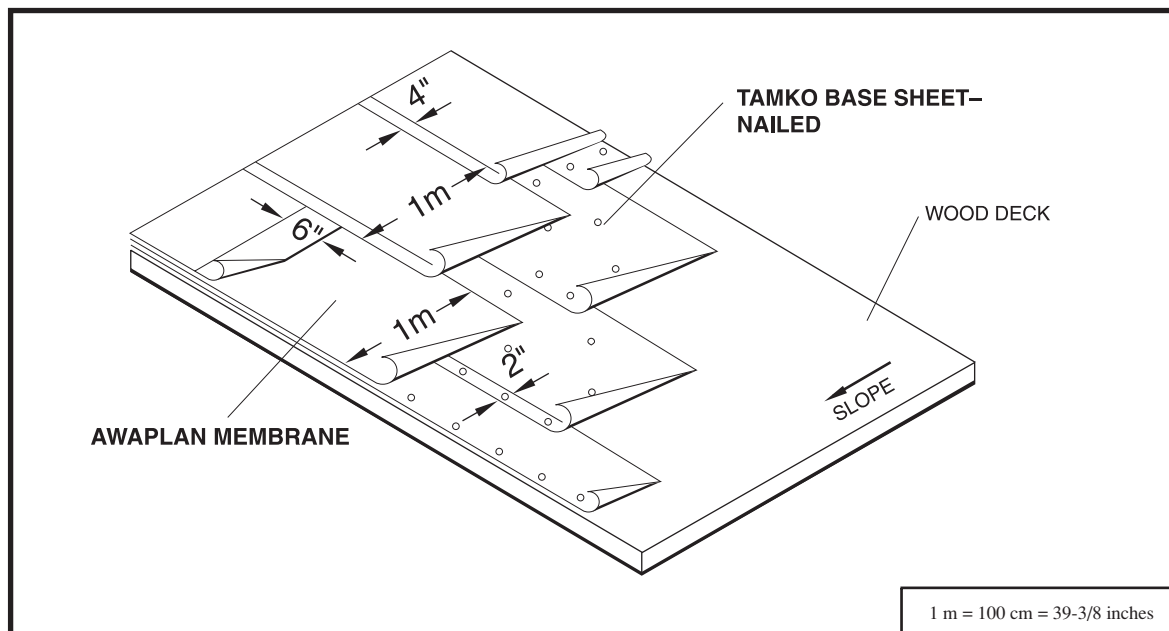
**NAILABLE DECKS (GYPSUM AND LIGHTWEIGHT
INSULATING CONCRETE)**

demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE, or BASE-N-PLY, sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard.



SPECIFICATION SUBMITTAL

212FR AWAPLAN 170 FR

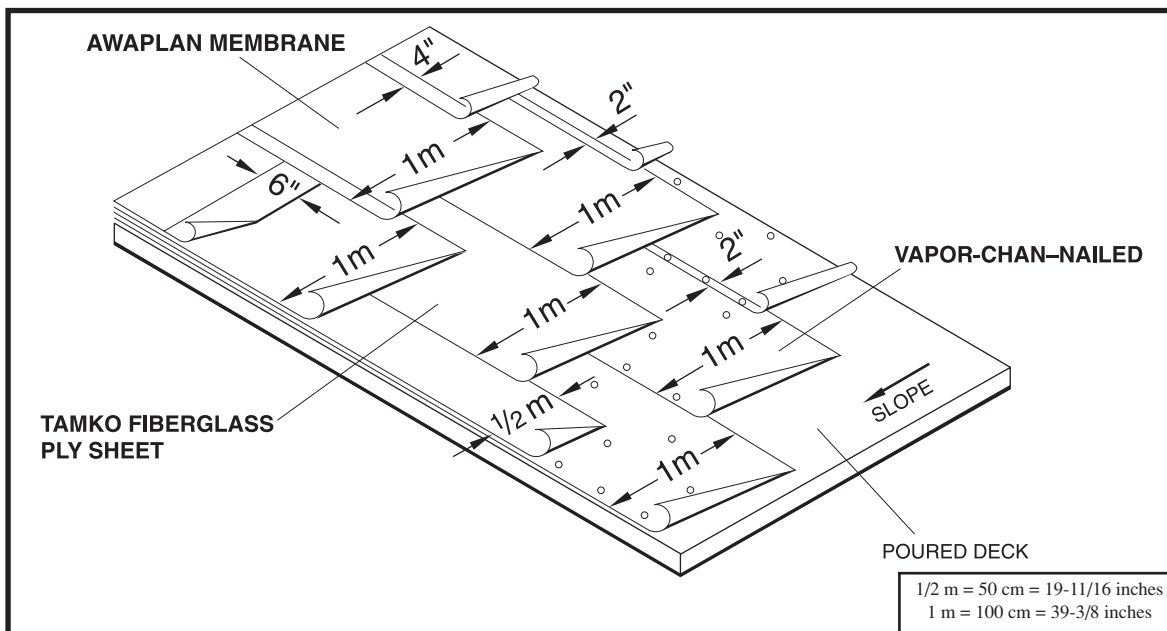
NAILABLE DECKS (WOOD)

of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170FR	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails	
for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any



SPECIFICATION SUBMITTAL

213FR AWAPLAN 170 FR

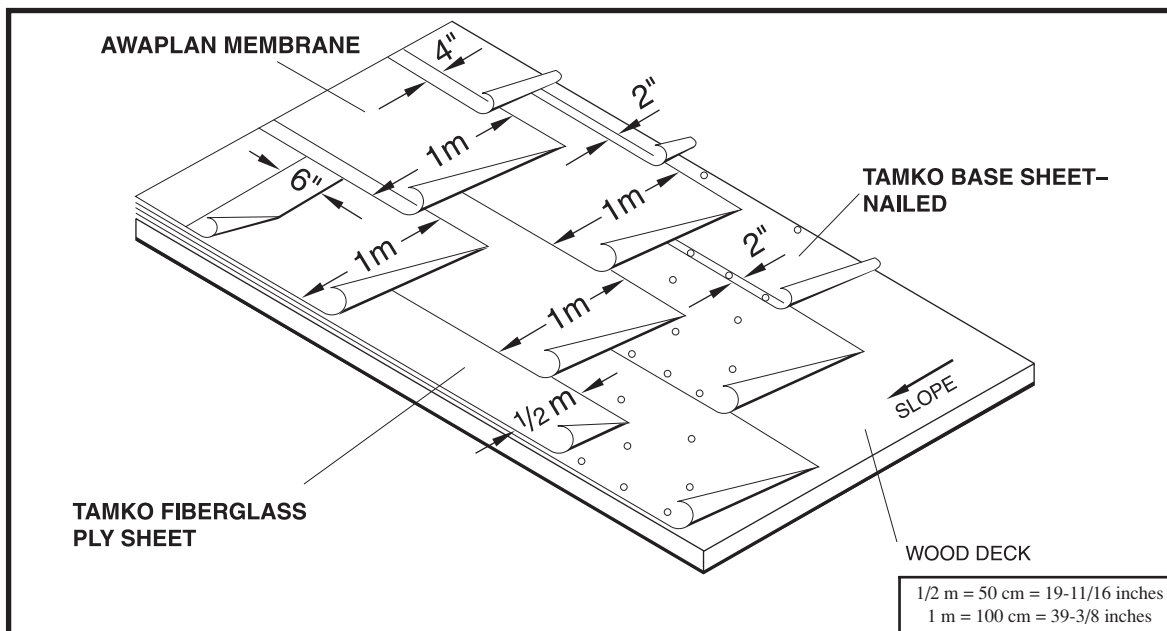
NAILABLE DECKS (GYPSUM, PRECAST* AND
LIGHTWEIGHT INSULATING CONCRETE)

inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE, or BASE-N-PLY, sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as



SPECIFICATION SUBMITTAL

214FR AWAPLAN 170 FR

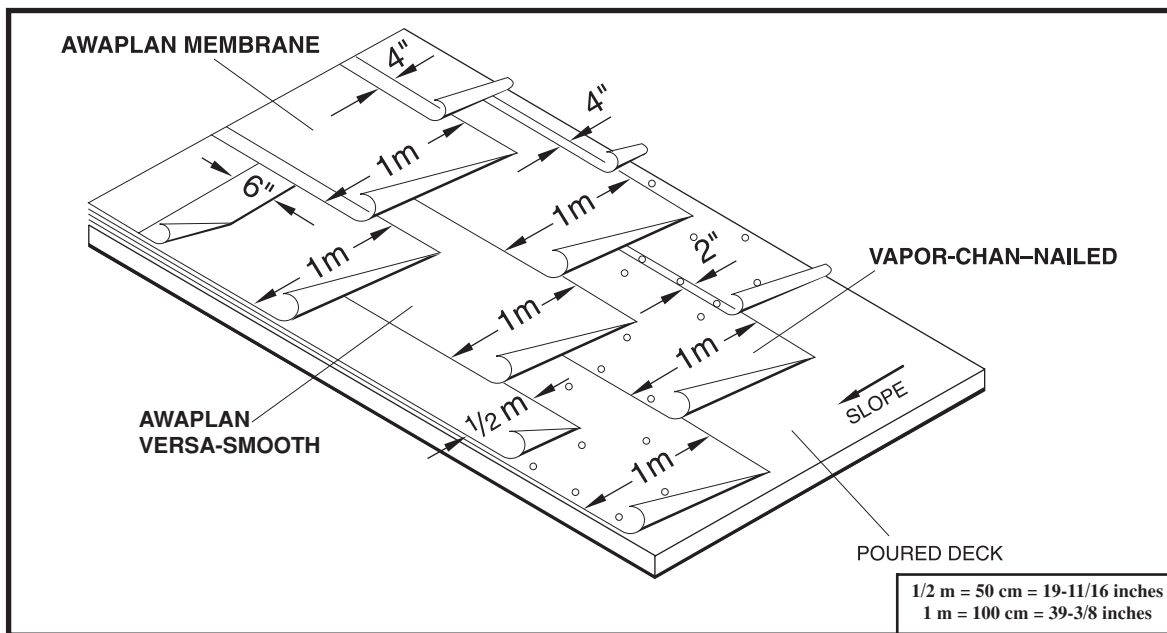
NAILABLE DECKS (WOOD)

sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH	
Modified Base Sheet	1 ply
TAMKO AWAPLAN 170 FR	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 107 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet (pressed into the hot asphalt) with ap-

proximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll. Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base sheet and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base AWAPLAN VERSA-SMOOTH (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L.Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any



SPECIFICATION SUBMITTAL

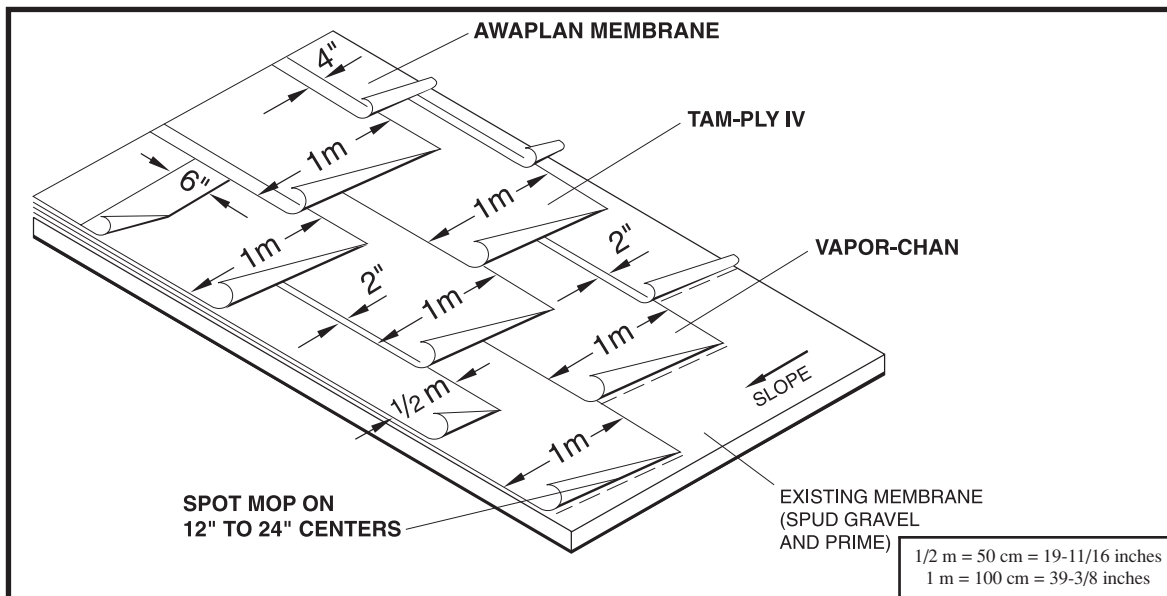
217 FR AWAPLAN 170 FR

NAILABLE DECKS (GYPSUM, PRECAST* AND
LIGHTWEIGHT INSULATING CONCRETE)

inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "torch applied" or "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170 FR	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Concrete Primer (Per 100 sq. ft.)	Approx. 3/4 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Spud the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. The surface should be primed with concrete primer at a rate of approximately 3/4 gal. per 100 sq. ft. prior to the application of new roofing materials.

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic



SPECIFICATION SUBMITTAL

235FR AWAPLAN 170 FR

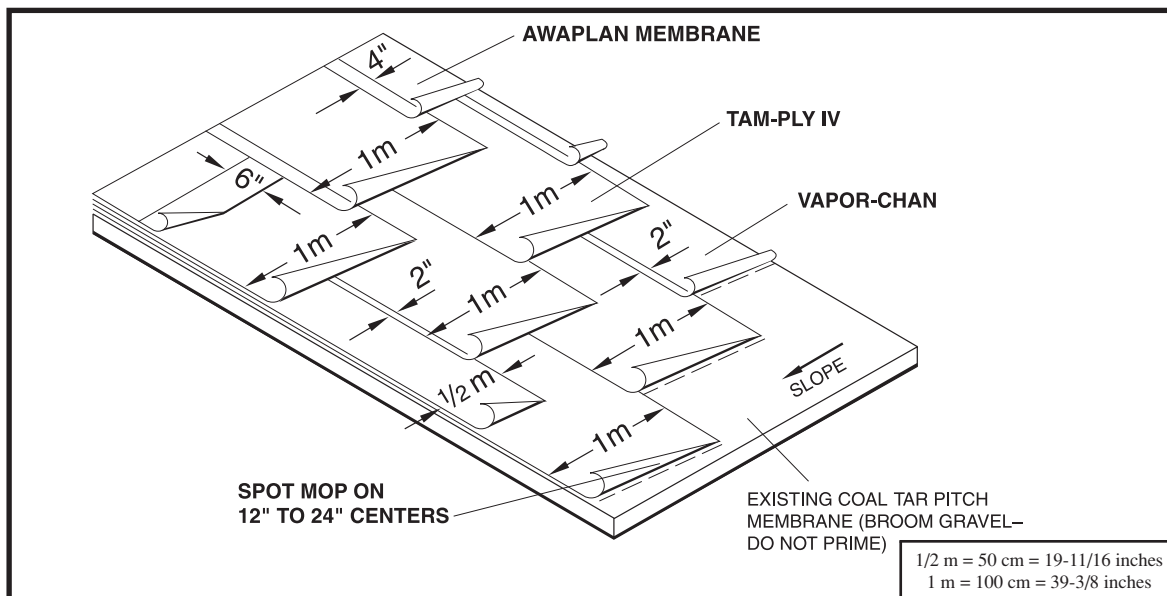
RECOVER OVER EXISTING GRAVEL SURFACED
MEMBRANE OR SMOOTH SURFACED MEMBRANE

Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170 FR	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Broom the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent from the old system and any existing insulation materials. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. **DO NOT USE ANY PRIMERS.**

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

NOTE: AWAPLAN 170 FR MUST NOT BE INSTALLED WITH A PROPANE TORCH OR OTHER HEAT WELDING EQUIPMENT.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

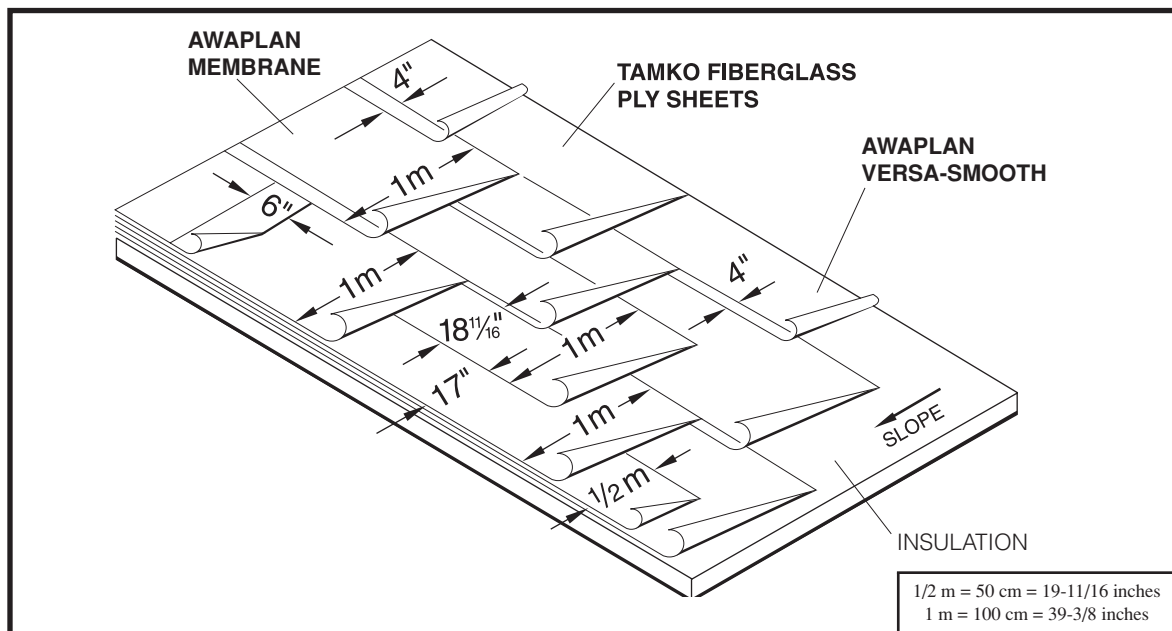
Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable

human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO TAM-PLY IV® OR TAM-GLASS PREMIUM Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Fiberglass Ply Sheets: Over the base ply, install 2 plies of TAM-PLY IV or TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Start with a 1/2 m width followed by full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. over the preceding ply so that at least 2 plies cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during



SPECIFICATION SUBMITTAL

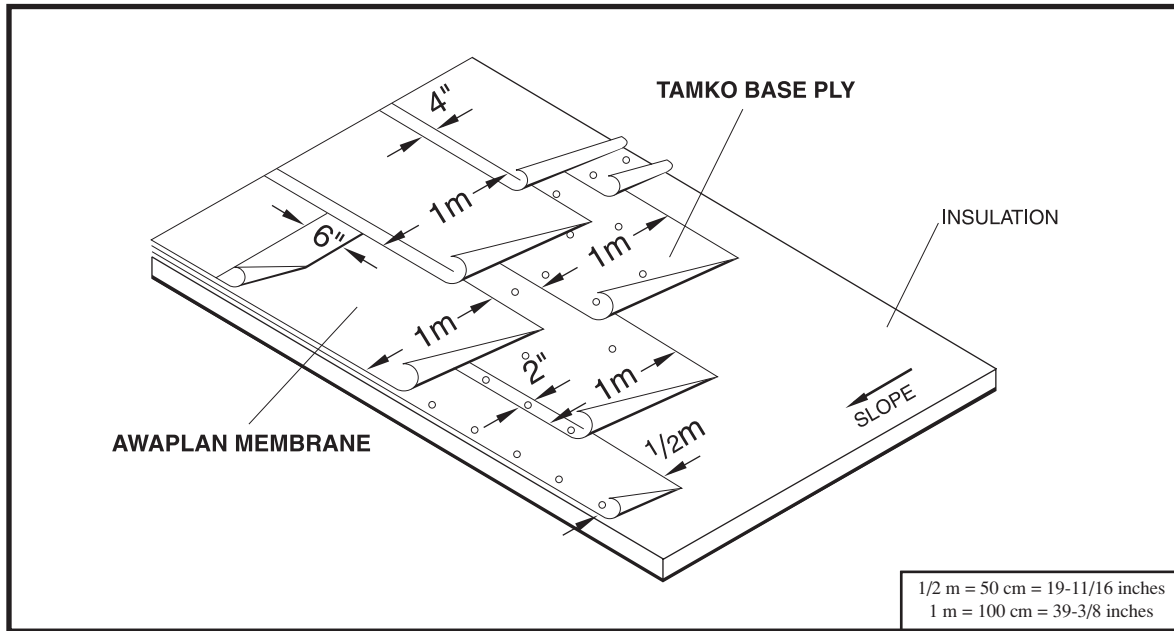
246 FR AWAPLAN 170 FR
(Regions 1, 2, & 3)

INSULATED DECK

demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
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Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	
Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
TAM-PRO® 856	
Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate or EPS insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV or BASE-N-PLY, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Alternately, the TAMKO GLASS-BASE, TAM-GLASS PREMIUM, or TAM-PLY IV may be solidly mopped to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

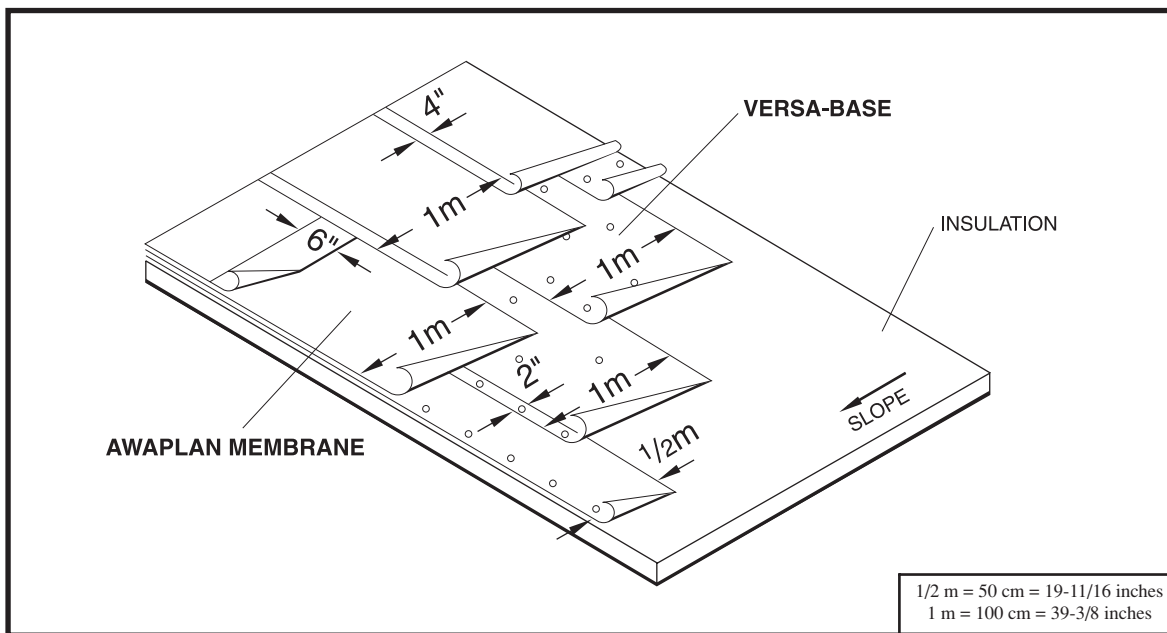
U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate or phenolic insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Alternately, the VERSA-BASE may be solidly mopped to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

207FRC AWAPLAN 170 FR

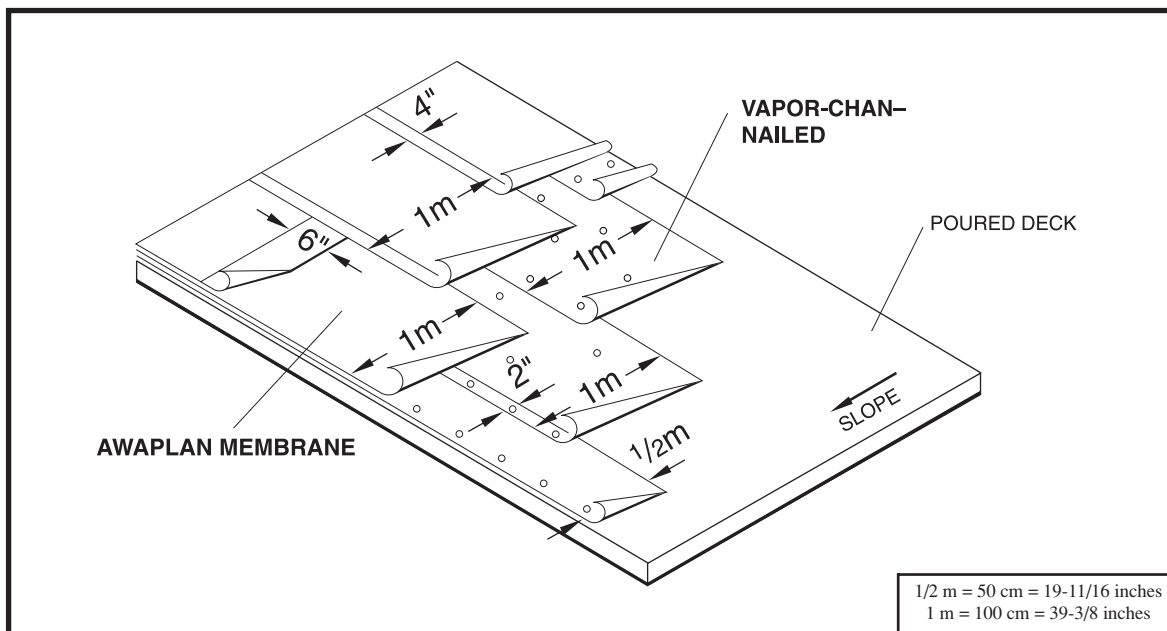
INSULATED DECK

product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly ad-hered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

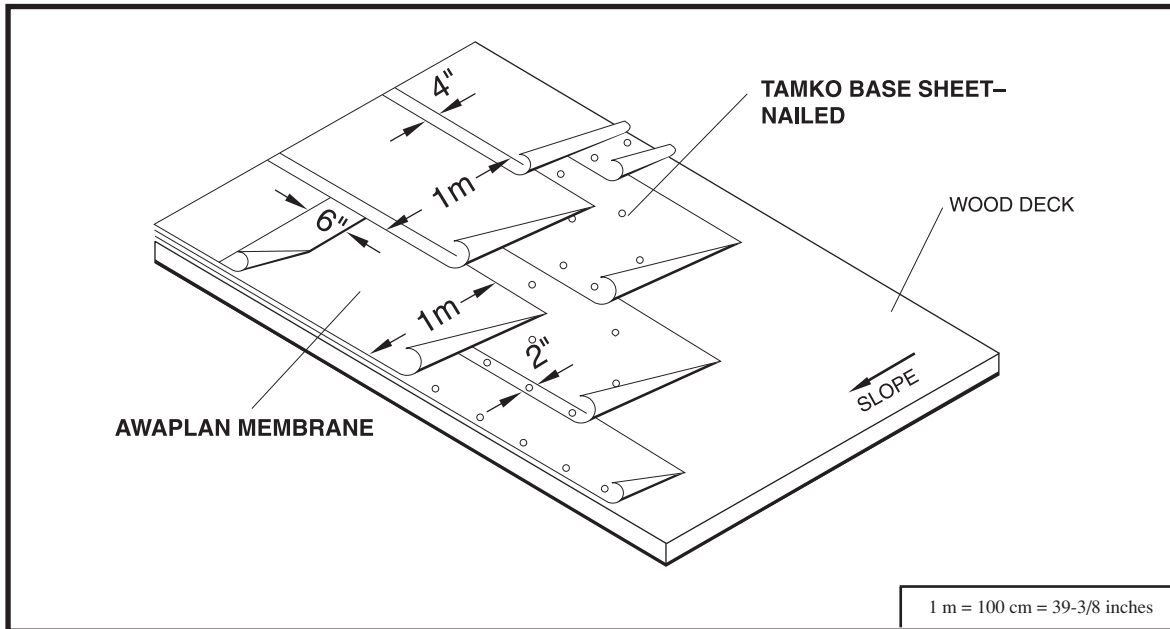
Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly ad-hered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

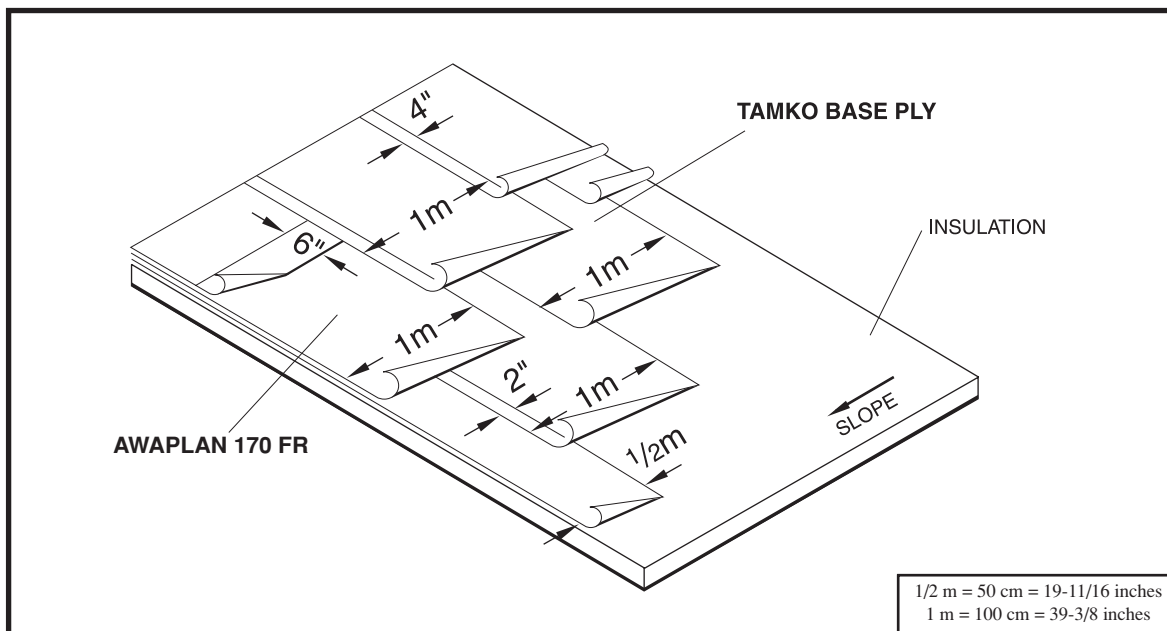
Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO BASE-N-PLY® Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

BASE-N-PLY: Starting at the low point of the roof, install 1 layer of TAMKO BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in.

Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U. L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

201FR M³ AWAPLAN 170 FR

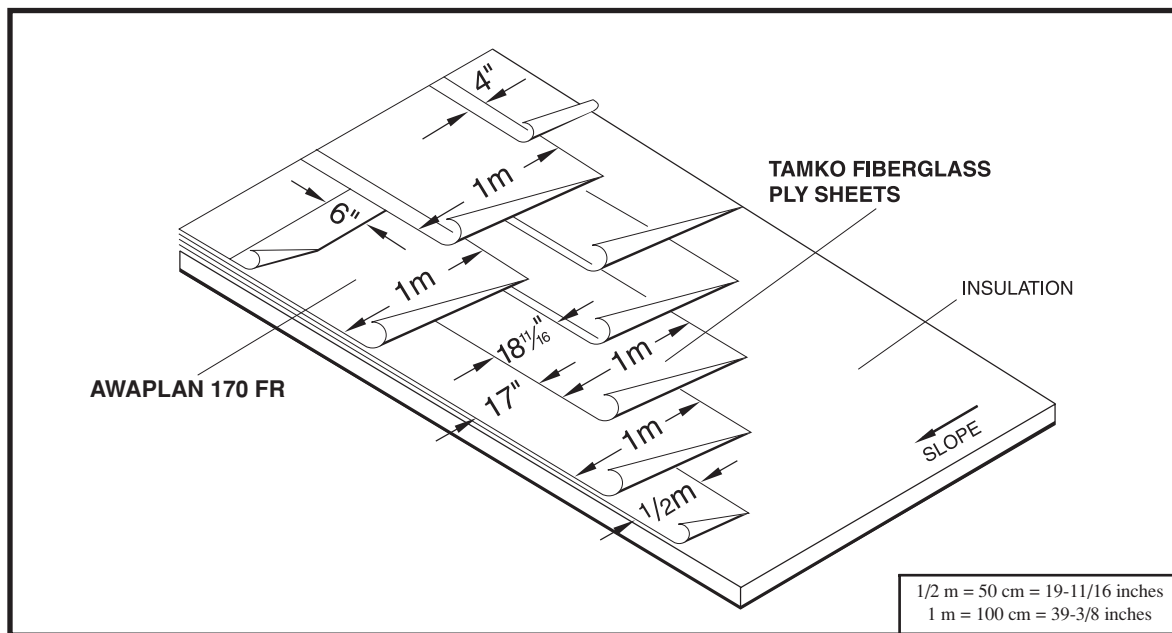
INSULATED DECKS

human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®
Fiberglass Ply Sheet 2 plies

TAMKO AWAPLAN 170 FR
(Granule Surfaced) 1 ply

Asphalt (Per 100 sq. ft.) Approx. 46 lbs.

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at anyone point. Approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

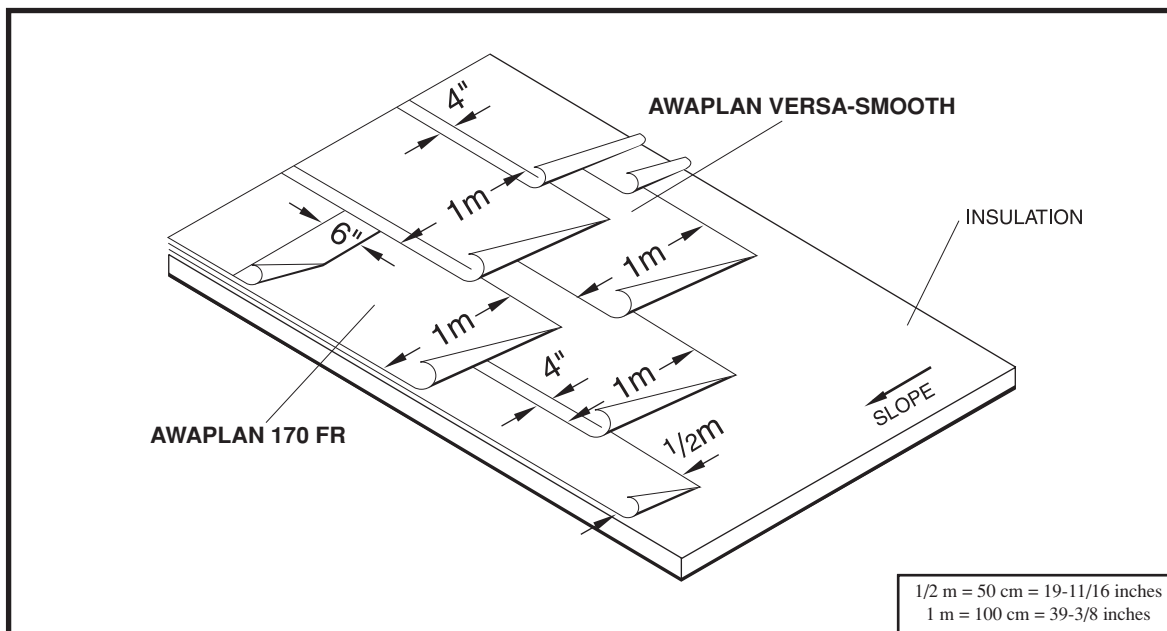
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH 1 ply

TAMKO AWAPLAN 170 FR (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

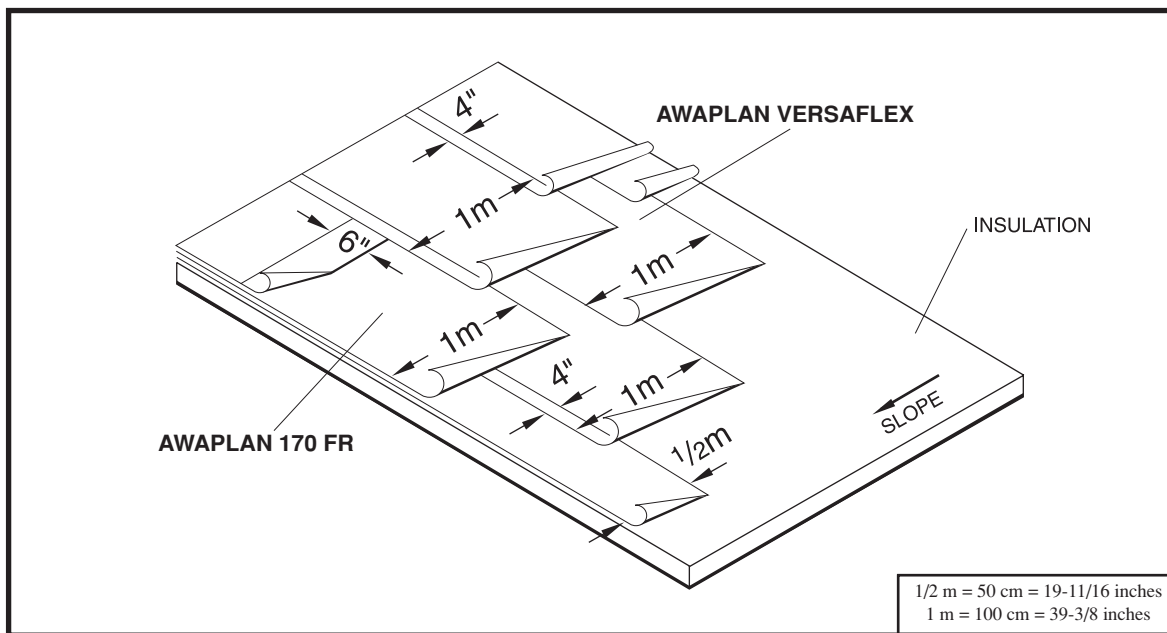
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing

have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSAFLEX 1 ply

TAMKO AWAPLAN 170 FR (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured Adhesive sealing the laps.

Alternately, the AWAPLAN VERSAFLEX may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

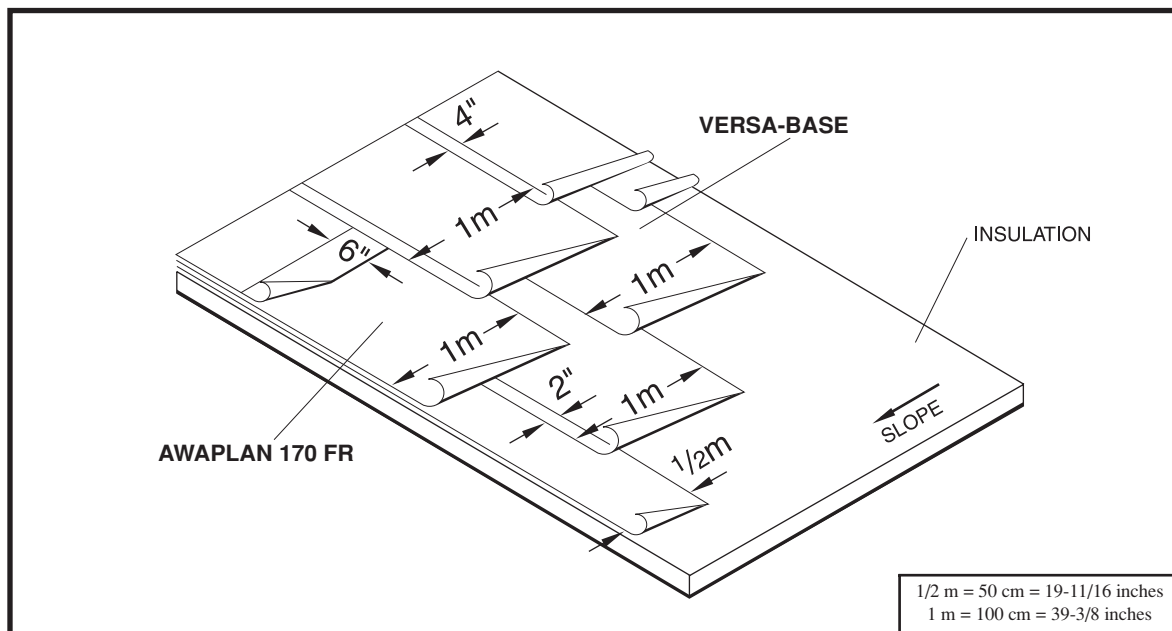
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen".

Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VERSA-BASE® 1 ply

TAMKO AWAPLAN 170 FR (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VERSA-BASE: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. The VERSA-BASE should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the VERSA-BASE may be solidly adhered to the insulation (pressed into hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

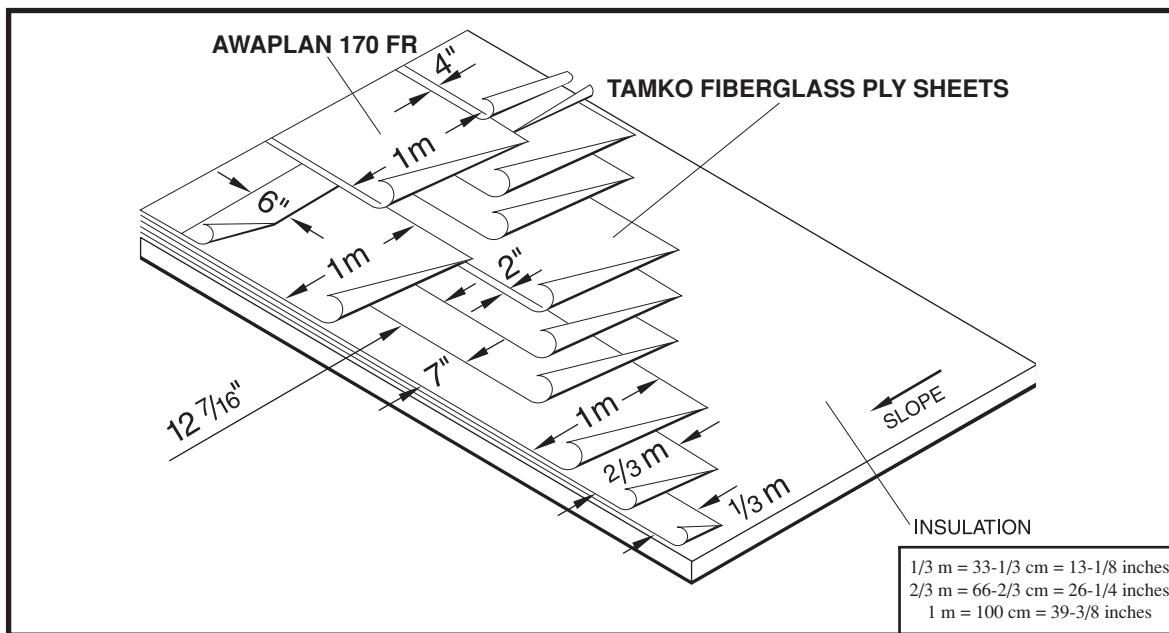
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

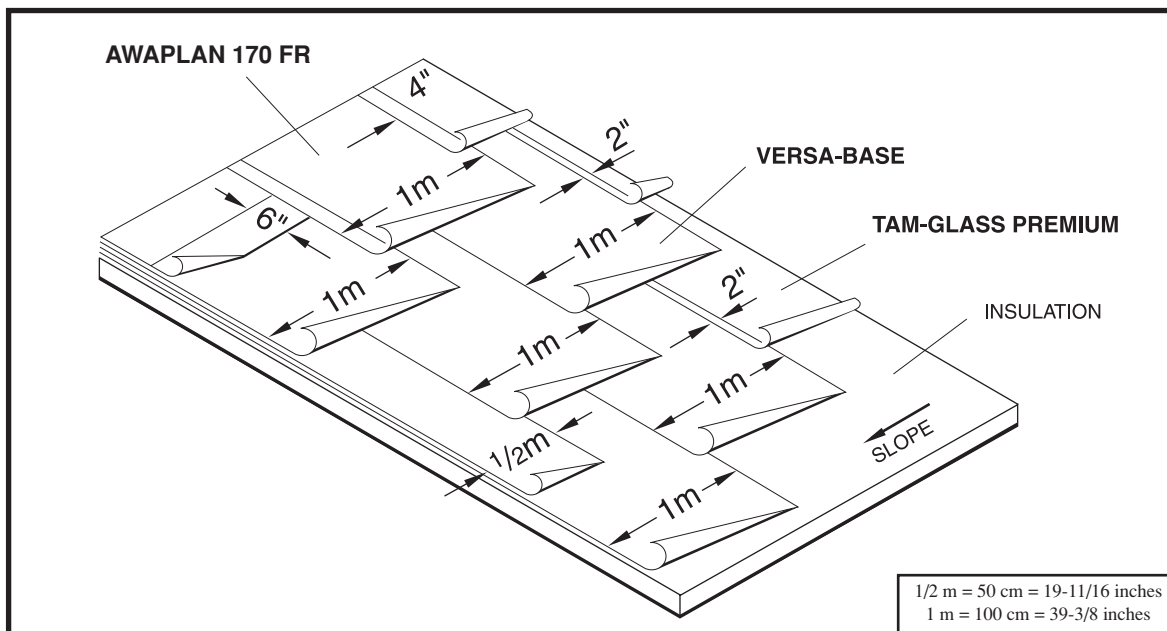
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also

contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM®	
Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE®	
Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 FR	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

TAM-GLASS PREMIUM: Starting at the low point of the roof, install 1 ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAMKO VERSA-BASE, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 FR should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

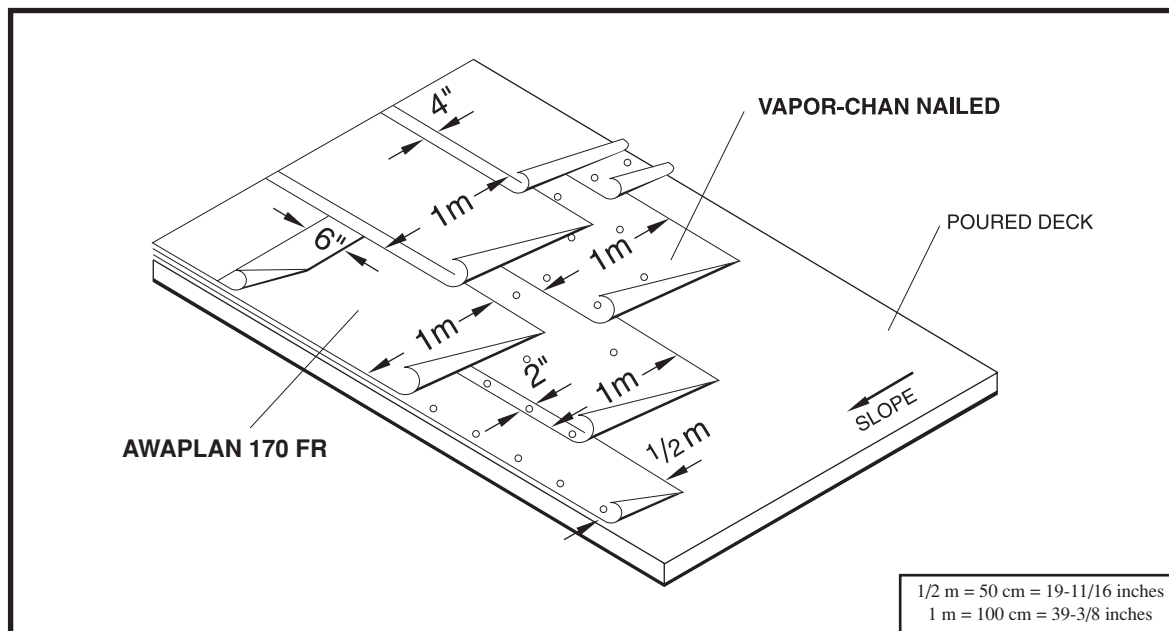
Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

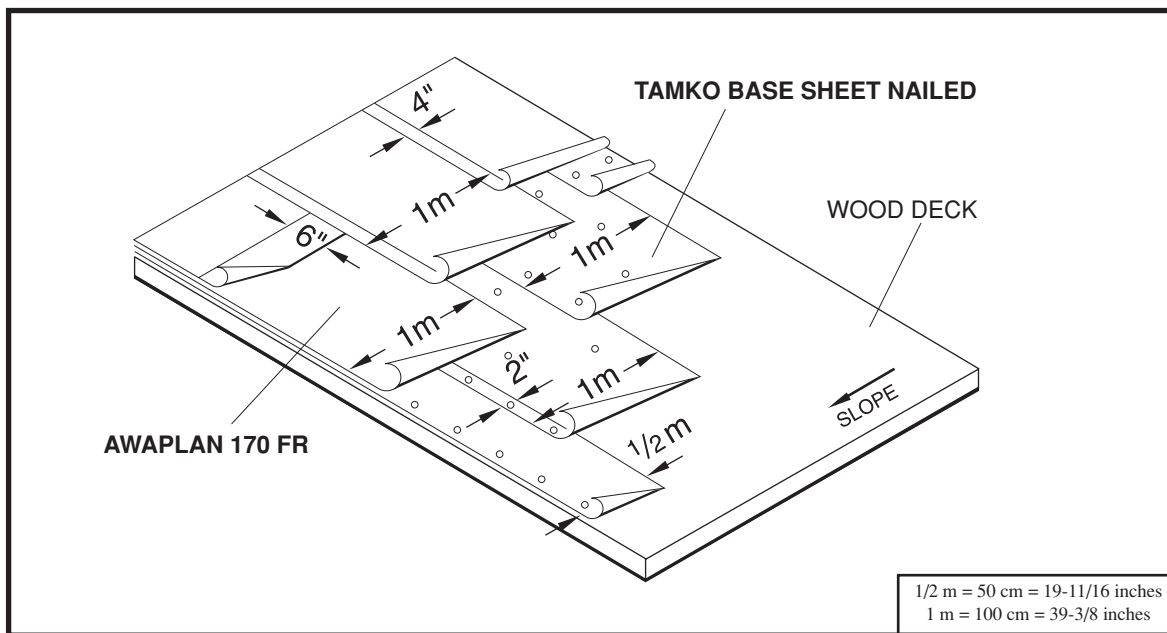
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 FR (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

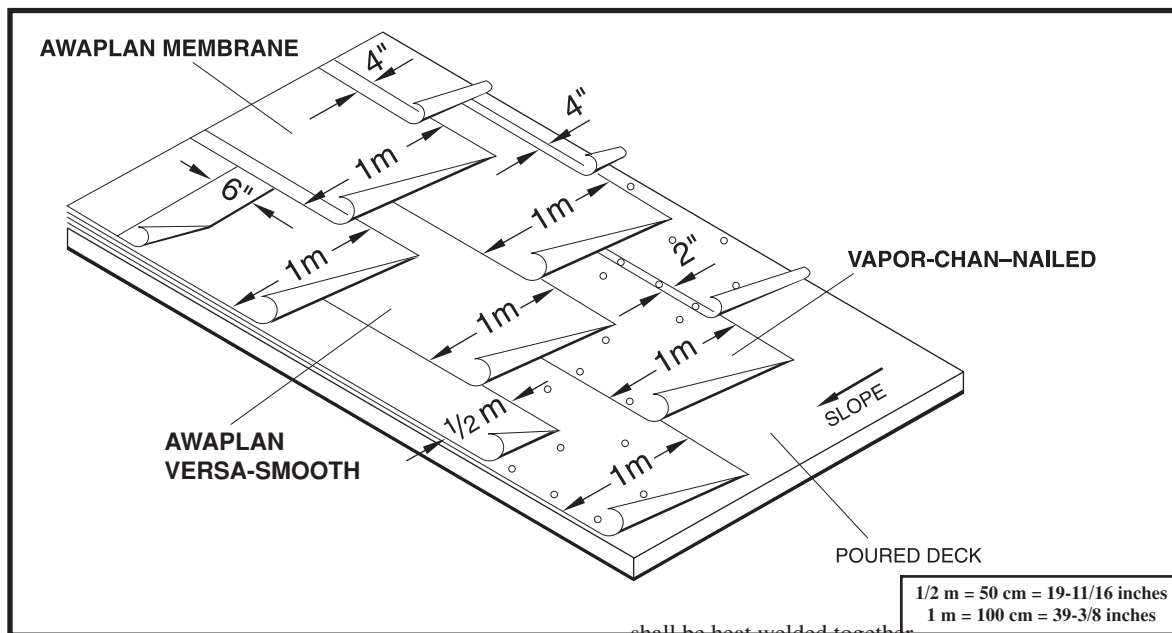
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational

exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN PREMIUM FR (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN PREMIUM FR is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Sides laps and end laps

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170 FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 FR granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 FR membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

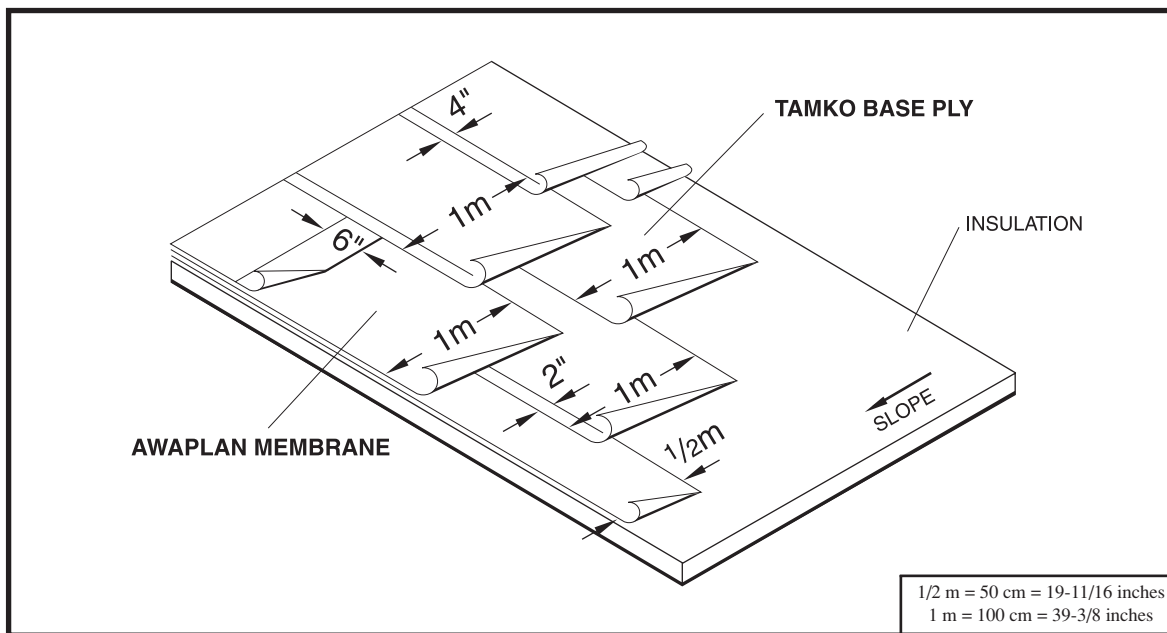
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable

human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "torch applied" or "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "torch applied" or "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	
Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 layer of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV, or BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

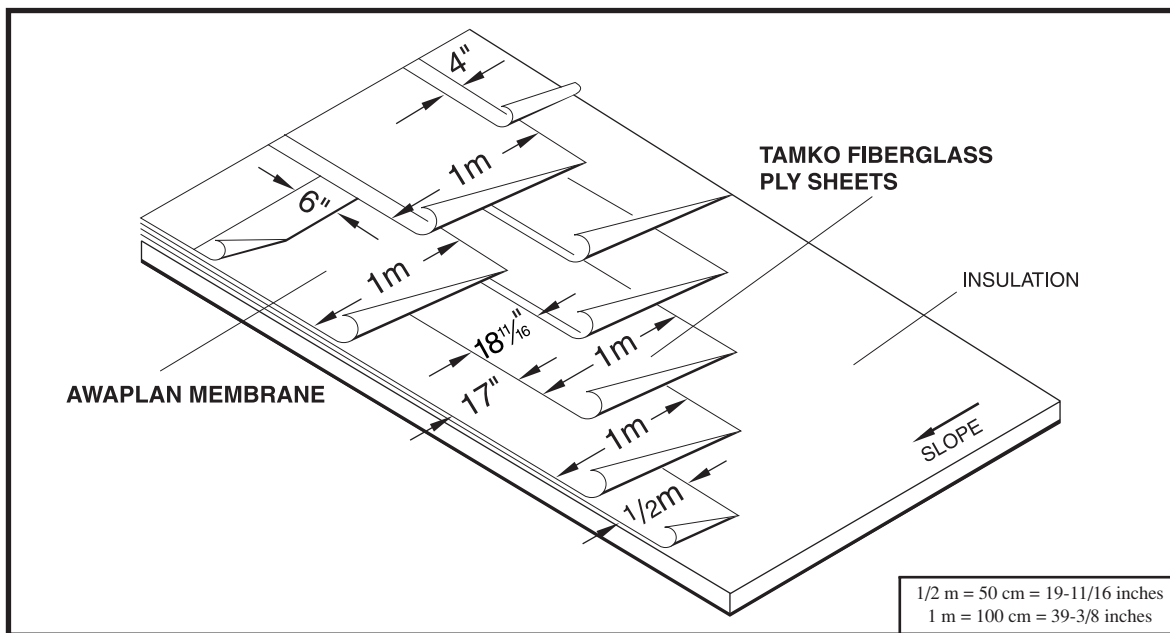
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM®, or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

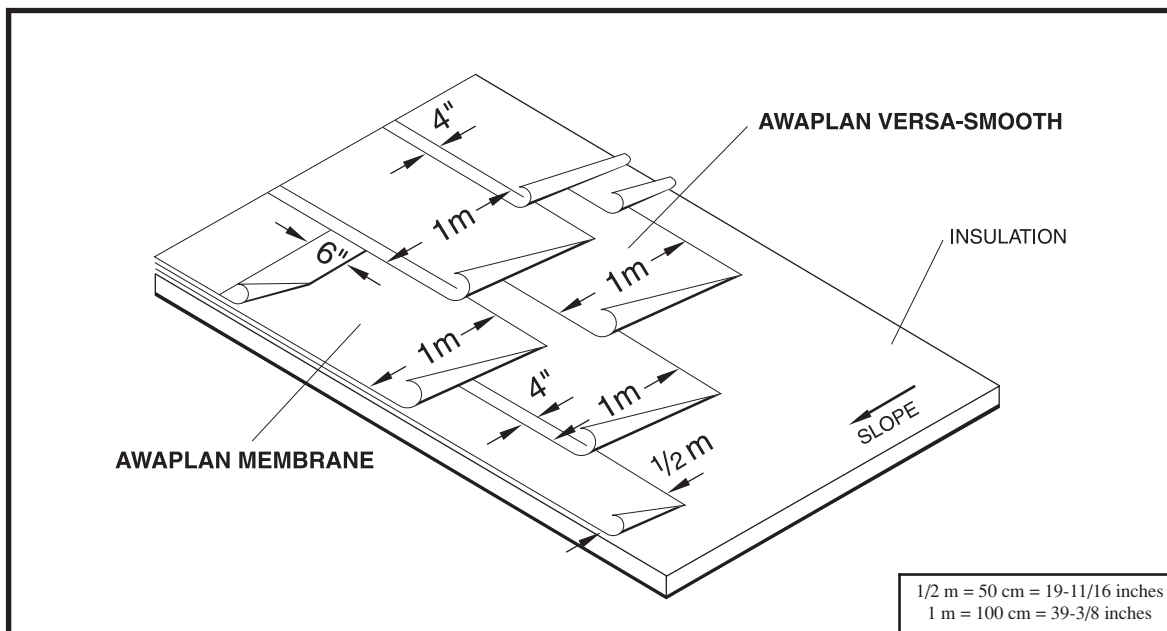
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for

Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. Use care when applying heat as damage can occur to the product by overheating.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

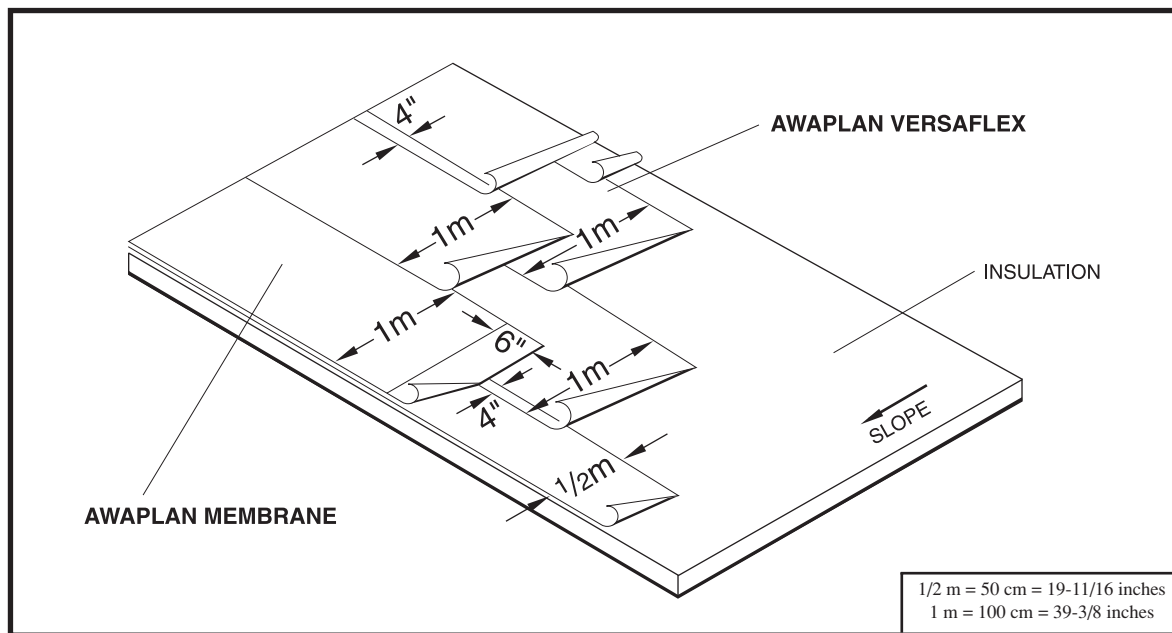
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating

or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

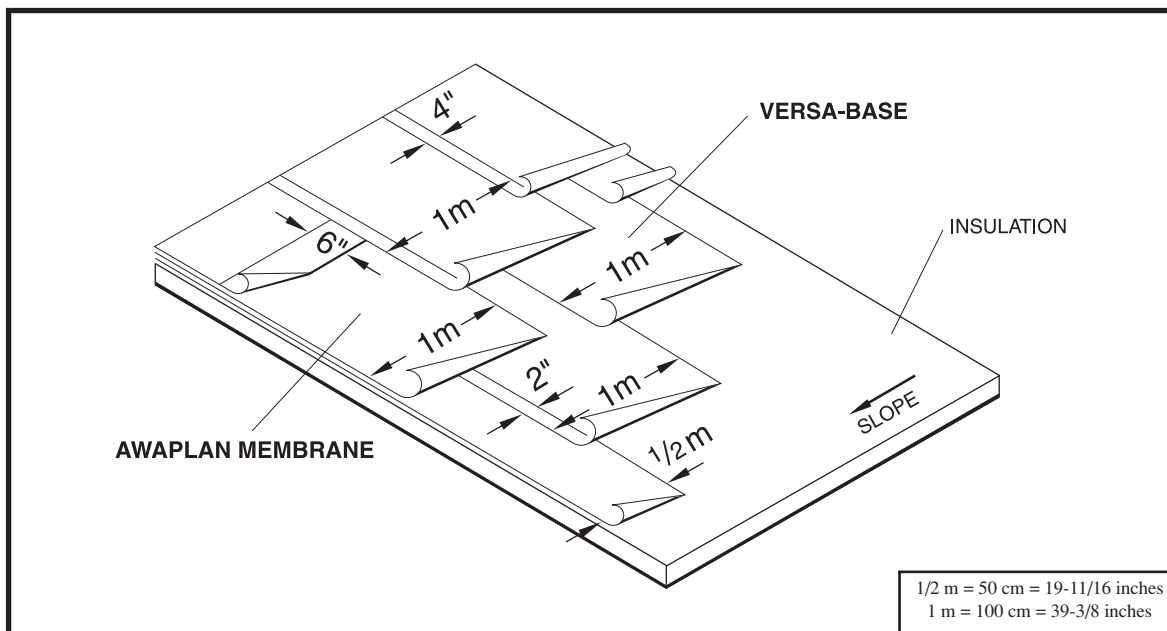
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating

or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

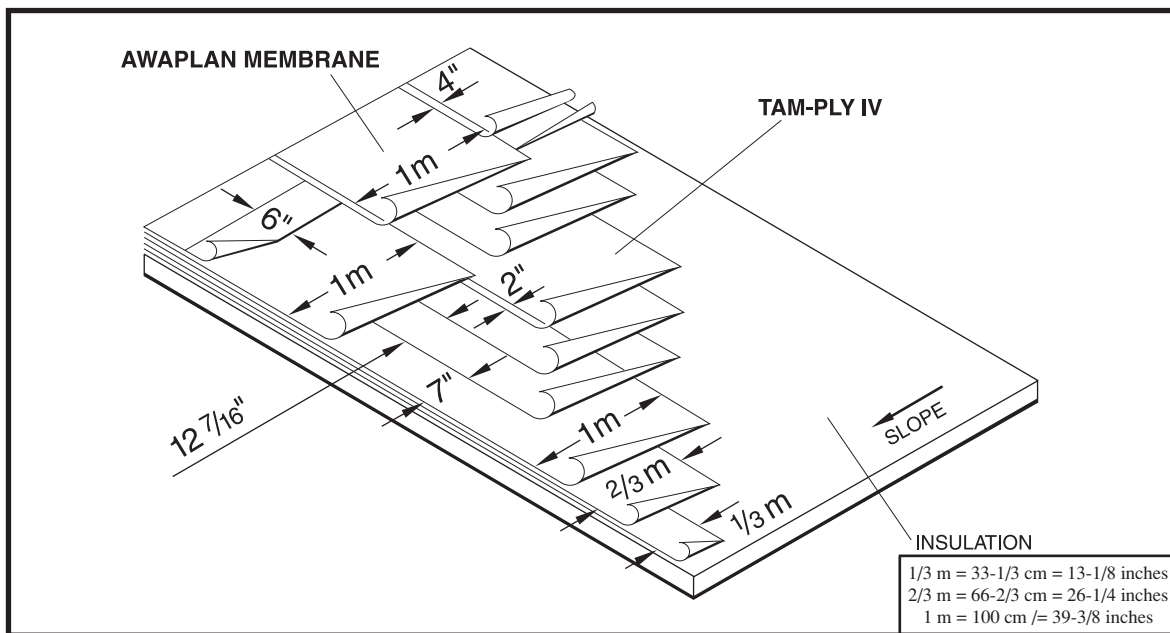
U.L. Requirements:

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Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to

oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

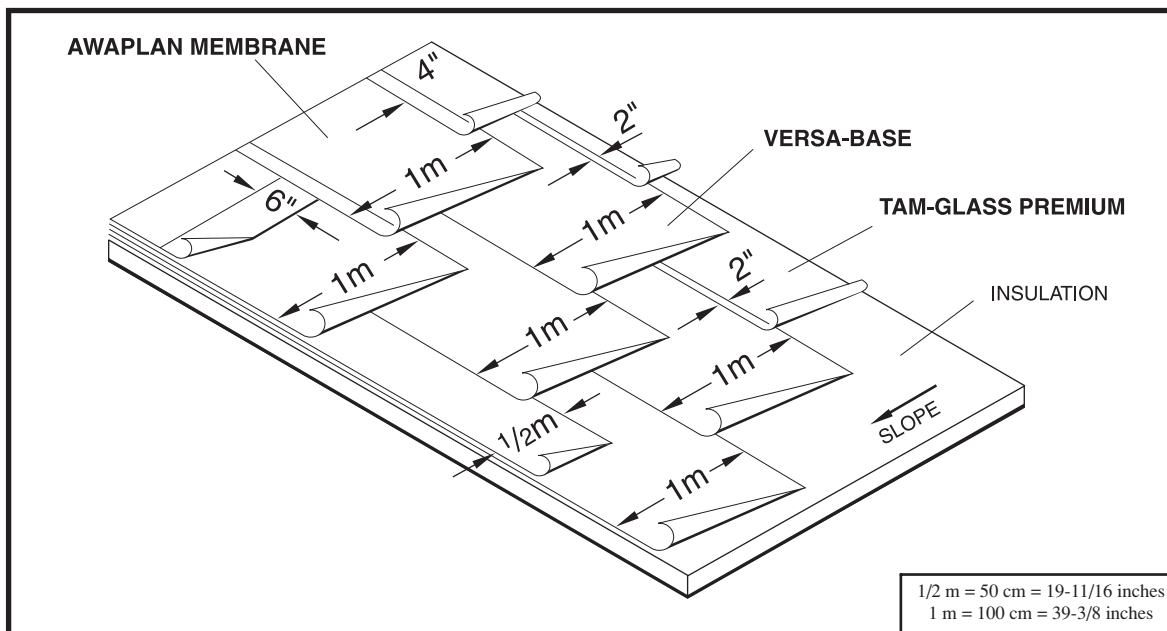
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

TAM-GLASS PREMIUM: Starting at the low point of the roof, install one ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install one ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

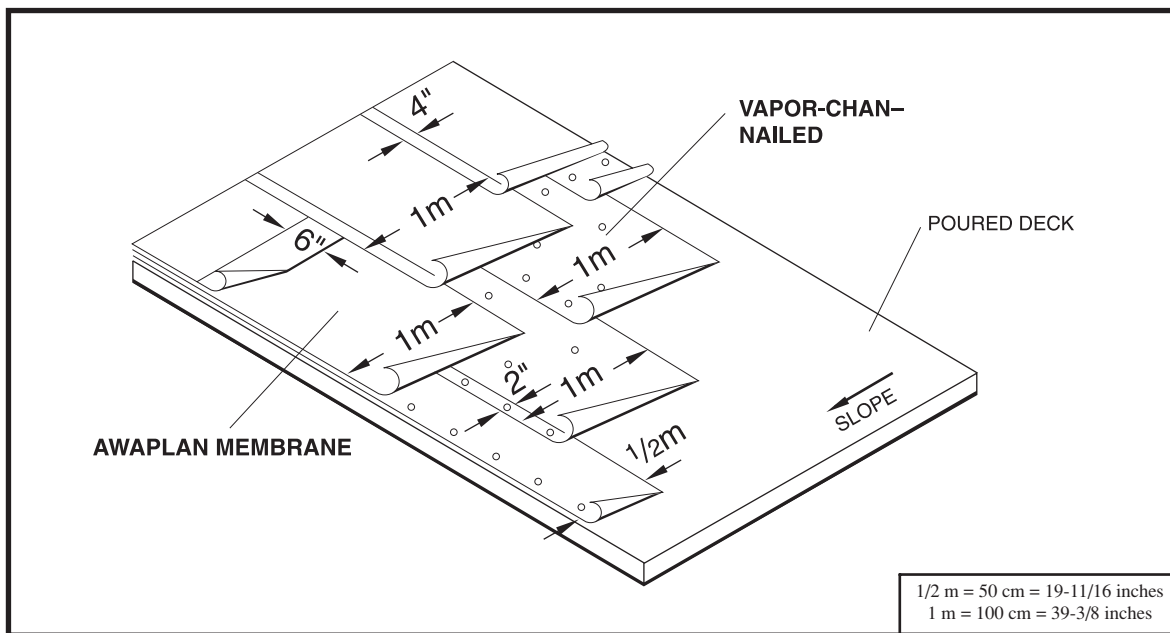
U.L. Requirements:

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Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

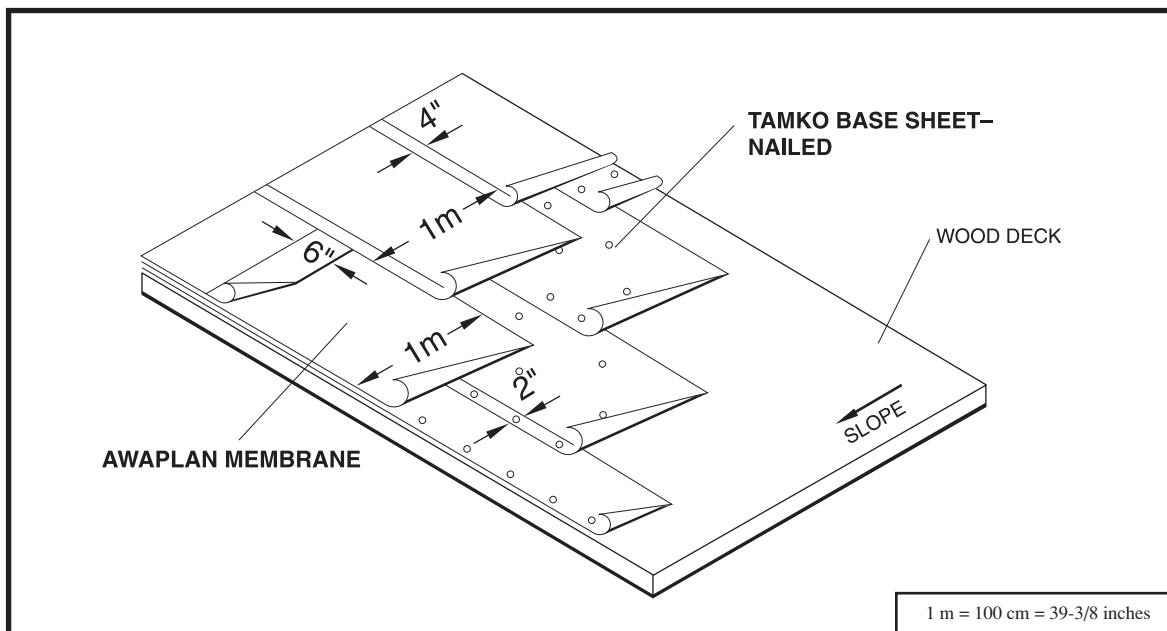
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE®, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to



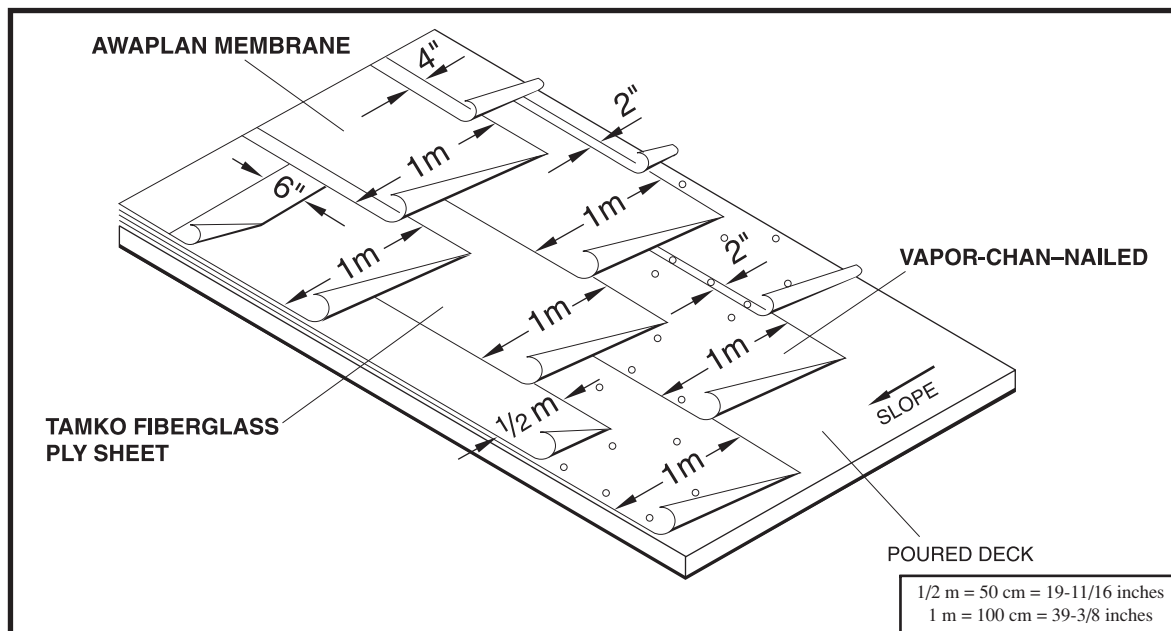
SPECIFICATION SUBMITTAL

212 AWAPLAN 170

NAILABLE DECKS (WOOD)

oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com
TAMKO®, TAMKO Glass-Base® and Base-N-Ply® are registered trademarks of TAMKO Building Products, Inc.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails	
for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

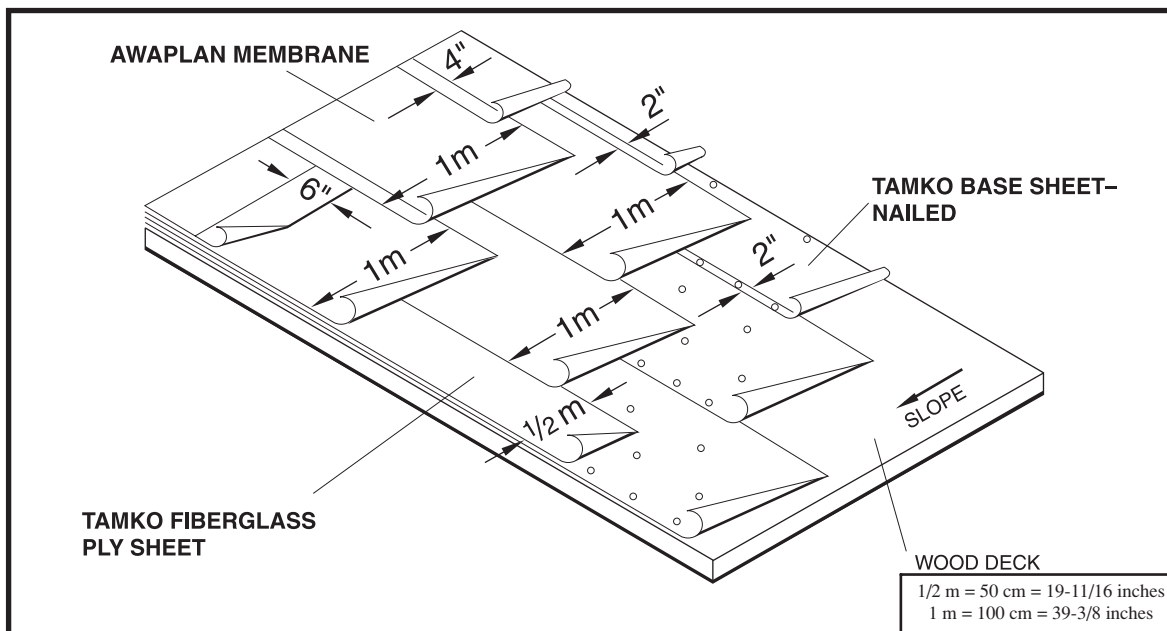
Contact TAMKO for information on U.L. systems requirements.

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demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE®, or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-GLASS PREMIUM or TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

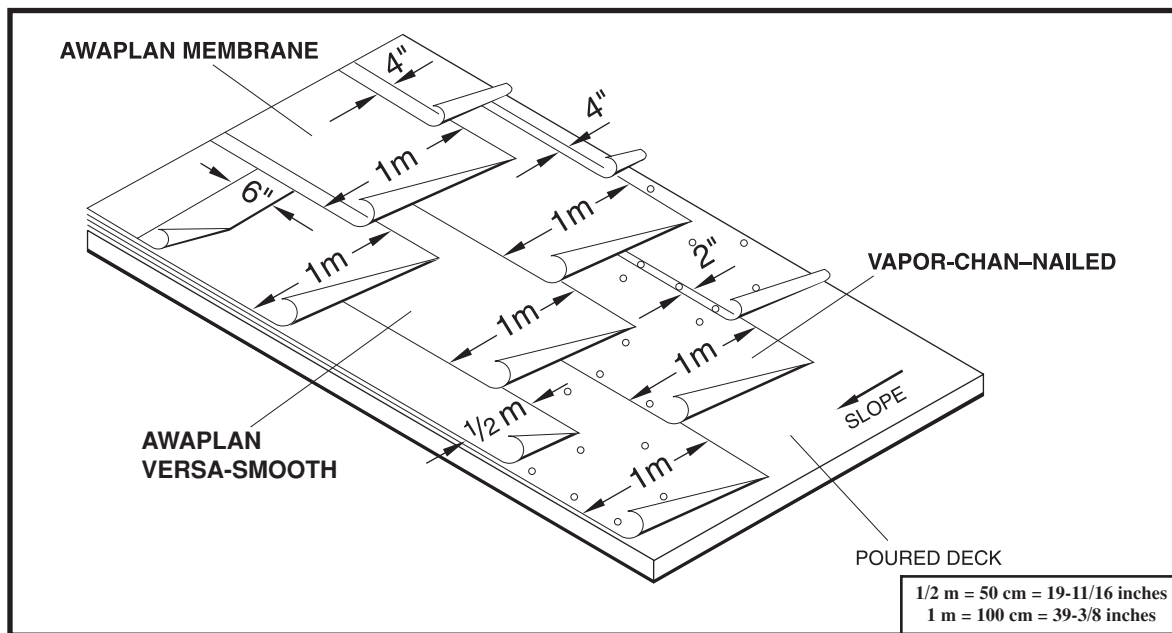
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH Modified Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet (pressed into the hot asphalt) with ap-

proximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base sheet and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

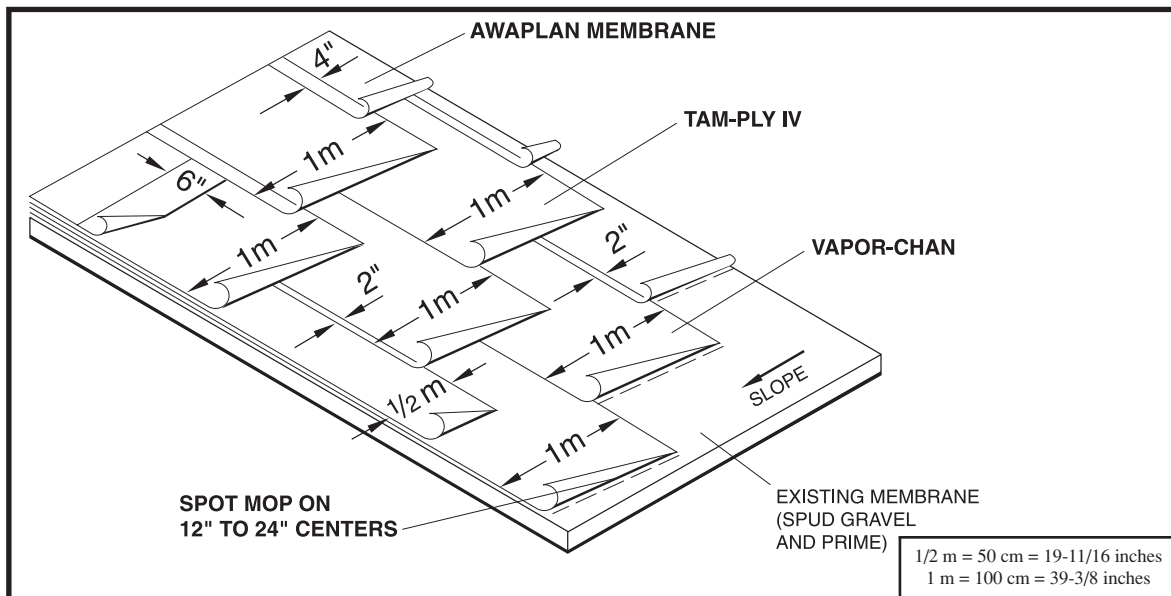
Contact TAMKO for information on U.L. systems requirements.

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inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt spaced on (not to exceed) 24 in. centers.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Concrete Primer (Per 100 sq. ft.)	Approx. 3/4 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Spud the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. The surface should be primed with concrete primer at a rate of approximately 3/4 gal. per 100 sq. ft. prior to the application of new roofing materials.

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

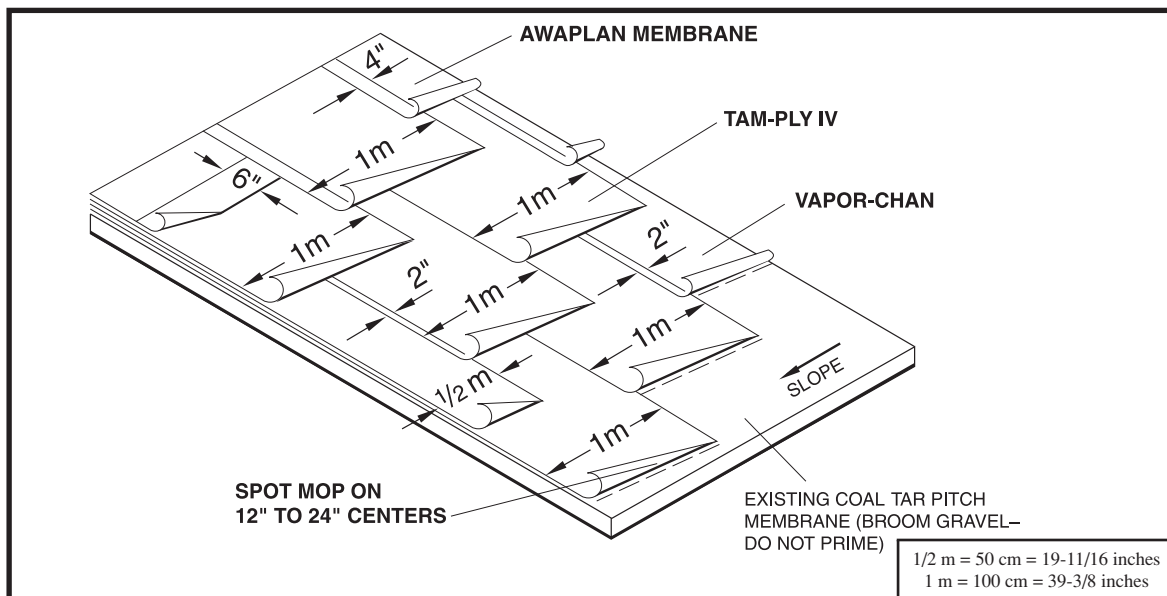
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAPLAN 170	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN membrane is required.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Preparation: Broom the membrane surface and remove all loose roofing gravel and debris. Make random cuts or breaks in the old membrane 4 ft. o.c. to allow vapor pressure to vent from the old system and any existing insulation materials. All wet or deteriorated insulation or membrane must be removed and replaced prior to the application of new roofing materials. **DO NOT USE ANY PRIMERS.**

VAPOR-CHAN: Over the old membrane and starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN Base Sheet. The VAPOR-CHAN should be side lapped 2 in. and end lapped 4 in. The base ply should be secured to the old membrane with spots of Type III, Steep Asphalt spaced on (not to exceed) 24 in. centers.

TAM-PLY IV: Starting at the low point of the roof, install 1 ply of TAM-PLY IV, beginning with a 1/2 m width, then a full 1 m width, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Venting: One-way roof vents may be placed at a minimum of 1 vent for each 10 squares of roof area.

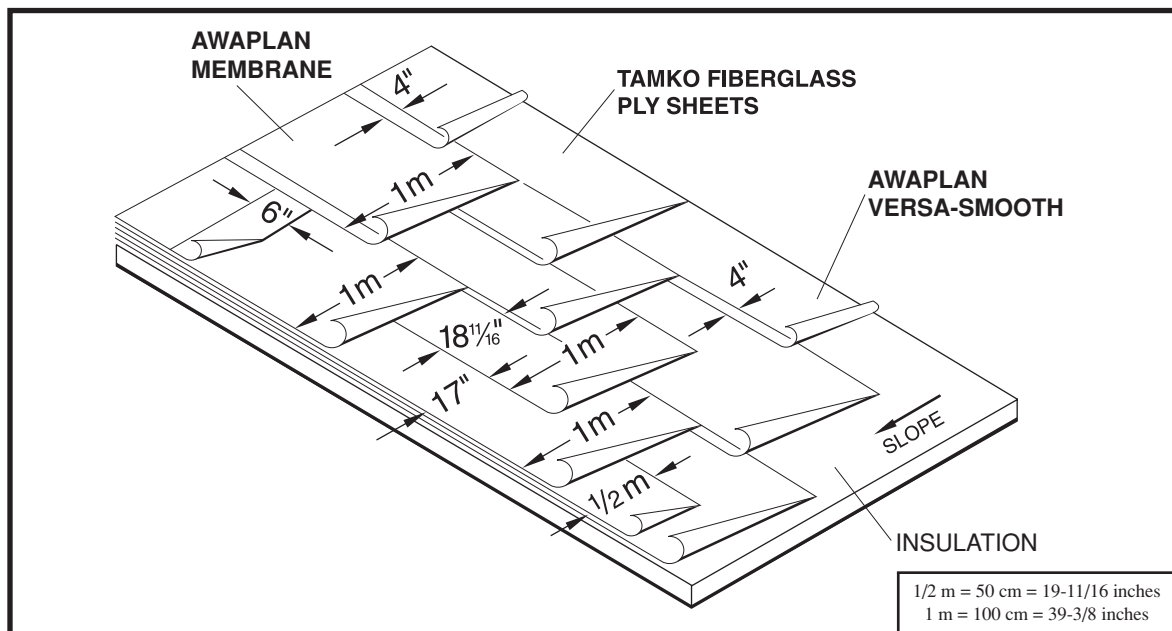
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO TAM-PLY IV® OR TAM-GLASS PREMIUM Fiberglass Ply Sheet	2 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

***Except in FL, TX, NM, AZ, CA**

Alternately, the AWAPLAN VERSA-SMOOTH may be installed by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Fiberglass Ply Sheet 2 Ply Installation: Over the base ply, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the base ply at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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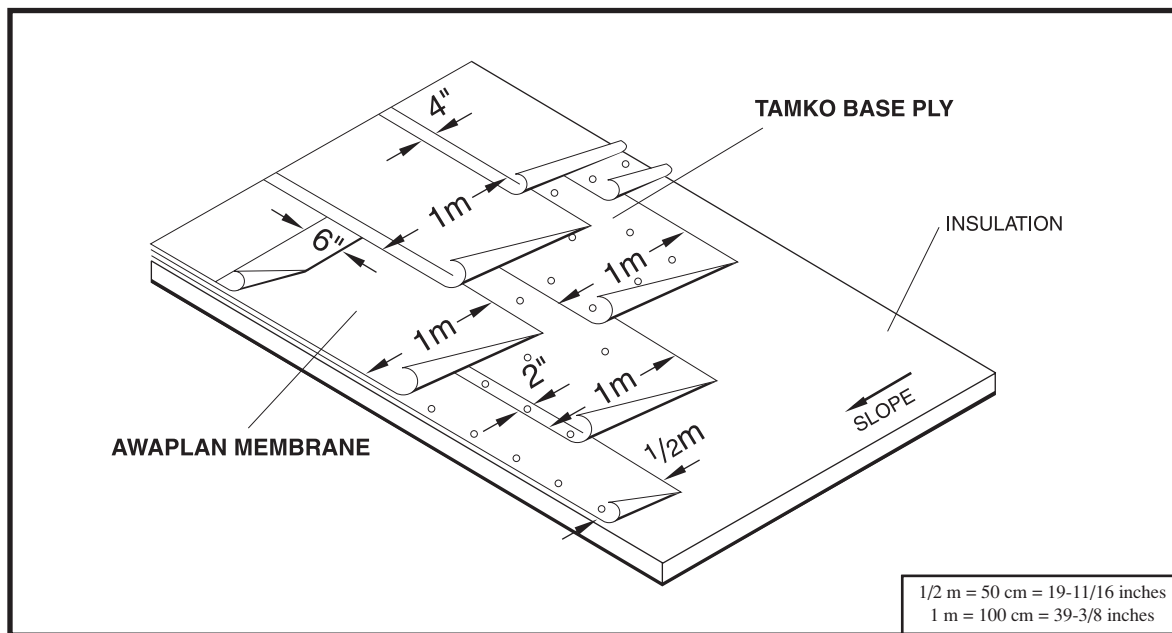
sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO GLASS-BASE®, TAM-GLASS PREMIUM®, TAM-PLY IV®, or BASE-N-PLY®	1 ply
Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
TAM-PRO® 856	
Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate or expanded polystyrene insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO GLASS-BASE, TAM-GLASS PREMIUM, TAM-PLY IV or BASE-N-PLY, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Alternately, the TAMKO GLASS-BASE, TAM-GLASS PREMIUM, or TAM-PLY IV may be solidly mopped to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

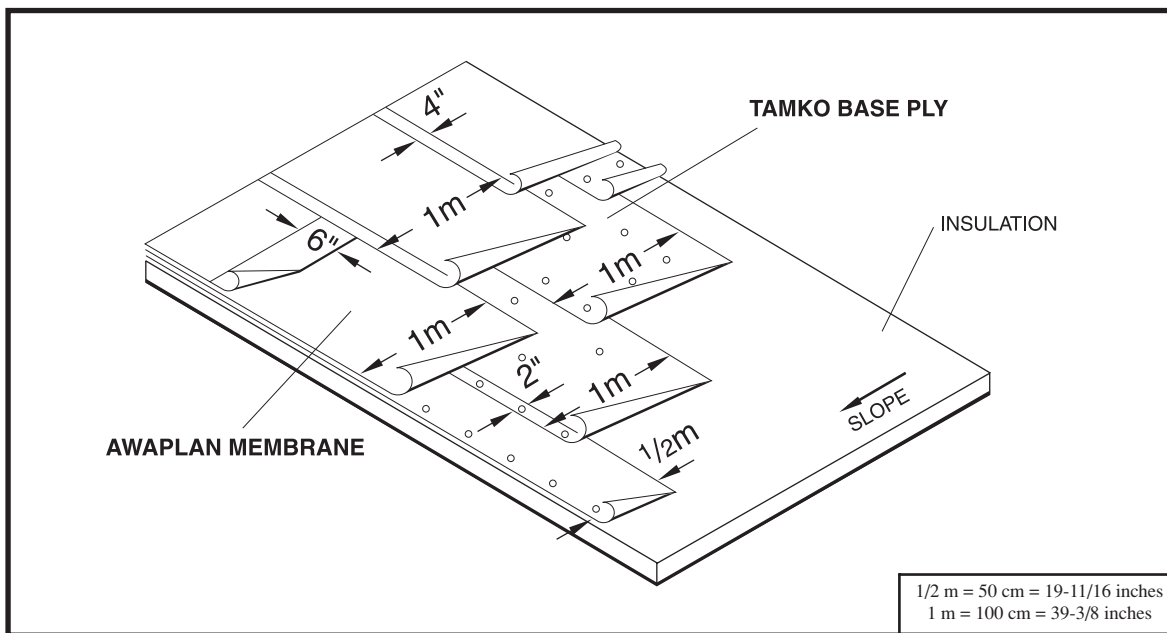
Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Fasteners as required for Base Sheet and Insulation	

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck must conform to TAMKO general requirements and Metal Deck Requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate expanded polystyrene insulation must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Mechanically fasten through the base ply and insulation, penetrating through the deck with appropriate fasteners as recommended by the insulation manufacturer. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Alternately, the VERSA-BASE may be solidly mopped to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 membrane should be solidly adhered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

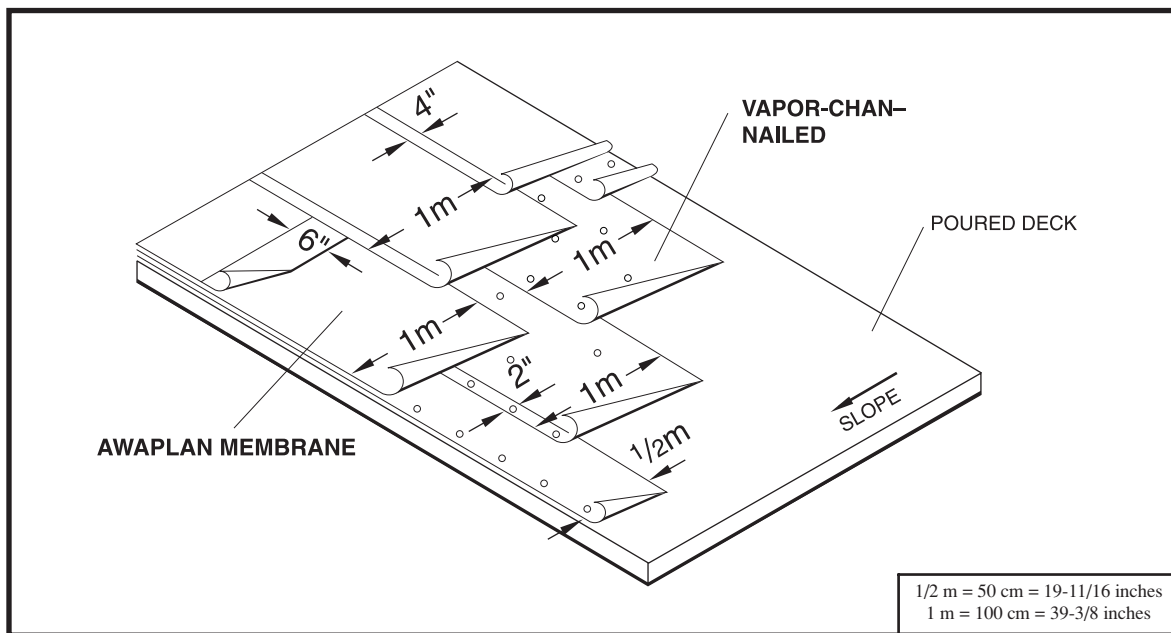
U.L. Requirements:

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 membrane should be solidly ad-hered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

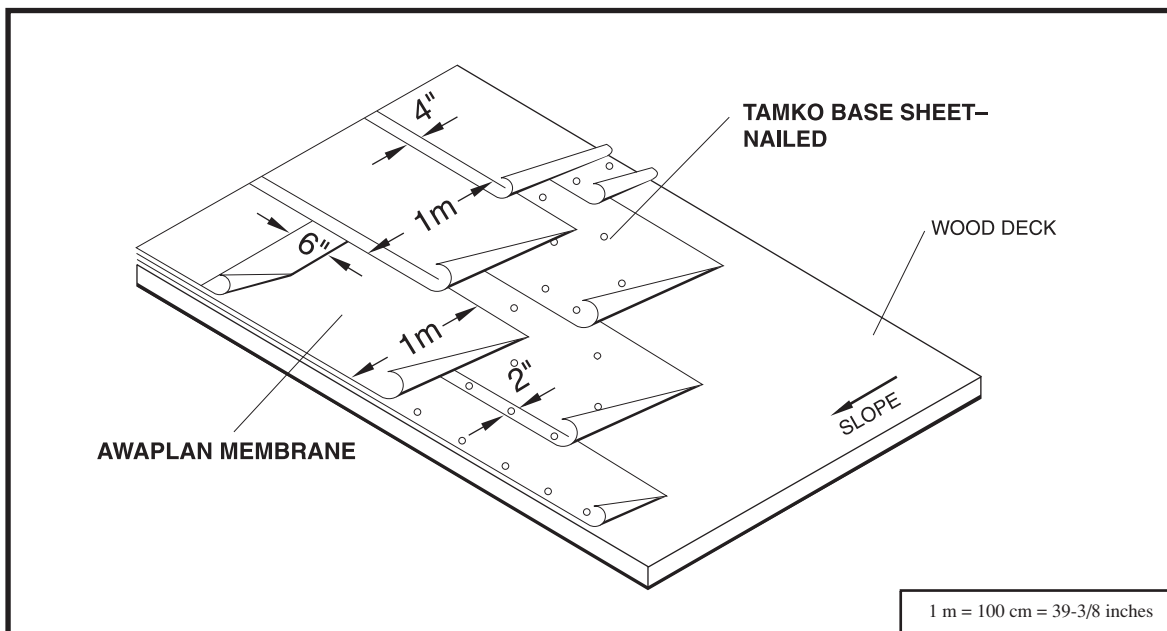
Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet, or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
TAM-PRO® 856 Premium SBS Adhesive (Per 100 sq. ft.)	1-1/2 gal
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The cold process adhesive must be TAM-PRO 856 Premium SBS Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 membrane should be solidly ad-hered to the base sheet with an application of TAM-PRO 856 Premium SBS Adhesive at a rate not to exceed 1-1/2 gallons per square, and the side laps and the end laps set in adhesive or heat welded together. Use care when applying heat as damage can occur to the product by overheating.

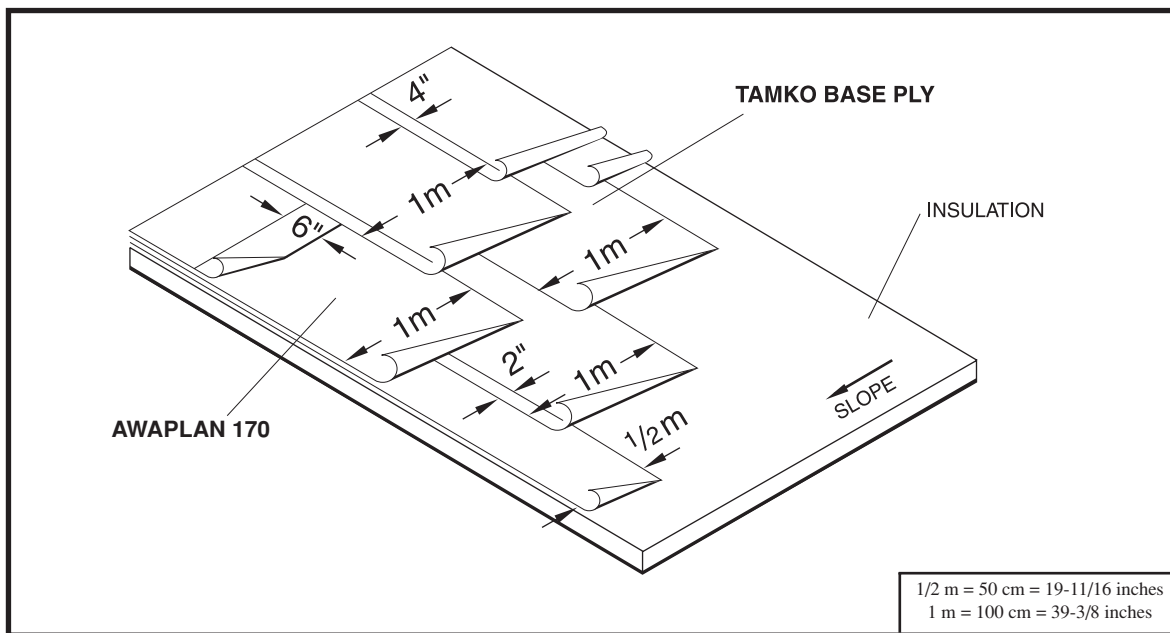
Caution should be used when exposing cold adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements: Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO BASE-N-PLY® Fiberglass Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

BASE-N-PLY: Starting at the low point of the roof, install 1 layer of TAMKO BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

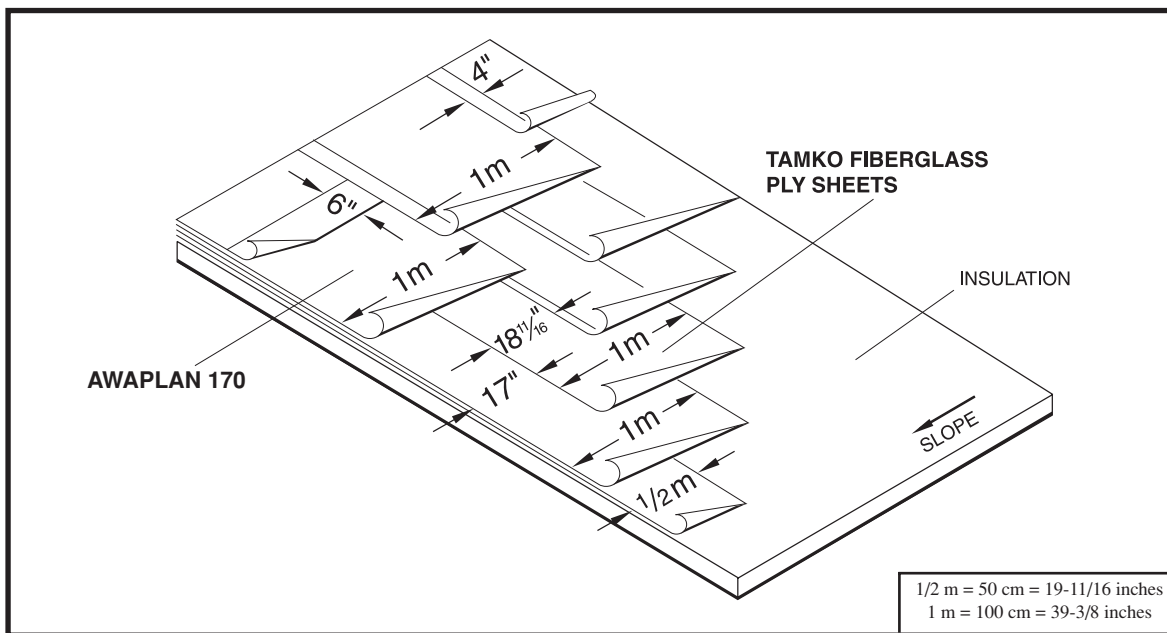
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Material Requirements

TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®
Fiberglass Ply Sheet **2 plies**

TAMKO AWAPLAN 170
(Granule Surfaced) **1 ply**

Asphalt (Per 100 sq. ft.) **Approx. 46 lbs.**

M³ Adhesive (Per 100 sq. ft.) **Approx. 1-1/2 to 2-1/2 gal.**

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

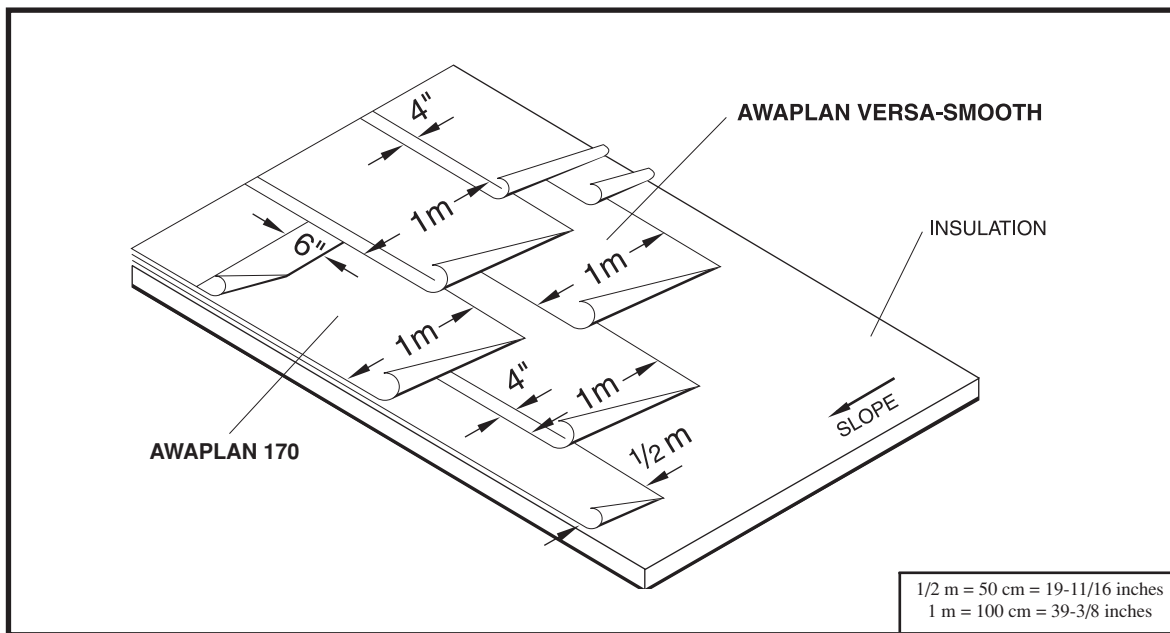
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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO[®] M³ Adhesive.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

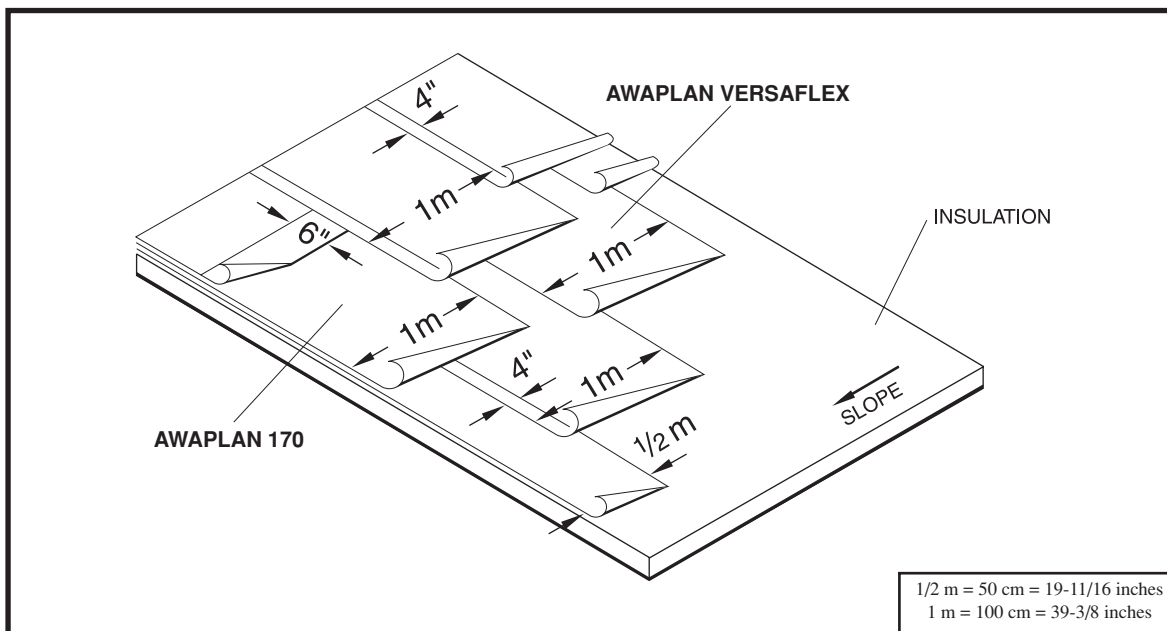
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing

have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the AWAPLAN VERSAFLEX may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard.



SPECIFICATION SUBMITTAL

204 M³ AWAPLAN 170

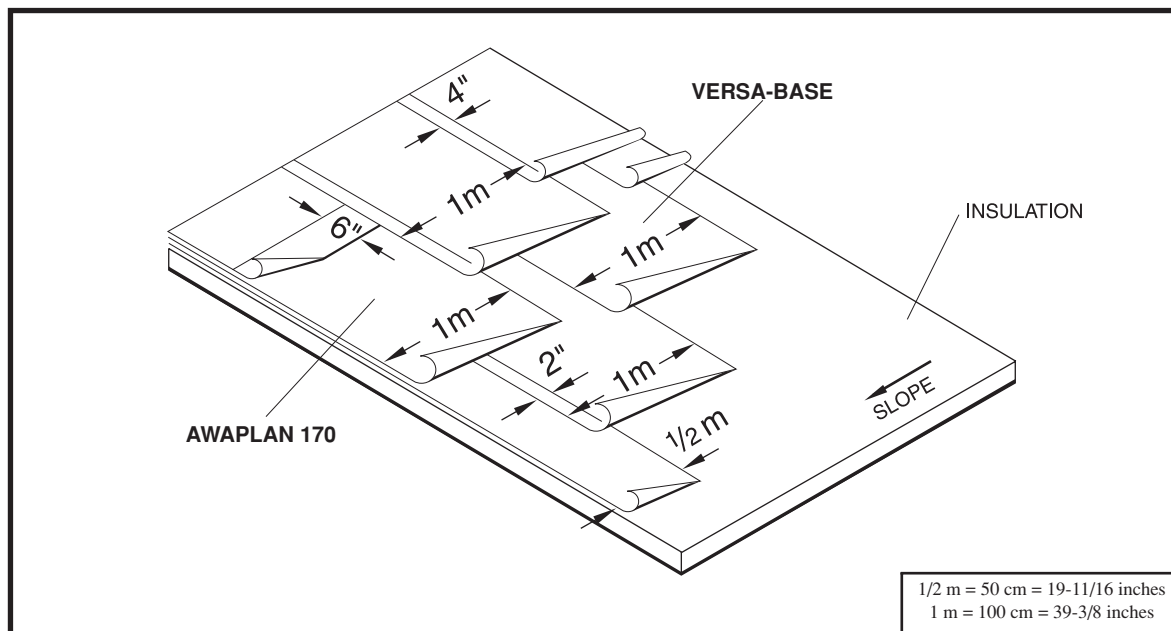
INSULATED DECKS

of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

TAMKO® is a registered trademark of TAMKO Building Products, Inc.



Material Requirements

TAMKO VERSA-BASE® 1 ply

TAMKO AWAPLAN 170 (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VERSA-BASE: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. The VERSA-BASE should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the VERSA-BASE may be solidly adhered to the insulation (pressed into hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

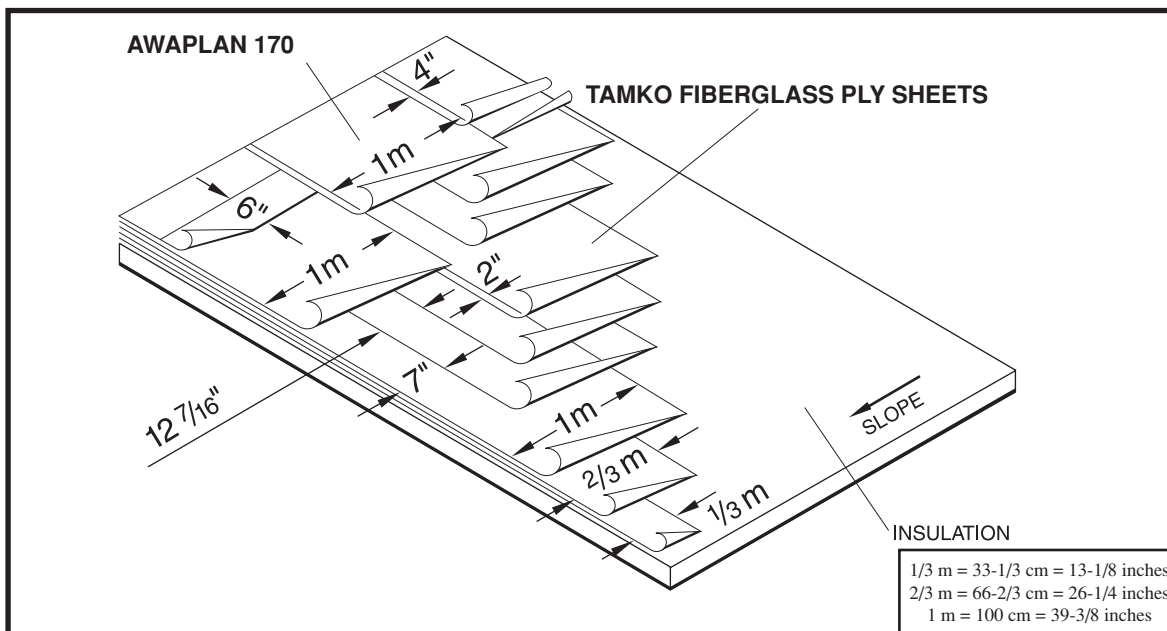
Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable

human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

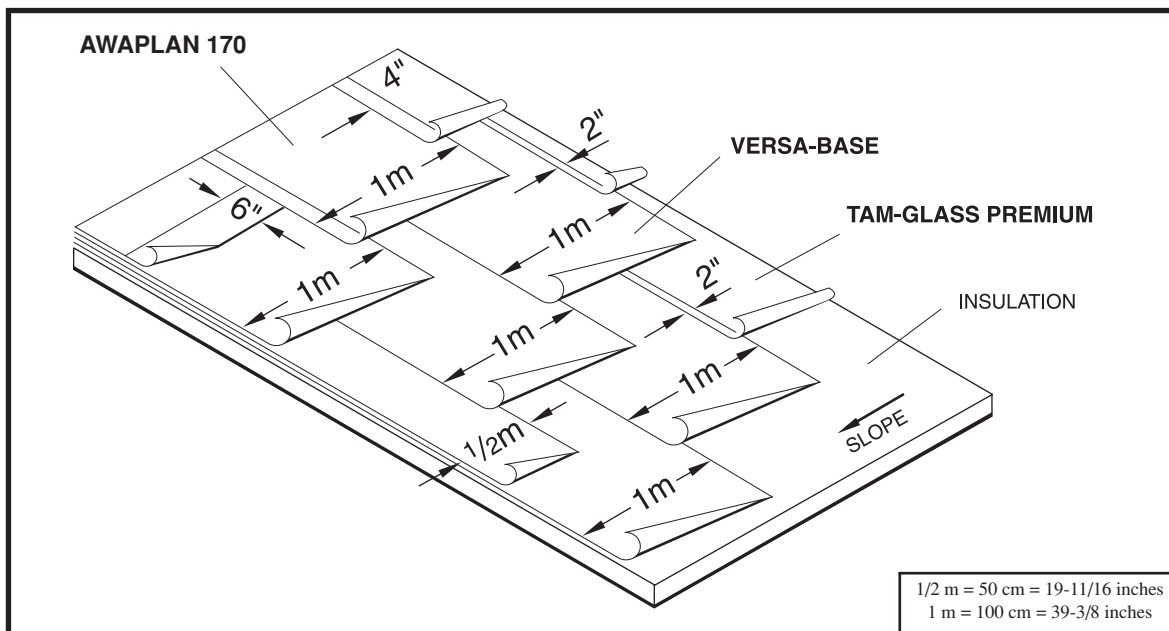
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal.

However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	1 ply
TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Adhesive: The adhesive must be TAM-PRO® M³ Adhesive.

TAM-GLASS PREMIUM: Starting at the low point of the roof, install 1 ply of TAM-GLASS PREMIUM, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAMKO VERSA-BASE, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Note: It is acceptable to invert the TAM-GLASS PREMIUM and the VERSA-BASE.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

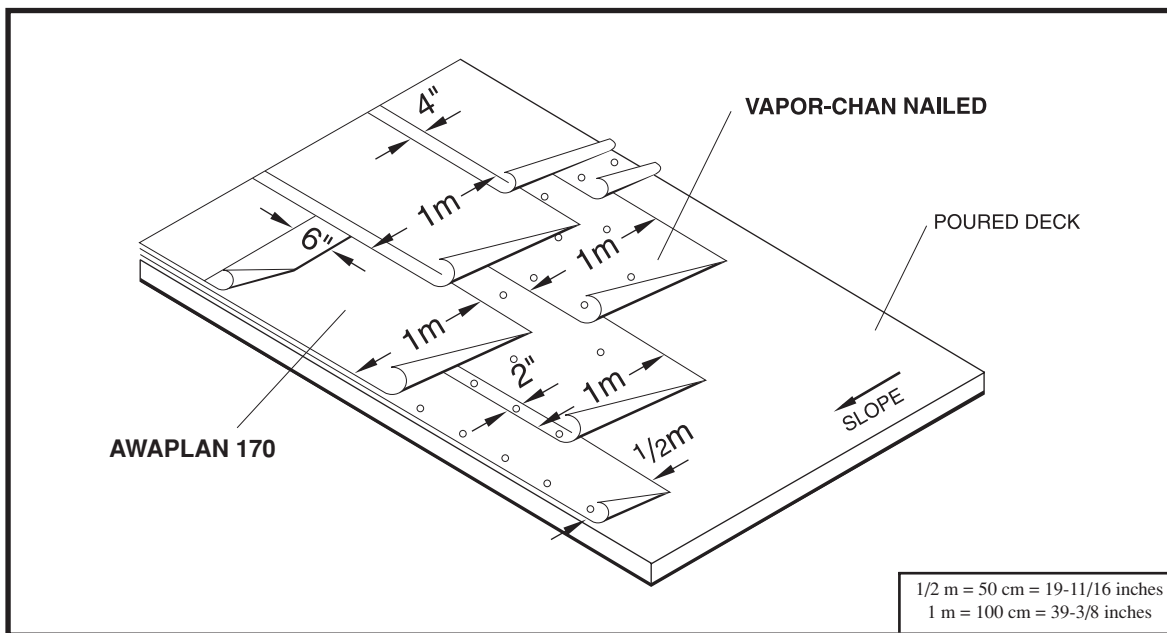
Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN 170	
(Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails	
for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

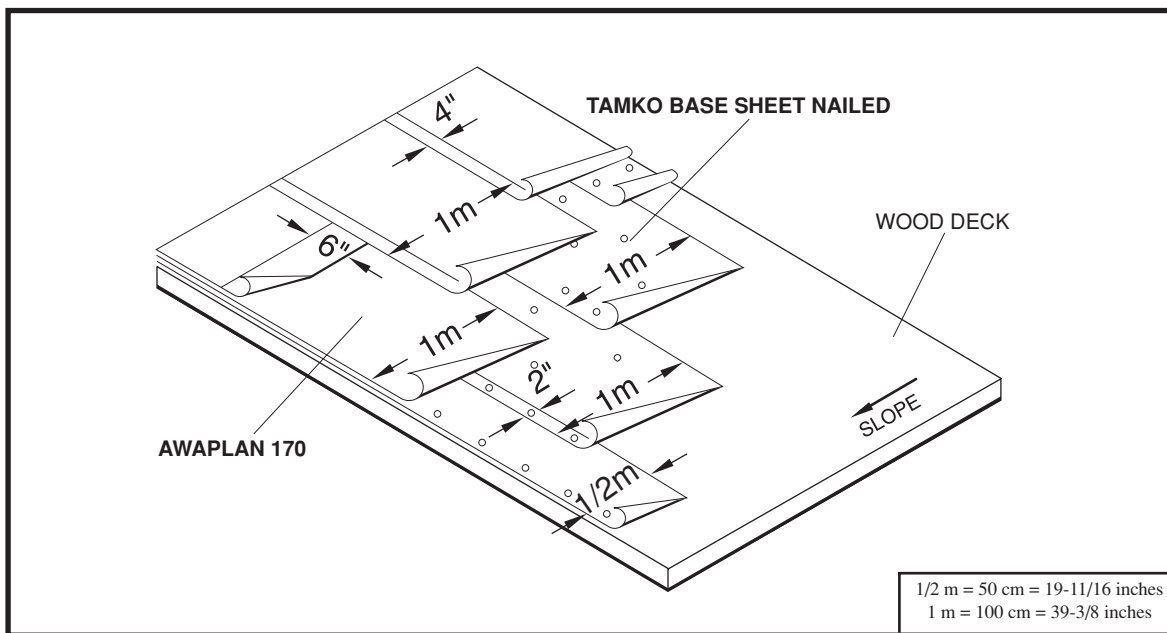
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TYPE 43 Coated Base Sheet, TAMKO GLASS-BASE® or BASE-N-PLY® Base Sheet	1 ply
TAMKO AWAPLAN 170 (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.
Clinch-type nails for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN 170 is required.

Deck: The deck should conform to TAMKO general requirements.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Base Ply: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 width, then a full width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The field of the AWAPLAN 170 membrane should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

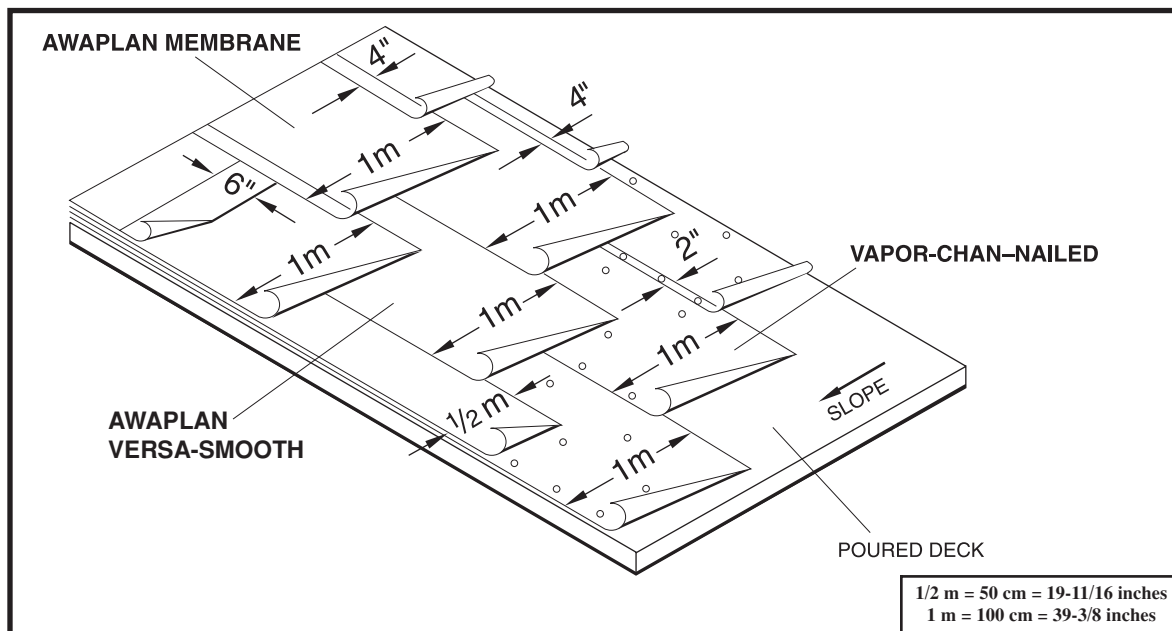
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational

exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH	
Modified Base Sheet	1 ply
TAMKO AWAPLAN 170	
(Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN HEAT WELDING is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2

to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAPLAN 170: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN 170 granule surfaced sheet, side lapped 4 in. and end lapped 6 in. The AWAPLAN 170 should be solidly adhered to the AWAPLAN VERSA-SMOOTH with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together. **Use care when applying heat as damage can occur to the product by overheating.**

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

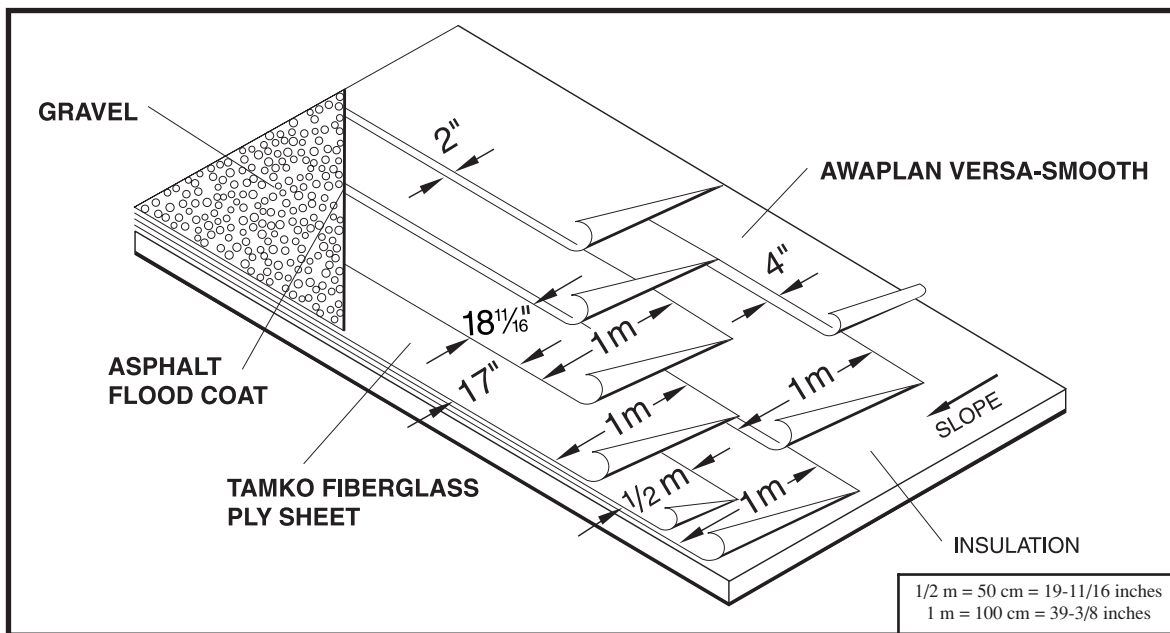
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN VERSA-SMOOTH and the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH may be installed by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

Fiberglass Ply Sheet 2 Ply Installation: Over the base ply, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the base ply at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

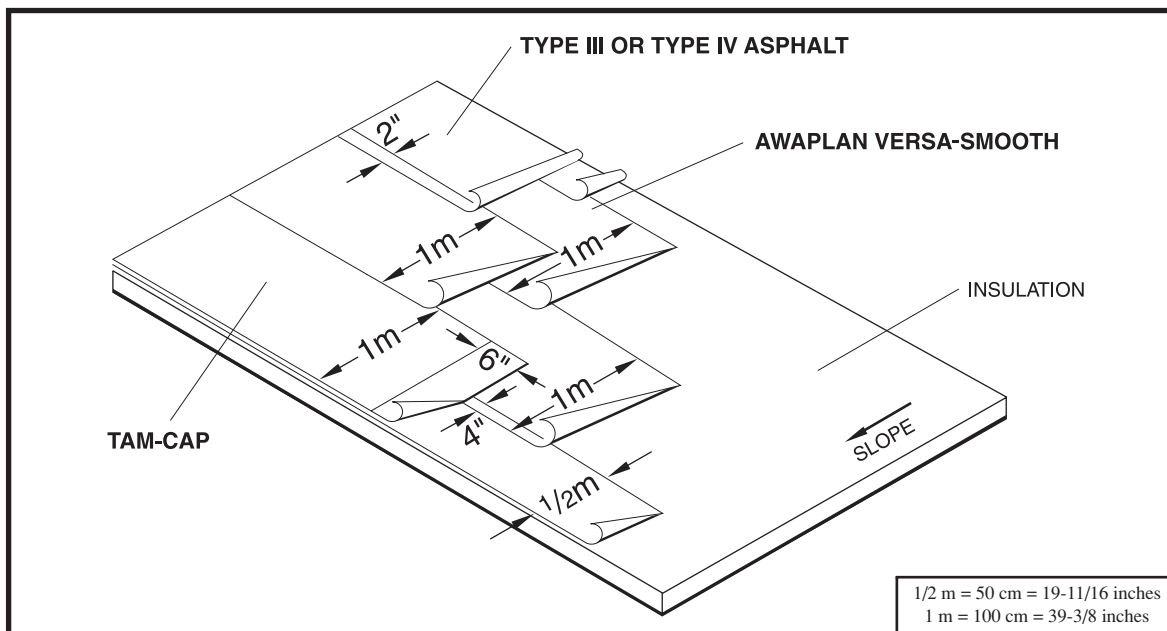
U.L. Requirements:

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nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO TAM-CAP®	
Fiberglass Mineral Surfaced Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN VERSA-SMOOTH is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH may be installed

by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

TAM-CAP Mineral Surfaced Cap Sheet: Starting at the low point of the roof, apply 1 ply of TAMKO TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) of specification asphalt per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. **NOTE: Before application of TAM-CAP, cut into 12 ft. to 18 ft. lengths, allow to flatten and relax. Stagger the end laps.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification.



SPECIFICATION SUBMITTAL

244 AWAPLAN VERSA-SMOOTH

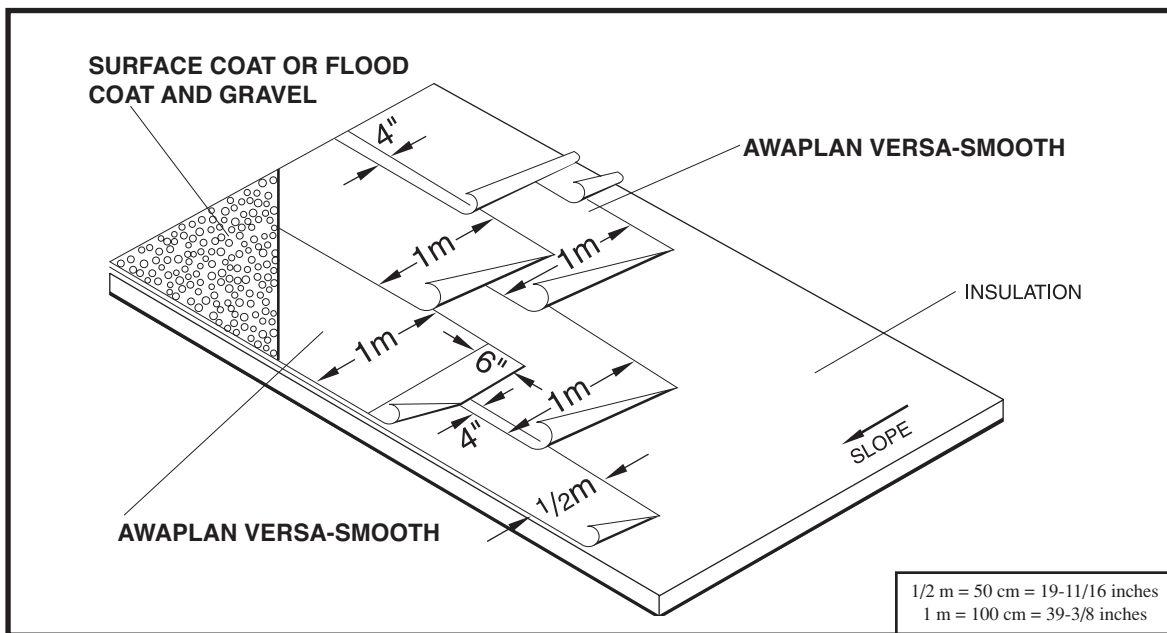
INSULATED DECKS

Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	2 plies
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Surfacing (Options Below)	
(1) Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.
(2) Surface Coat: (Per 100 sq. ft.)	
(a) Fibered Aluminum Coating	1-1/2-2 gals.
(b) Emulsion Coating	3 gals.
(c) Asphalt Glaze Coating	20 to 25 lbs.
(d) TAM-GUARD or White Elastomeric Coating	2 gals.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN VERSA-SMOOTH membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSA-SMOOTH 2-Ply Installation: Over the insulation, install 2 plies of AWAPLAN VERSA-SMOOTH in specification asphalt. Starting at the low point of the roof, apply the first ply of AWAPLAN VERSA-SMOOTH beginning with a 1/2 m. width, then a full 1 m. width, side lapped 4 in. and end lapped 6 in. Start the second ply of AWAPLAN VERSA-SMOOTH

beginning with a full 1 m. width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation or previous ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Surfacing: Select one of the following surfacings:

- (1) **Flood Coat and Gravel:** Apply a flood coat of 60 lb. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lb. of clean roofing gravel or 300 lb. of slag per 100 sq. ft. of completed roof area, or
- (2) **Surface Coat:** Coat the entire roof surface with (a) Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gal. per 100 sq. ft. or (b) Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or (c) a surface grade hot asphalt using a min. of 20 lbs. and a max of 25 lbs. per 100 sq. ft., or (d) TAM-STAR or TAM-GUARD White Elastomeric Coating at a rate of 2 gals. per 100 sq. ft.

Maintenance of the surface coating is required.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

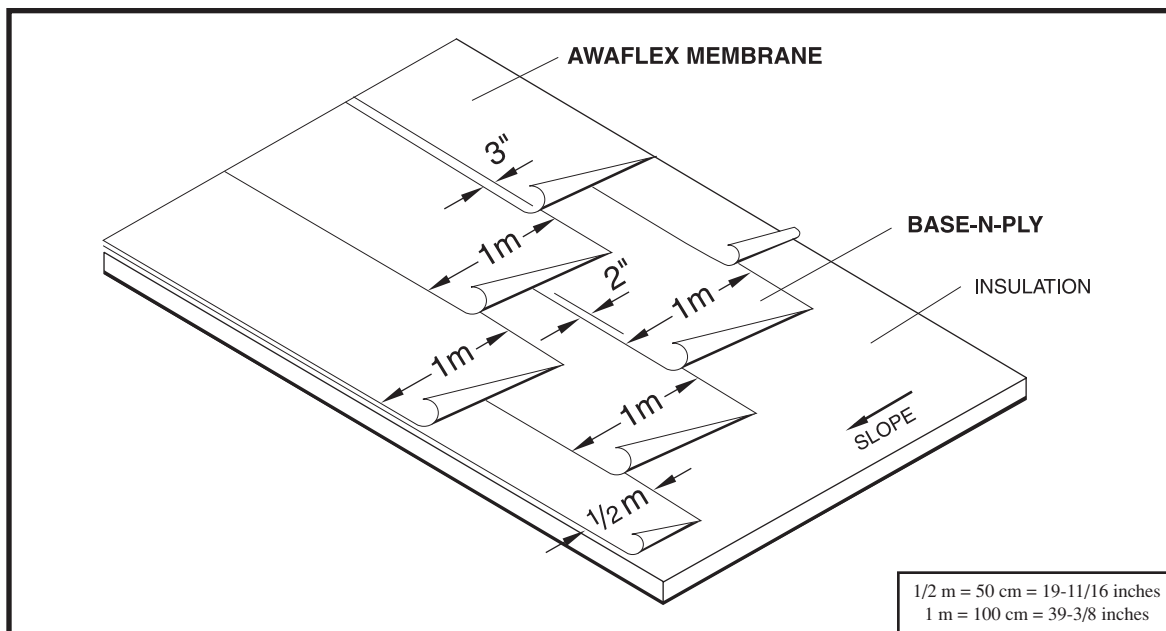
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica. Crystalline silica has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable

human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO BASE-N-PLY® Fiberglass Sheet	1 ply
TAMKO AWAFFLEX®	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

Base Ply: Starting at the low point of the roof, install 1 layer of BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt

should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor



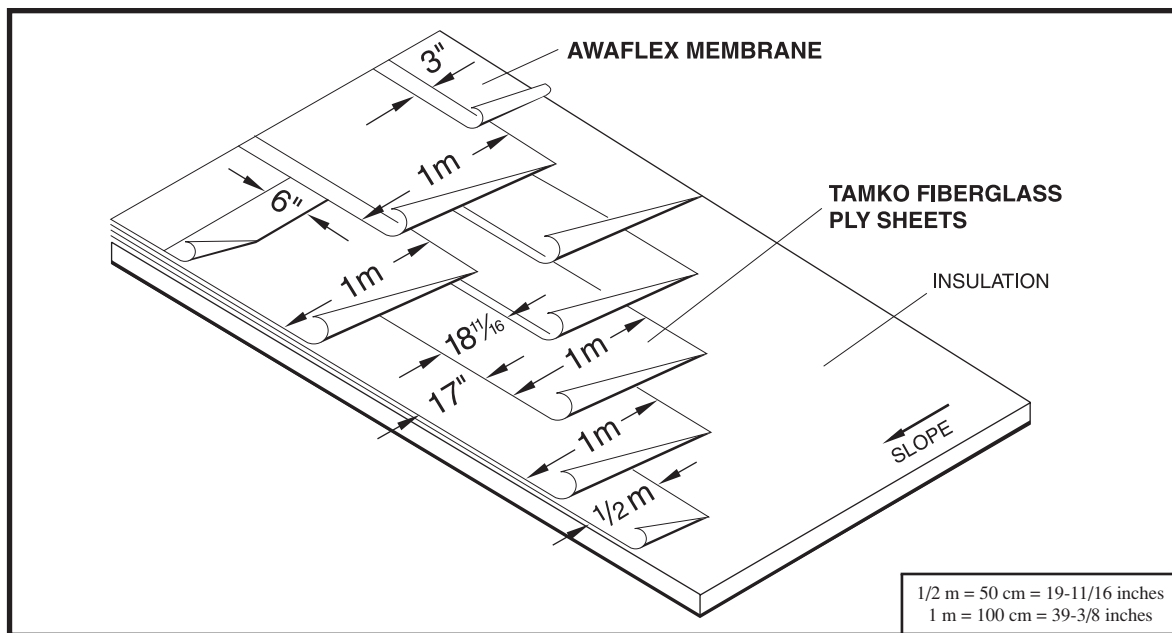
SPECIFICATION SUBMITTAL

1001 AWAFLEX

INSULATED DECKS

and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
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TAMKO®, Base-N-Ply® and AwaFlex® are registered trademarks of TAMKO Building Products, Inc.



Material Requirements

TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV®
Fiberglass Ply Sheet 2 plies

TAMKO AWAFFLEX®
(Granule Surfaced) 1 ply

Asphalt (Per 100 sq. ft.) Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAFFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

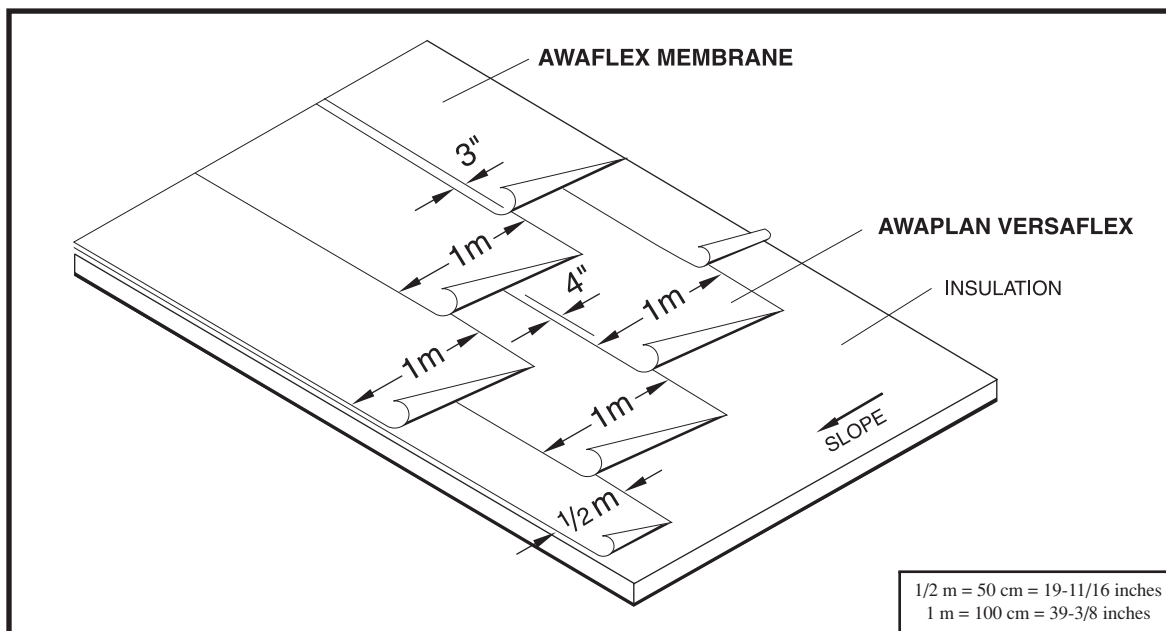
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Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAFFLEX®	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

AWAPLAN VERSAFLEX: Over the insulation, install 1 ply of AWAPLAN VERSAFLEX in specification asphalt. Starting at the low point of the roof, apply the AWAPLAN VERSAFLEX beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lb. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

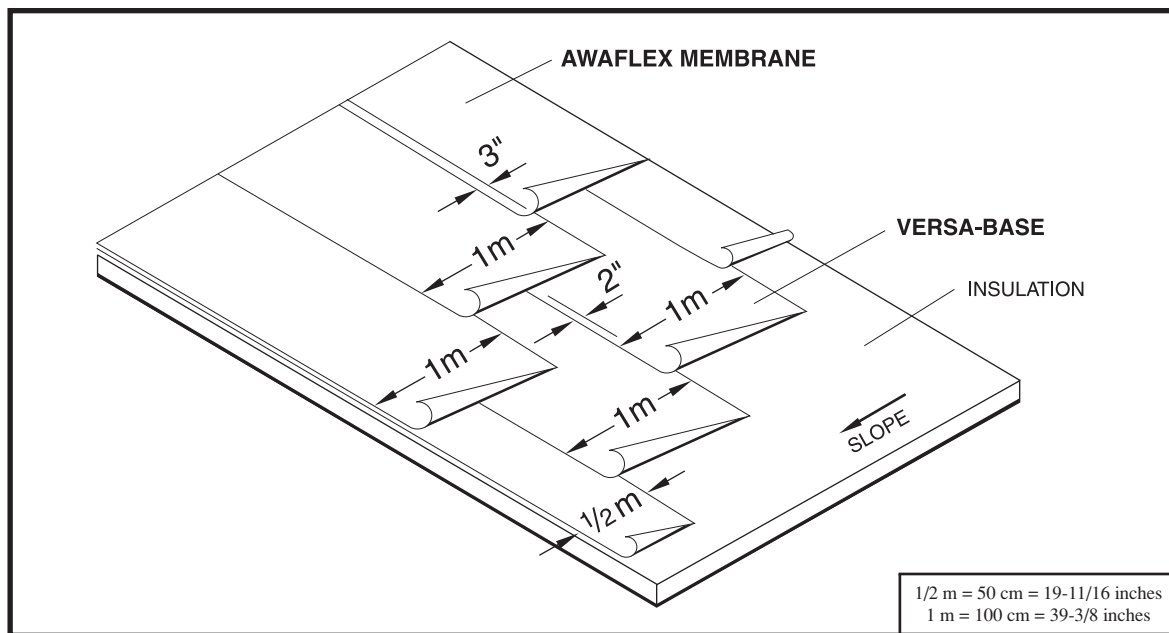
U.L. Requirements:

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Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxi-

dized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VERSABASE® Modified Asphalt Base Sheet	1 ply
TAMKO AWAFFLEX® FR	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAFFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.

VERSA-BASE Sheet: Starting at the low point of the roof, install 1 layer of TAMKO VERSA-BASE beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

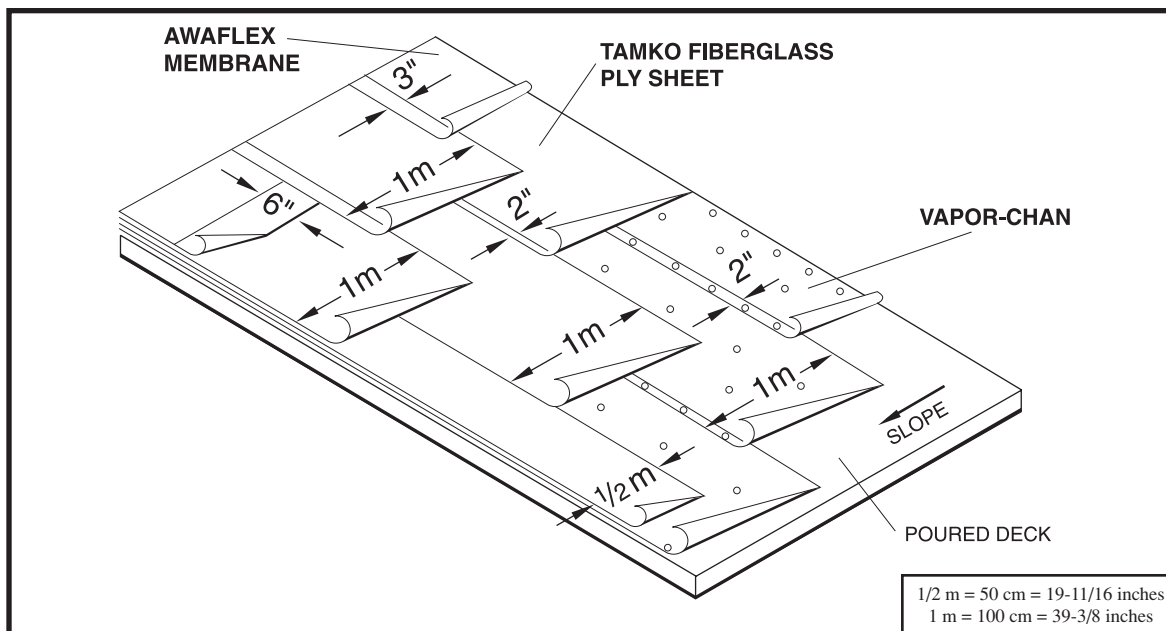
Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	1 ply
TAMKO AWAFLEX® (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFLEX should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

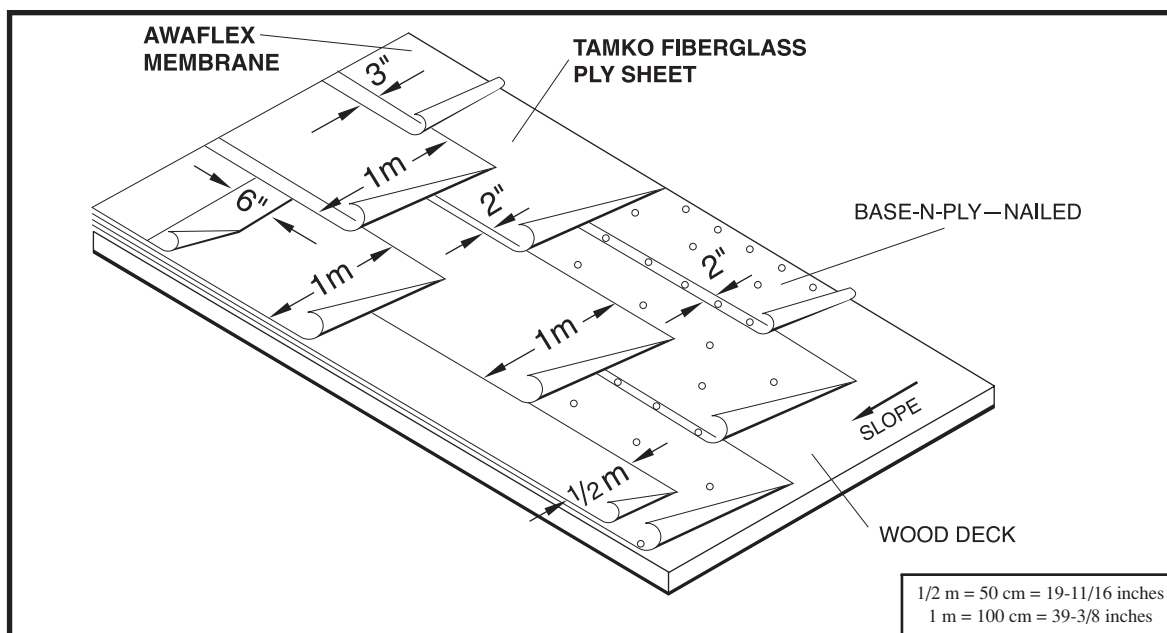
Contact TAMKO for information on U.L. systems requirements.

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or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt on (not to exceed) 24 in. centers.



Material Requirements

TAMKO BASE-N-PLY®	
Base Sheet	1 ply
TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	1 ply
TAMKO AWAFFLEX®	
(Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails	
for base sheet (per 100 sq ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheet: Starting at the low point of the roof, install a 1/2 m width, then a full 1 m width of TAM-PLY IV, side-lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

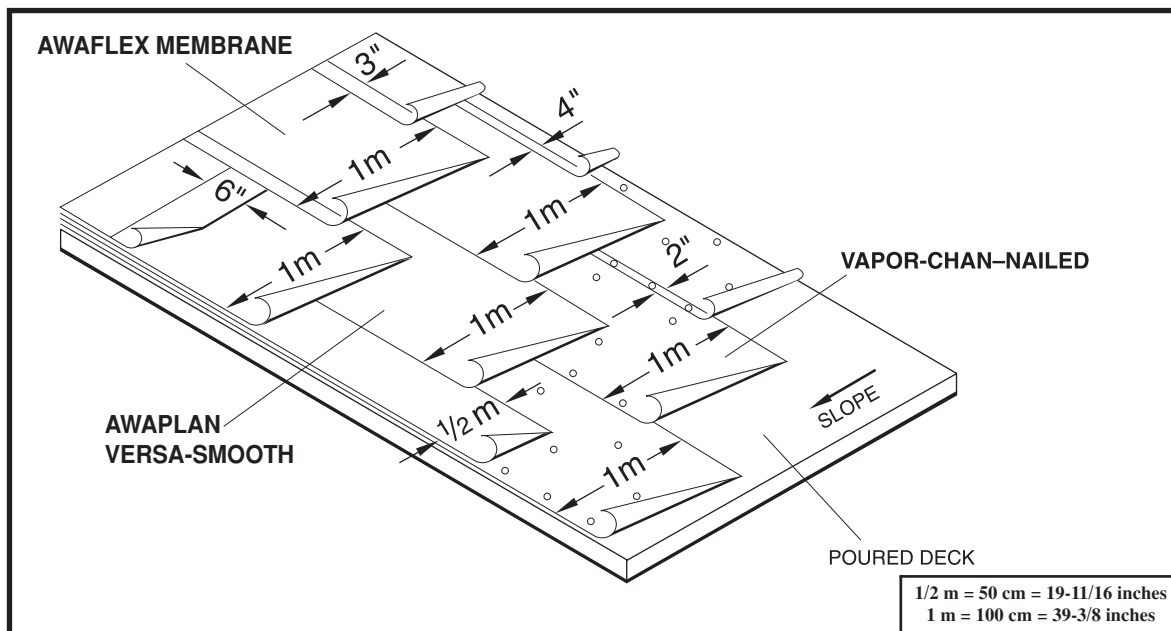
Contact TAMKO for information on U.L. systems requirements.

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demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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*Precast Concrete Decks: This specification may be utilized over a precast concrete deck when joints are taped and the VAPOR-CHAN is installed in spot moppings of specification asphalt on (not to exceed) 24 in. centers.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH® Modified Base Sheet	1 ply
TAMKO AWAFLEX (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAFLEX is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt

should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base sheet and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

AWAFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFLEX should be solidly adhered to the ply sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

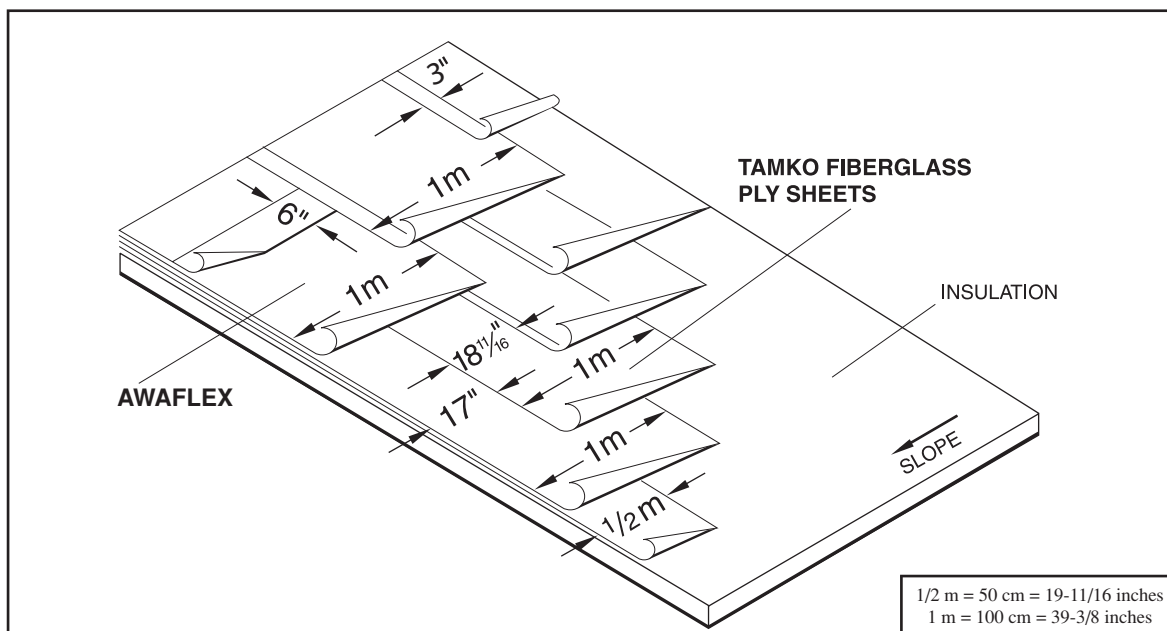
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demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
TAMKO AWAFFLEX (Granule Surfaced)	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFFLEX is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III** for slopes up to 1/4 in. and **Type IV** for slopes up to 3 in.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV inspecification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the ply sheet with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

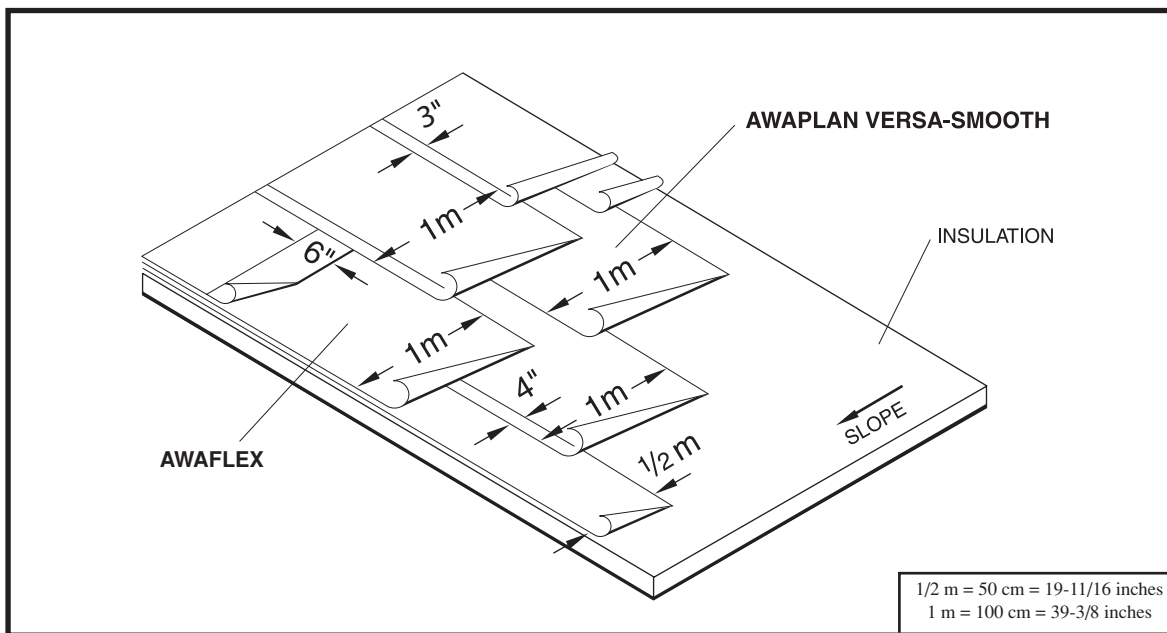
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH 1 ply

TAMKO AWAFLX (Granule Surfaced) 1 ply

M³ Adhesive (Per 100 sq. ft.) Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFLX is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO[®] M³ Adhesive.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAFLX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFLX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFLX should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

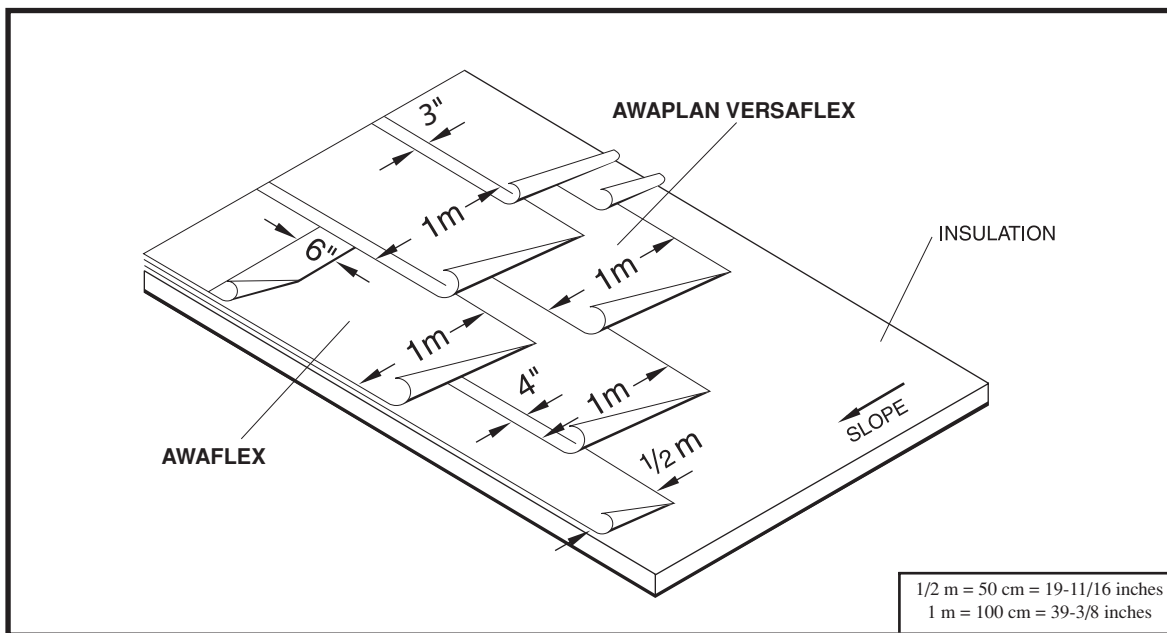
U.L. Requirements:

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Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO AWAFFLEX (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFFLEX is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO[®] M³ Adhesive.

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the AWAPLAN VERSAFLEX may be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Using a 3/16\" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

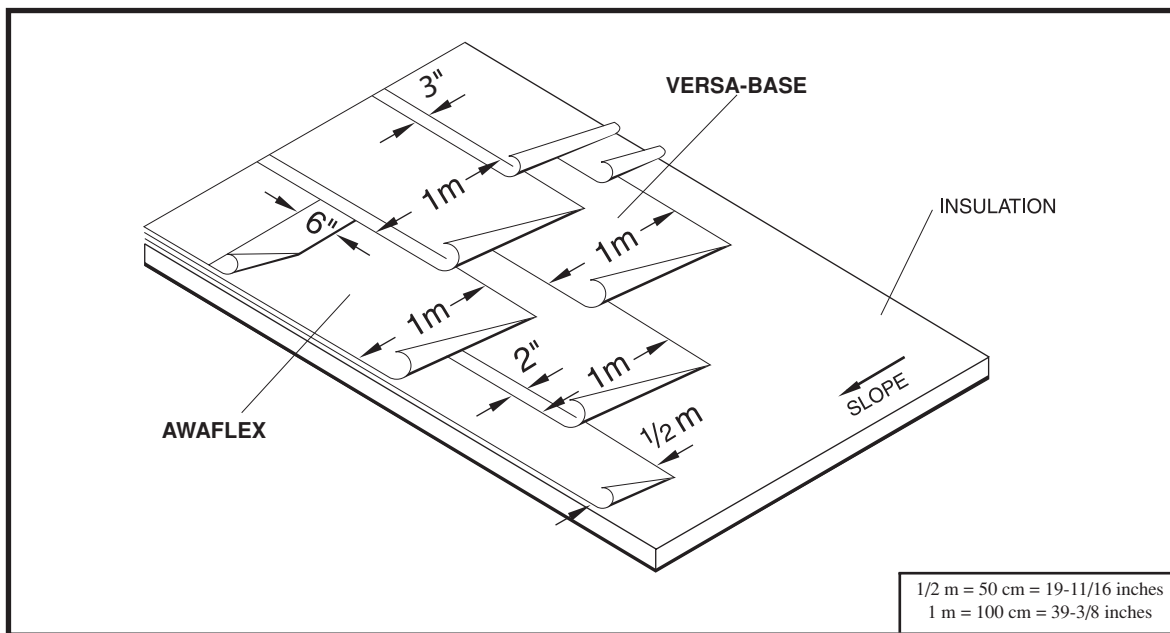
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Material Requirements

TAMKO VERSA-BASE®	1 ply
TAMKO AWAFFLEX FR (Granule Surfaced)	1 ply
M ³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAFFLEX is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Adhesive: The adhesive **must** be TAM-PRO® M³ Adhesive.

VERSA-BASE: Starting at the low point of the roof, install 1 ply of TAMKO VERSA-BASE, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. The VERSA-BASE should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Alternately, the VERSA-BASE may be solidly adhered to the insulation (pressed into hot asphalt) with approximately 23 bls. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

AWAFFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAFFLEX granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFFLEX should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

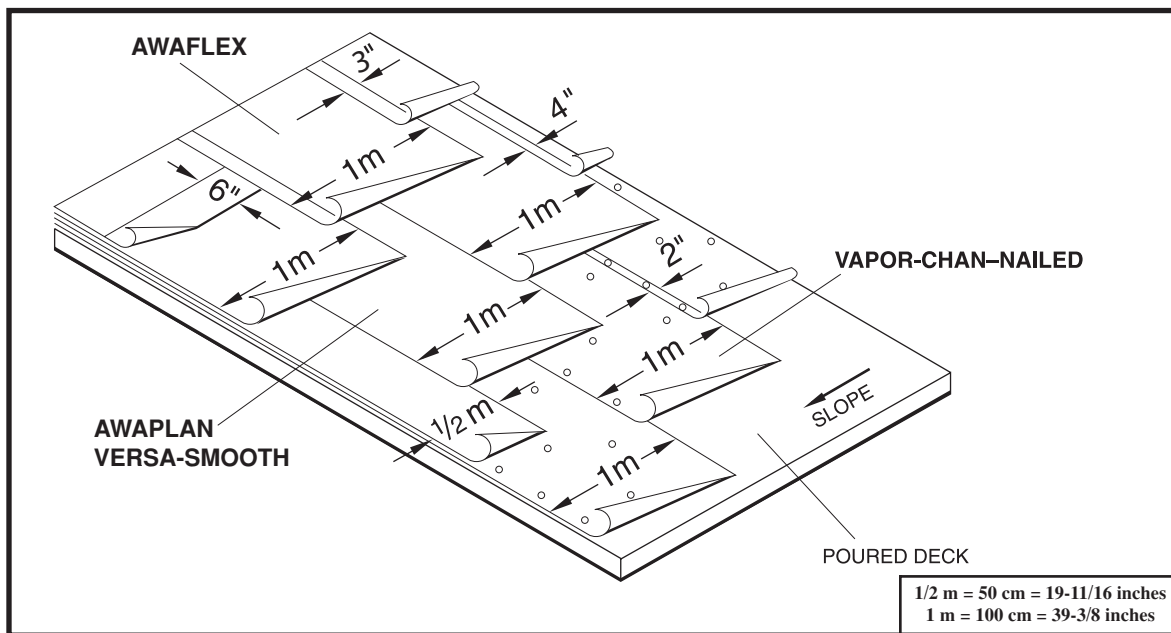
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable

human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO AWAPLAN VERSA-SMOOTH Modified Base Sheet	1 ply
TAMKO AWAFLEX (Granule Surfaced)	1 ply
M³ Adhesive (Per 100 sq. ft.)	Approx. 1-1/2 to 2-1/2 gal.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 3/4 in. per linear ft., fastening of the AWAPFLEX is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and

end laps shall be heat welded together.

Alternately, the AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base sheet and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out.

AWAFLEX FR: Starting at the low point of the roof, install 1 layer of TAMKO AWAFLEX FR granule surfaced sheet, side lapped 3 in. and end lapped 6 in. The AWAFLEX FR should be solidly adhered to the base ply with an application of M³ Adhesive at a rate not to exceed 1-1/2 to 2 gal. per sq. for squeegee application and 1-1/2 to 2-1/2 gal. per sq. for spray application. Side laps and end laps shall be set in M³ Adhesive. Care should be taken to prevent damage to the system from water or wind prior to the cured adhesive sealing the laps.

Using a 3/16" serrated edge squeegee will achieve an application rate of 1-1/2 gal. per sq. For spray application, the M³ Adhesive must be a minimum of 100°F at the spray tip. M³ Adhesive should not be heated above 180°F.

Caution should be used when exposing M³ Adhesive to an open flame.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

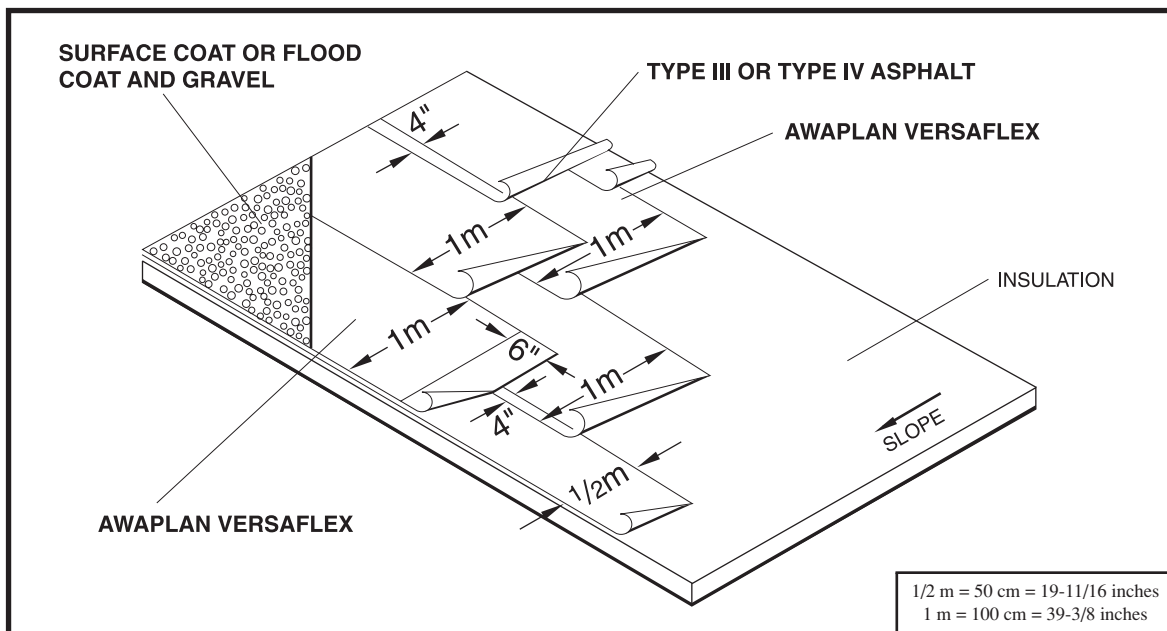
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “torch applied” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO AWAPLAN VERSAFLEX	2 plies
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Surfacing (Options Below)	
(1) Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.
(2) Surface Coat: Fibered Aluminum Coating (Per 100 sq. ft.)	Approx. 1-1/2-2 gals.
(3) Surface Coat: TAM-STAR or TAM-GUARD White, Elastomeric Roof Coating (Per 100 sq. ft.)	Approx. 2 gals.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN VERSAFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

AWAPLAN VERSAFLEX 2-Ply Installation: Over the insulation, install 2 plies of AWAPLAN VERSAFLEX in specification asphalt. Starting at the low point of the roof, apply the first ply of AWAPLAN VERSAFLEX beginning with a 1/2 m. width, then

a full 1 m. width, side lapped 4 in. and end lapped 6 in. Start the second ply of AWAPLAN VERSAFLEX beginning with a full 1 m. width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation or previous ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Surfacing: Select one of the following surfacings:

(1) **Flood Coat and Gravel:** Apply a flood coat of 60 lb. ($\pm 15\%$) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lb. of clean roofing gravel or 300 lb. of slag per 100 sq. ft. of completed roof area, or

(2) **Surface Coat: Aluminum Roof Coating:** Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gal. per 100 sq. ft.

(3) **Surface Coat: White Elastomeric Roof Coating:** Coat the entire roof surface with TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at a rate of 2 gals. per 100 sq. ft.

Maintenance of the surface coating is required.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: AWAPLAN VERSAFLEX IS NOT AN ACCEPTABLE FLASHING MATERIAL.

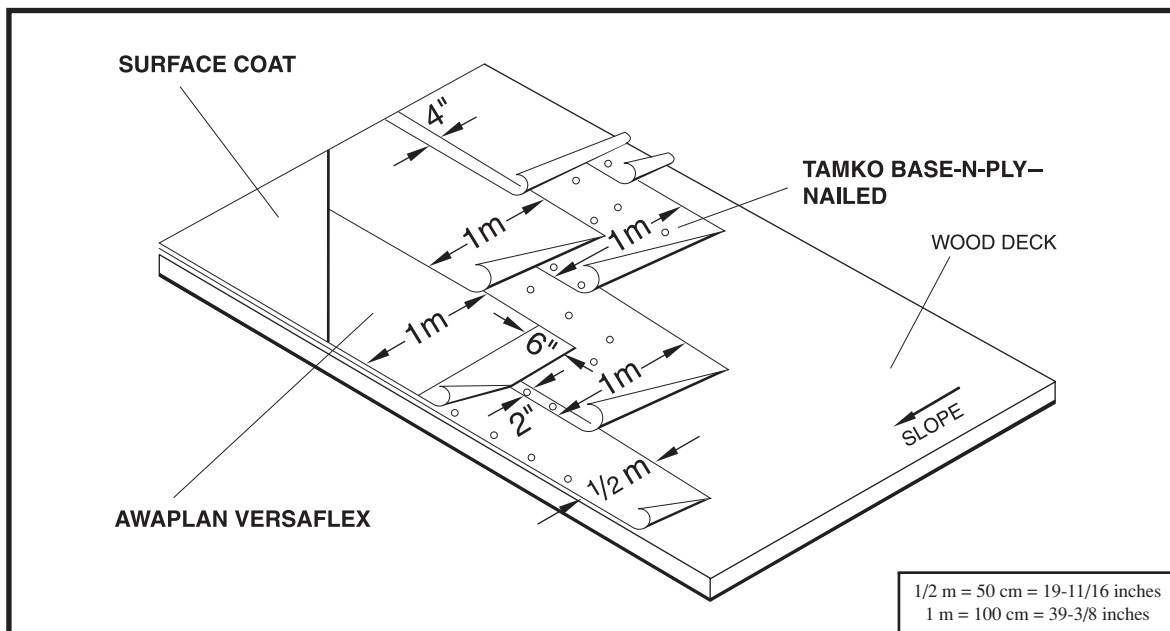
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO BASE-N-PLY®	1 ply
TAMKO AWAPLAN VERSAFLEX	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 23 lbs.
Surface Coat: (Per 100 sq. ft.)	
(1) Fibred Aluminum Coating	Approx. 1-1/2 - 2 gals.
(2) Surface Coat: TAM-STAR or TAM-GUARD White Elastomeric Roof Coating	
(Per 100 sq. ft.)	Approx. 2 gals.
Clinch-type nails for base sheet	
(Per 100 sq. ft.)	Approx. 100 nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN VERSAFLEX membrane is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in.** and **Type IV for slopes up to 3 in.**

Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO BASE-N-PLY beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 layer of TAMKO AWAPLAN VERSAFLEX membrane, side lapped 4 in. and end lapped 6 in. The AWAPLAN VERSAFLEX membrane should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Surfacing: Select one of the following surfacings:

(1) **Surface Coat: Aluminum Roof Coating:** Coat the entire roof surface with Fibred Aluminum Roof Coating at a rate of 1-1/2 to 2 gal. per 100 sq. ft.

(2) **Surface Coat: White Elastomeric Roof Coating:** Coat the entire roof surface with TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at a rate of 2 gals. per 100 sq. ft.

Maintenance of the surface coating is required.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: AWAPLAN VERSAFLEX IS NOT AN ACCEPTABLE FLASHING MATERIAL.

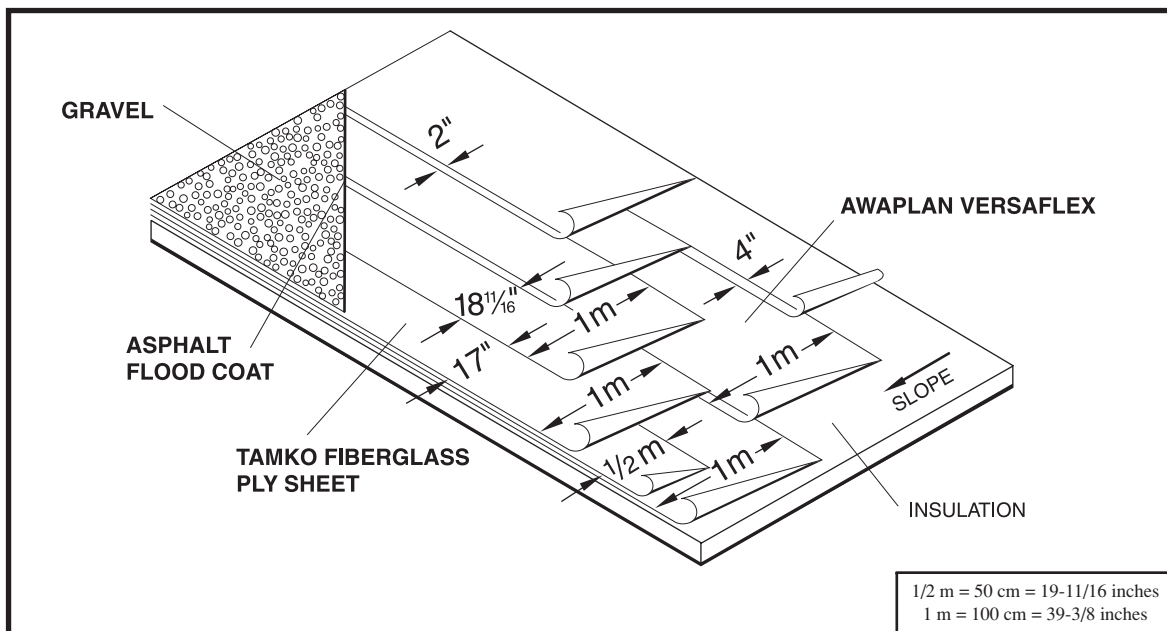
U.L. Requirements:

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Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO AWAPLAN VERSAFLEX	1 ply
TAMKO TAM-GLASS PREMIUM® or TAM-PLY IV® Fiberglass Ply Sheet	2 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the AWAPLAN VERSAFLEX and the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type III for slopes up to 1/4 in. and Type IV for slopes up to 3 in.**

AWAPLAN VERSAFLEX: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSAFLEX side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSAFLEX should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Fiberglass Ply Sheet 2 Ply Installation: Over the base ply, install 2 plies of TAM-GLASS PREMIUM or TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2 plies cover the base ply at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lb. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lb. of clean roofing gravel or 300 lb. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: AWAPLAN VERSAFLEX IS NOT AN ACCEPTABLE FLASHING MATERIAL.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

1343 AWAPLAN VERSAFLEX

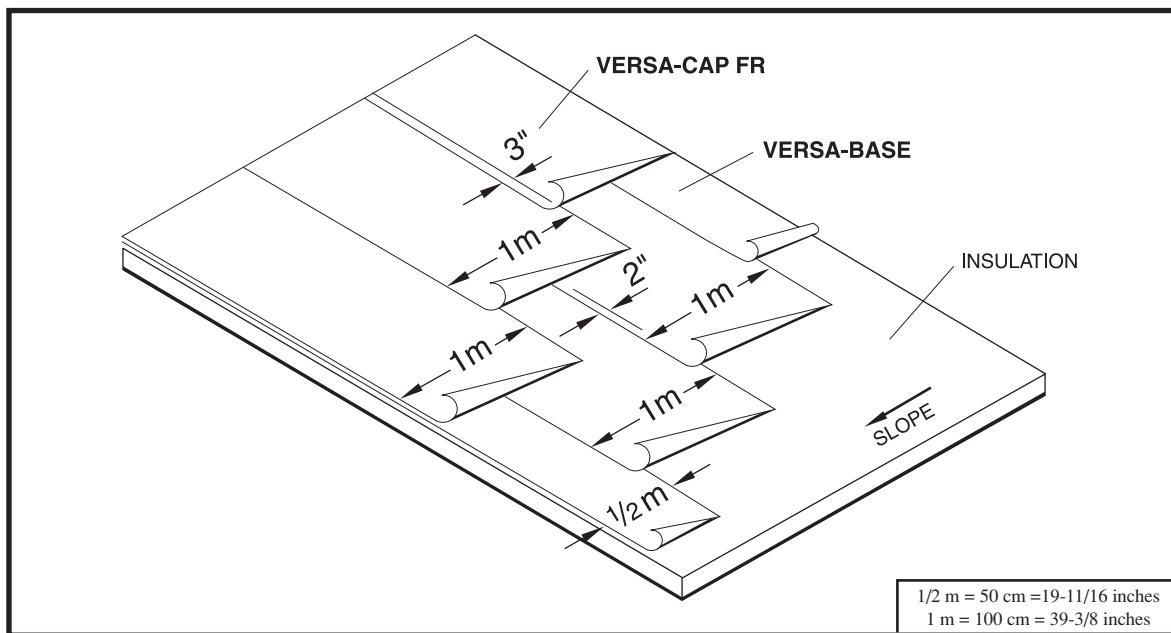
INSULATED DECKS

or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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For complete information on TAMKO's recommendations and requirements, consult TAMKO's web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	1 ply
TAMKO VERSA-CAP FR® Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type IV.

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width. Then install a full 1 m width, side lapped 2 in. and end lapped 4 in. in order to offset the laps of the cover sheet. Apply at a right angle to the slope of the roof. Solid mop to the insulation with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

VERSA-CAP FR: Starting at the low point of the roof and offsetting the laps of the base ply, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

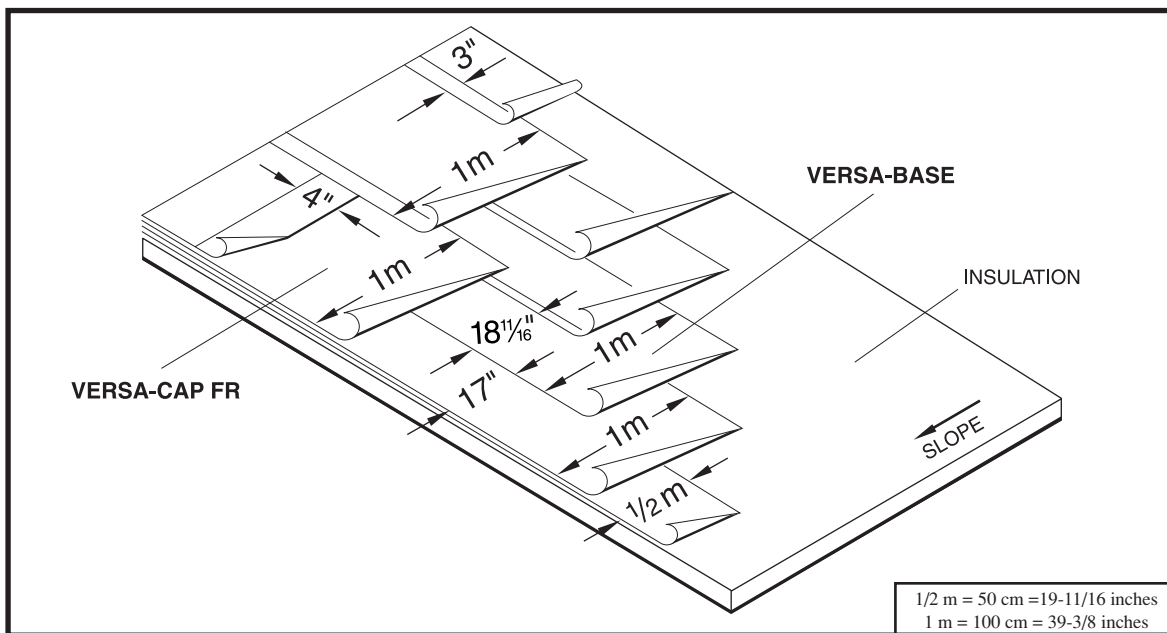
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Material Requirements

TAMKO VERSA-BASE® Modified Asphalt Base Sheet	2 plies
TAMKO VERSA-CAP FR® Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV.**

VERSA-BASE Sheet 2 Ply Installation: Over the insulation, install 2 plies of VERSA-BASE Modified Asphalt Base Sheet in specification asphalt. Starting from the low point of the roof, install a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. in such a manner so that at least 2plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

VERSA-CAP FR: Starting at the low point of the roof and off-setting the laps of the VERSA-BASE, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the VERSA-BASE (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

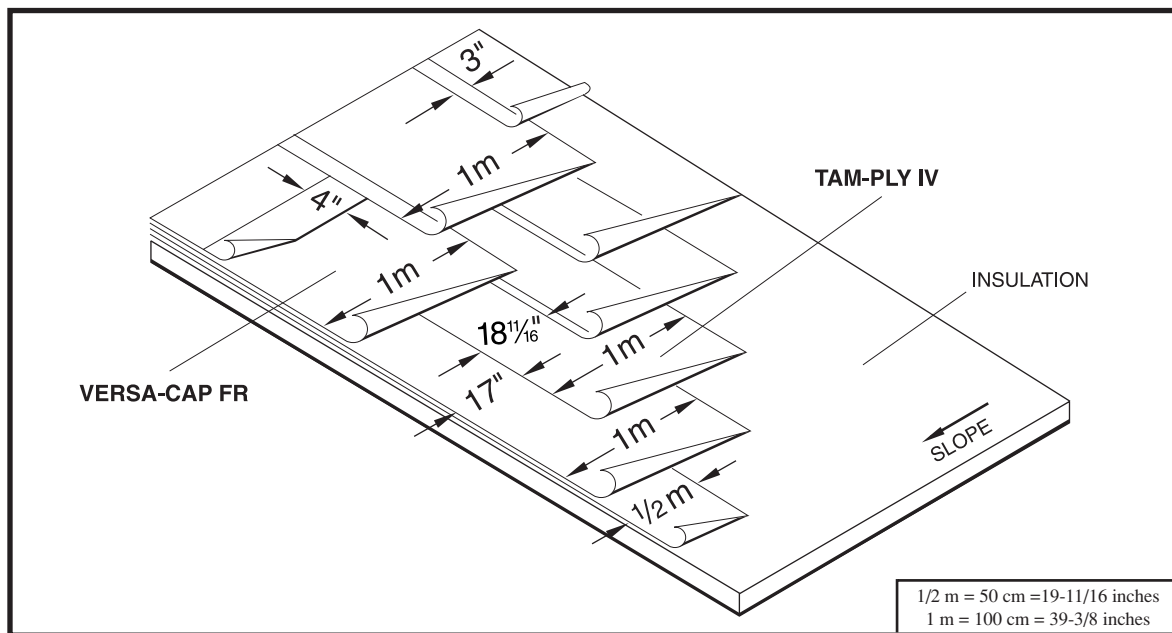
NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	2 plies
TAMKO VERSA-CAP FR®	
Modified Asphalt Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV.**

Fiberglass Ply Sheet 2 Ply Installation: Over the insulation, install 2 plies of TAM-PLY IV in specification asphalt. Starting from the low point of the roof, install a 1/2 m width, then a full 1 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 20-11/16 in such a manner so that at least 2 plies cover the insulation at any one point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

VERSA-CAP FR: Starting at the low point of the roof, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the TAM-PLY IV (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400°F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

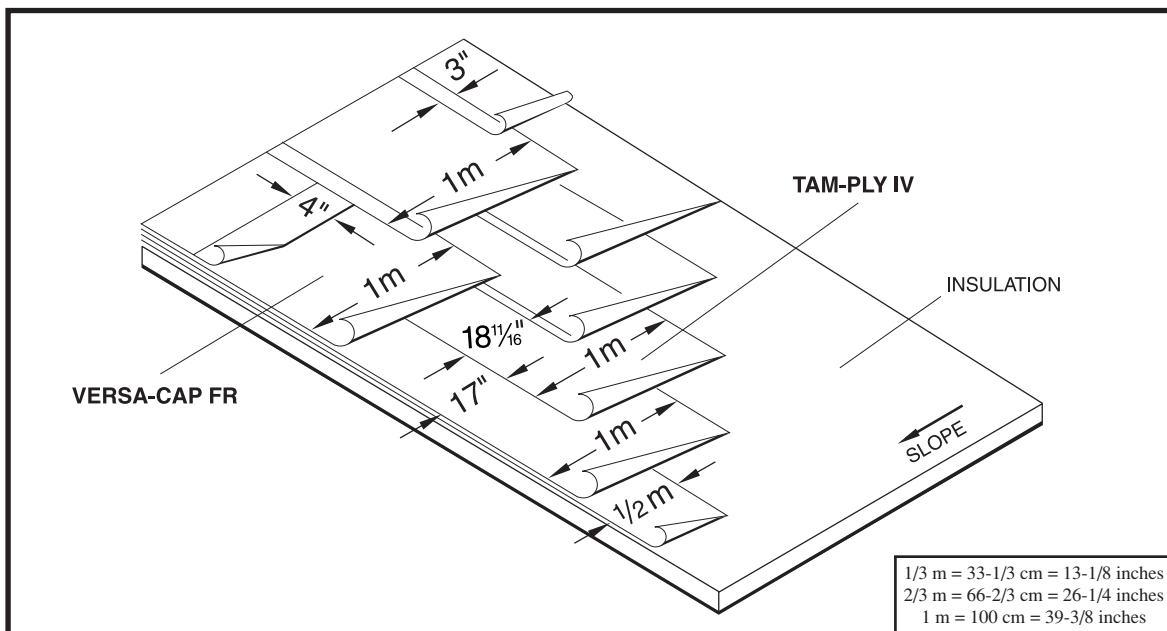
NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO VERSA-CAP FR® Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the **VERSA-CAP FR** is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV**.

Fiberglass Ply Sheets: Over the insulation, install 3 plies of TAMKO TAM-PLY IV in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

VERSA-CAP FR: Starting at the low point of the roof, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the TAM-PLY IV (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

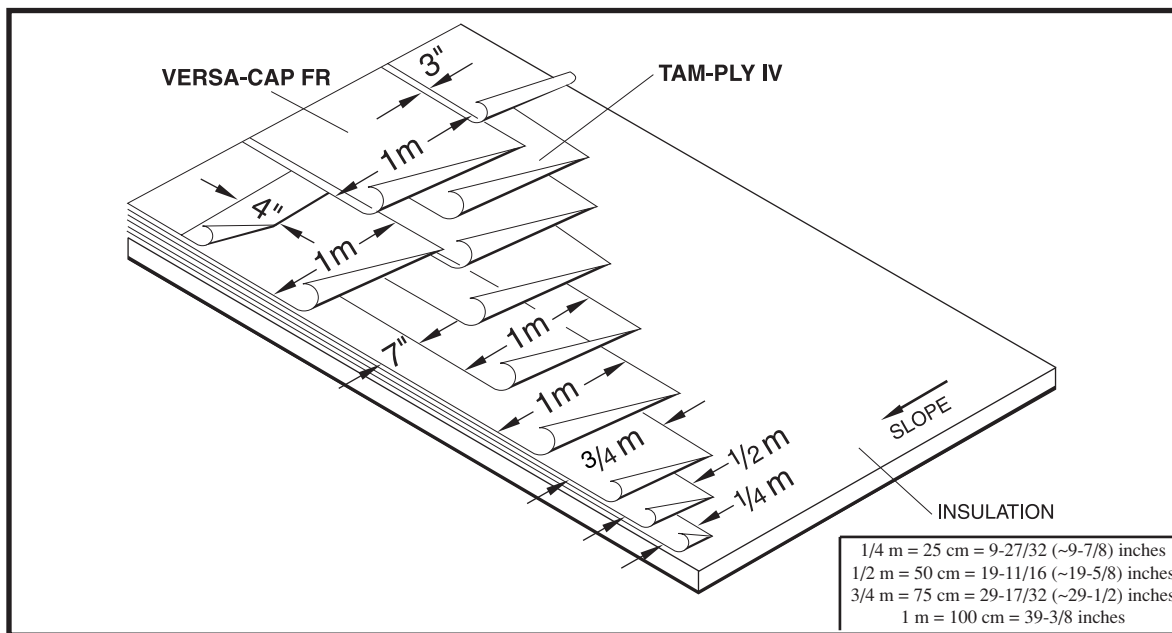
705 VERSA-CAP FR

INSULATED DECKS

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

For complete information on TAMKO’s recommendations and requirements, consult TAMKO’s web site at www.tamko.com
TAMKO Building Products, Inc., P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	4 plies
TAMKO VERSA-CAP FR® Modified Asphalt Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 115 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV**.

Fiberglass Ply Sheets: Over the insulation, install 4 plies of TAMKO TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, a 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

VERSA-CAP FR: Starting at the low point of the roof, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the TAM-PLY IV (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

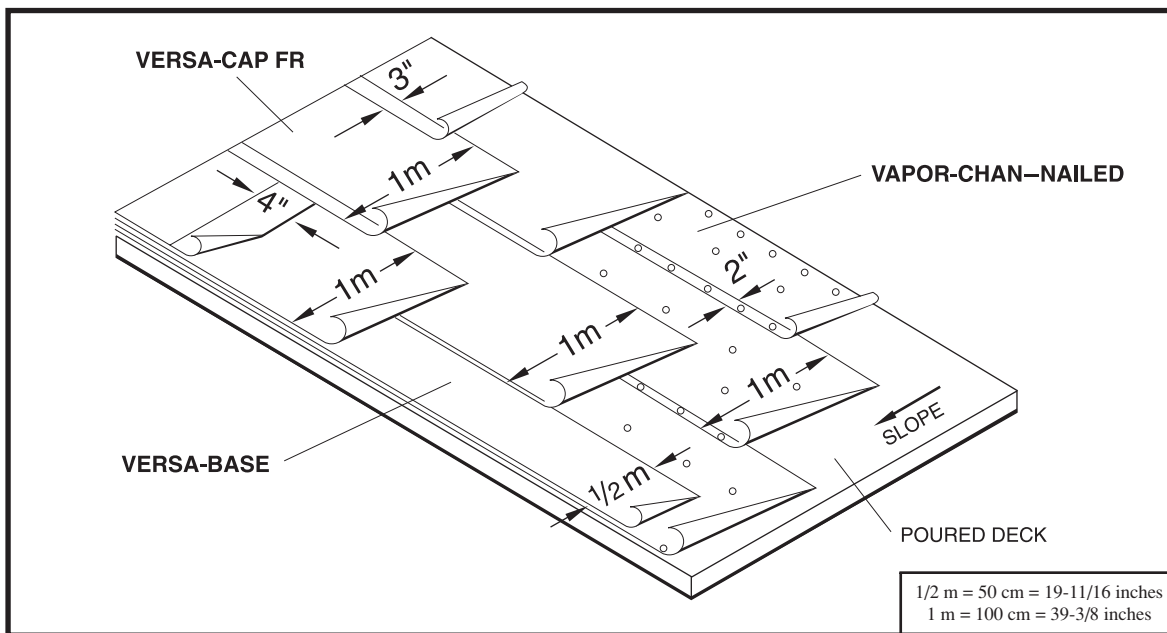
NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN®	
Fiberglass Venting Asphalt Base Sheet	1 ply
TAMKO VERSA-BASE®	
Modified Asphalt Base Sheet	1 ply
TAMKO VERSA-CAP FR®	
Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width. Then install a full 1 m width, side lapped 2 in. and end lapped 4 in. in order to offset the laps of the cover sheet. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

VERSA-CAP FR: Starting at the low point of the roof and offsetting the laps of the VERSA-BASE, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the VERSA-BASE (pressed into the hot asphalt) with approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

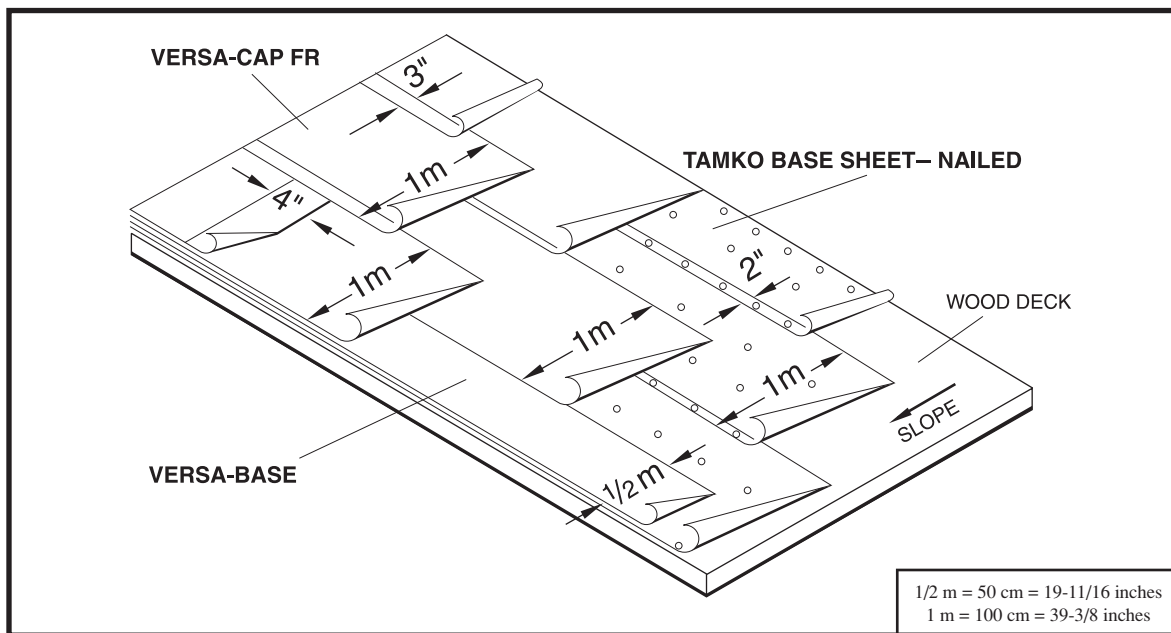
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emis-

sions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO GLASS-BASE® or BASE-N-PLY®	1 ply
TAMKO VERSA-BASE®	
Modified Asphalt Base Sheet	1 ply
TAMKO VERSA-CAP FR®	
Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV.**

BASE SHEET: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet, GLASS-BASE, or BASE-N-PLY, beginning with a 1/2 m width, then a full 1 m width, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail GLASS-BASE or BASE-N-PLY sheets along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each of the base sheet. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

VERSA-BASE Sheet: Starting at the low point of the roof, install a 1/2 m width. Then install a full 1 m width, side lapped 2 in. and end lapped 4 in. in order to offset the laps of the cover sheet. Apply at a right angle to the slope of the roof. Solid mop to the base ply with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

VERSA-CAP FR: Starting at the low point of the roof and off setting the laps of the VERSA-BASE, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the VERSA-BASE (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

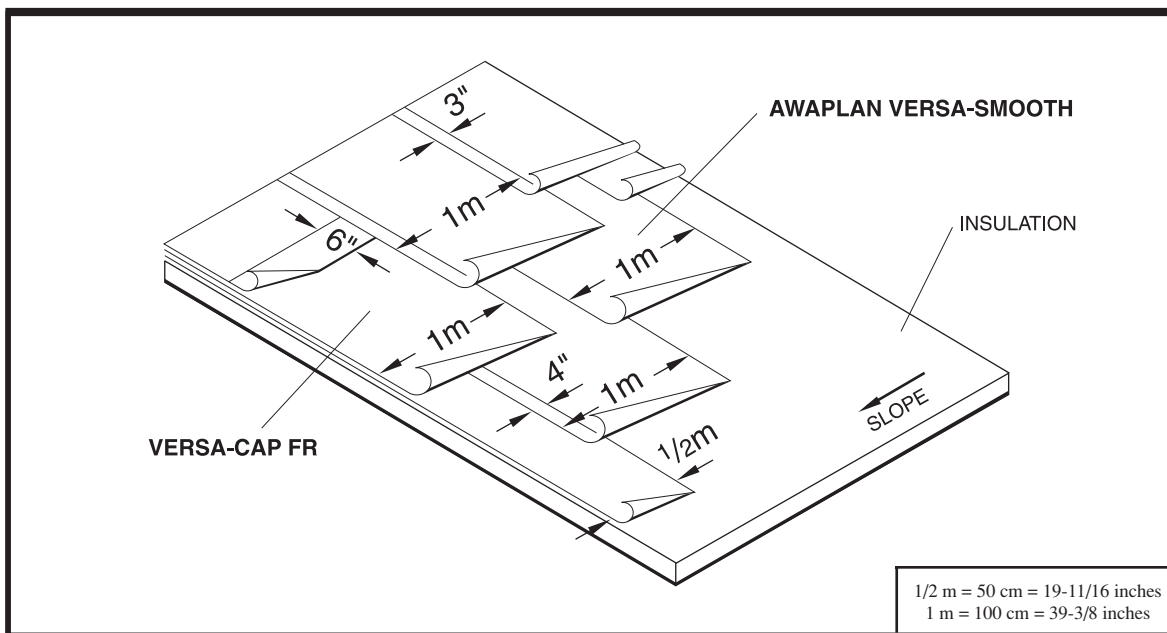
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable

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Material Requirements

TAMKO AWAPLAN VERSA-SMOOTH	1 ply
TAMKO VERSA-CAP FR® Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiber-glass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV**.

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the insulation (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq.ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the insulation by sufficiently heating the back side with a torch at the juncture of the insulation and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

VERSA-CAP FR: Starting at the low point of the roof and offsetting the laps of the base ply, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the base ply (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

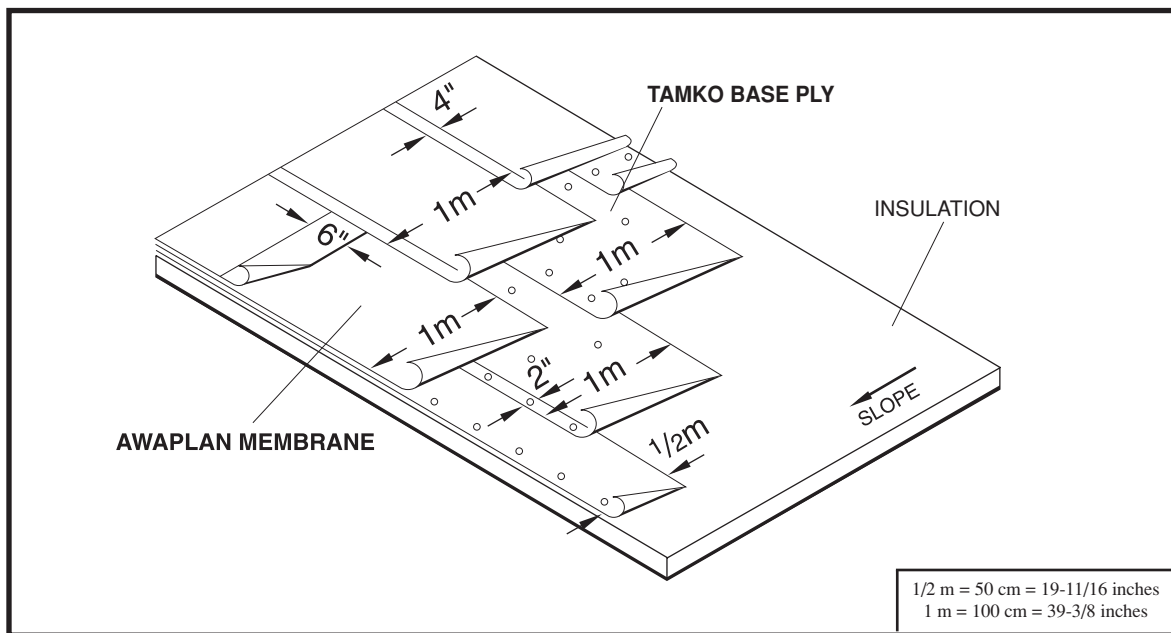
U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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Application of product(s) in this specification using “torch applied” or “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “torch applied” or “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.



Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Asphalt Base Sheet	1 ply
AWAPLAN VERSA-SMOOTH Modified Asphalt Base Sheet	1 ply
TAMKO VERSA-CAP FR® Modified Asphalt Cap Sheet	1 ply
Asphalt (Per 100 sq. ft.)	Approx. 46 lbs.
Clinch-type nails for base sheet (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 3/4 in. per linear ft.,** fastening of the VERSA-CAP FR is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type IV.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of TAMKO VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

AWAPLAN VERSA-SMOOTH: Starting at the low point of the roof, install 1 ply of TAMKO AWAPLAN VERSA-SMOOTH, beginning with a 1/2 m width, then a full 1 m width, side lapped 4 in. and end lapped 6 in. Apply at a right angle to the slope of the

roof. The AWAPLAN VERSA-SMOOTH should be solidly adhered to the base sheet (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Alternately, AWAPLAN VERSA-SMOOTH can be heat welded and should be solidly adhered to the base sheet by sufficiently heating the back side with a torch at the juncture of the base ply and the AWAPLAN VERSA-SMOOTH roll to form a bead of melted asphalt as the AWAPLAN VERSA-SMOOTH is rolled out. **Use care when applying heat as damage can occur to the product by overheating.**

VERSA-CAP FR: Starting at the low point of the roof and offsetting the laps of the VERSA-SMOOTH, install 1 layer of TAMKO VERSA-CAP FR granule surfaced sheet, side lapped 3 in. and end lapped 4 in. The VERSA-CAP FR should be solidly adhered to the VERSA-SMOOTH (pressed into the hot asphalt) with approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. The asphalt should be above 400° F at the point of application and mopped no more than 4 ft. in front of the roll.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

NOTE: VERSA-CAP FR IS NOT AN ACCEPTABLE FLASHING MATERIAL.

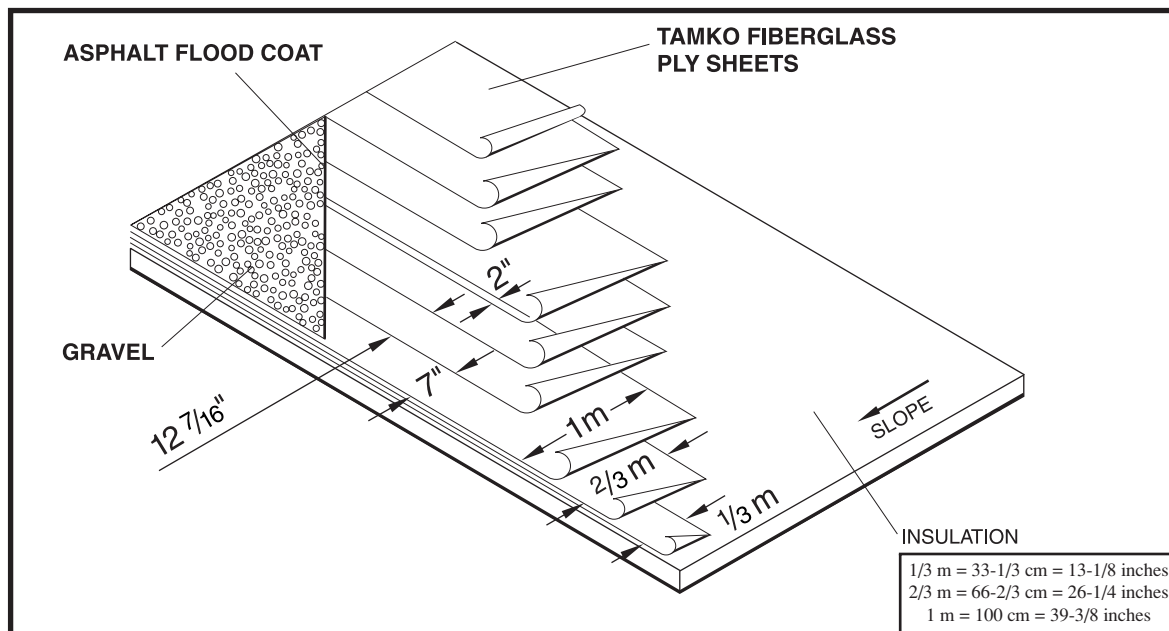
U.L. Requirements:

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Material Requirements

TAMKO TAM-GLASS PREMIUM®	
Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **3 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

***Except in FL, TX, NM, AZ, CA**

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts,



SPECIFICATION SUBMITTAL

501 TAM-GLASS PREMIUM
(Regions 1, 2, & 3)

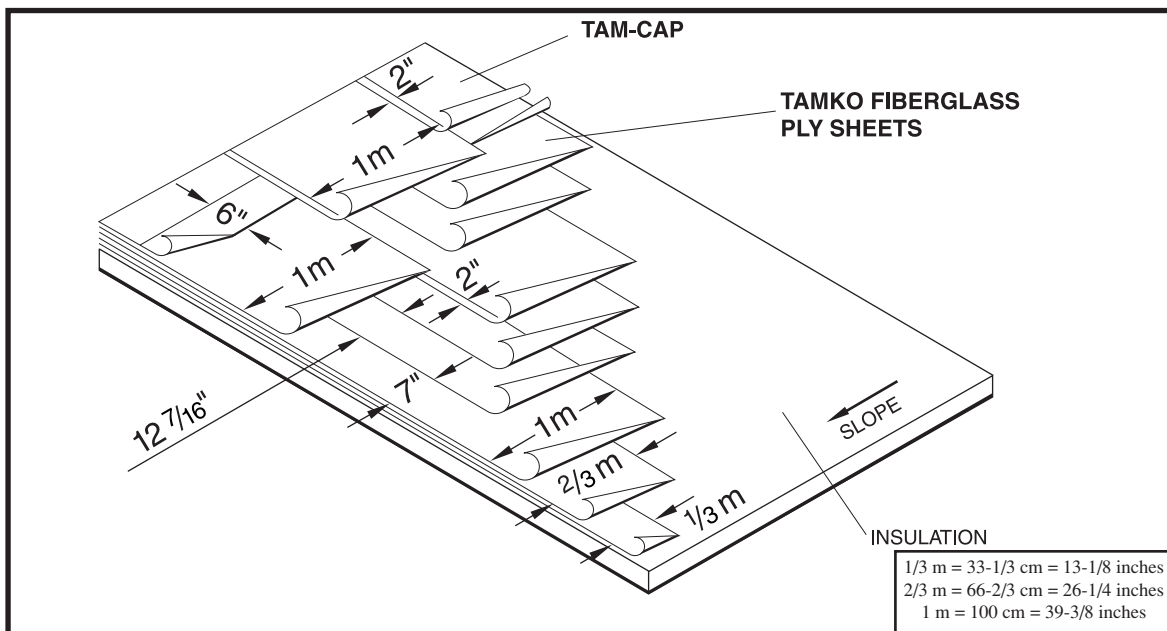
INSULATED DECKS

fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-GLASS PREMIUM®	
Fiberglass Ply Sheet	3 plies
TAMKO TAM-CAP®	
Fiberglass Mineral Surfaced Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **3 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

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TAM-CAP: Starting from the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installation by the "fly-in" or "mop and flop" method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvage and the back of the TAM-CAP that will cover the selvage.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

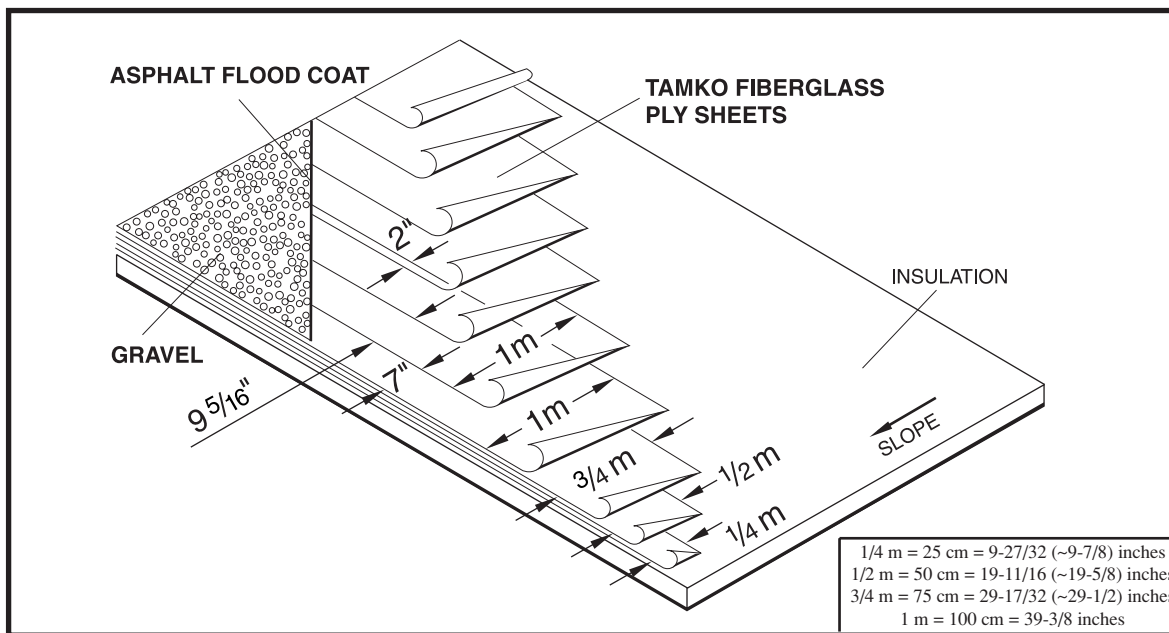
Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TAM-GLASS PREMIUM®

Fiberglass Ply Sheet	4 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **4 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, a 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts,

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SPECIFICATION SUBMITTAL

503 TAM-GLASS PREMIUM
(Regions 1, 2, & 3)

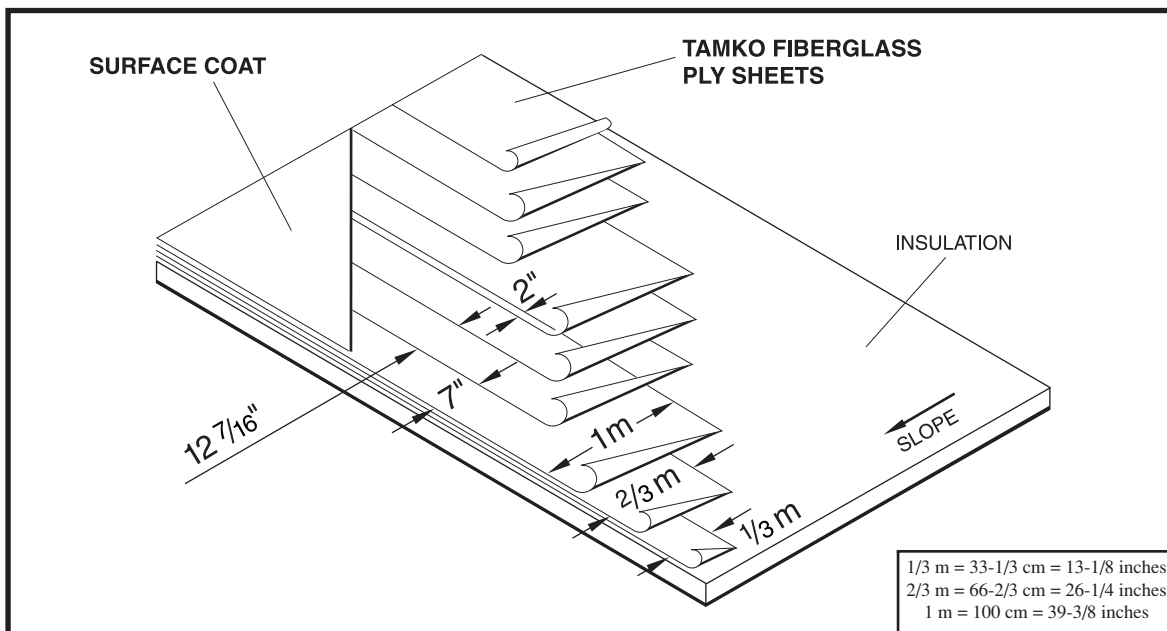
INSULATED DECKS

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Material Requirements

TAMKO TAM-GLASS PREMIUM®

Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Surface Coat: (Per 100 sq. ft.)	
(1) Fibered Aluminum Coating	1-1/2 to 2 gals.
(2) Emulsion Coating	3 gals.
(3) Asphalt Glaze Coating	20 to 25 lbs.
(4) TAM-STAR or TAM-GUARD White Elastomeric Roof Coating	2 gals.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **3 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately

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23 lbs. (+15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surface Coat: Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gals. per 100 sq. ft., or Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or a surface grade hot asphalt using a minimum of 20 lbs. and a maximum of 25 lbs. per 100 sq. ft., or TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at rate of 2 gals. per 100 sq. ft. **Maintenance of the surface coating is required.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for



SPECIFICATION SUBMITTAL

504 TAM-GLASS PREMIUM
(Regions 2 & 3)

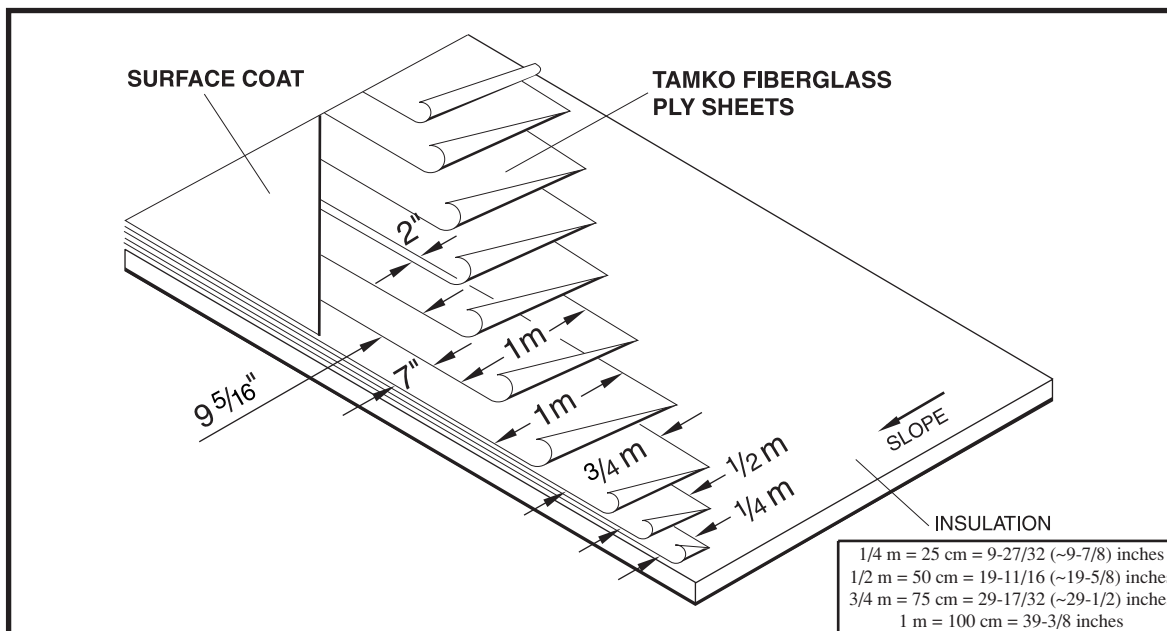
INSULATED DECKS

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Material Requirements

TAMKO TAM-GLASS PREMIUM®

Fiberglass Ply Sheet

4 plies

Interply Asphalt (Per 100 sq. ft.) **Approx. 92 lbs.**

Surface Coat: (Per 100 sq. ft.)

(1) Fibered Aluminum Coating	1-1/2 to 2 gals.
(2) Emulsion Coating	3 gals.
(3) Asphalt Glaze Coating	20 to 25 lbs.
(4) TAM-STAR or TAM-GUARD White Elastomeric Roof Coating	2 gals.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **4 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, a 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so

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that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surface Coat: Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gals. per 100 sq. ft., or Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or a surface grade hot asphalt using a minimum of 20 lbs. and a maximum of 25 lbs. per 100 sq. ft., or TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at rate of 2 gals. per 100 sq. ft. **Maintenance of the surface coating is required.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

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SPECIFICATION SUBMITTAL

505 TAM-GLASS PREMIUM
(Regions 1, 2, & 3)

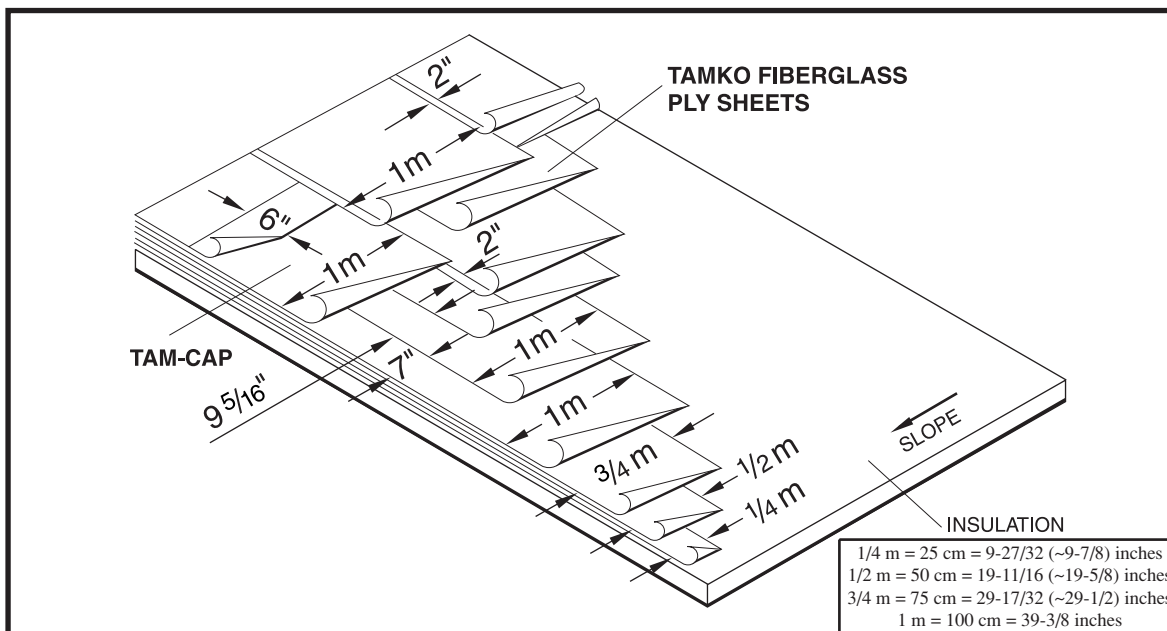
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Material Requirements

TAMKO TAM-GLASS PREMIUM®	
Fiberglass Ply Sheet	4 plies
TAMKO TAM-CAP®	
Fiberglass Mineral Surfaced Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 115 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 3 in.

Fiberglass Ply Sheets: Over the insulation, install **4 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, an 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (+15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

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TAM-CAP: Starting from the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. ($\pm 15\%$) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installations by the “fly-in” or “mop and flop” method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvedge and the back of the TAM-CAP that will cover the selvedge.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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SPECIFICATION SUBMITTAL

507 TAM-GLASS PREMIUM
(Regions 2 & 3)

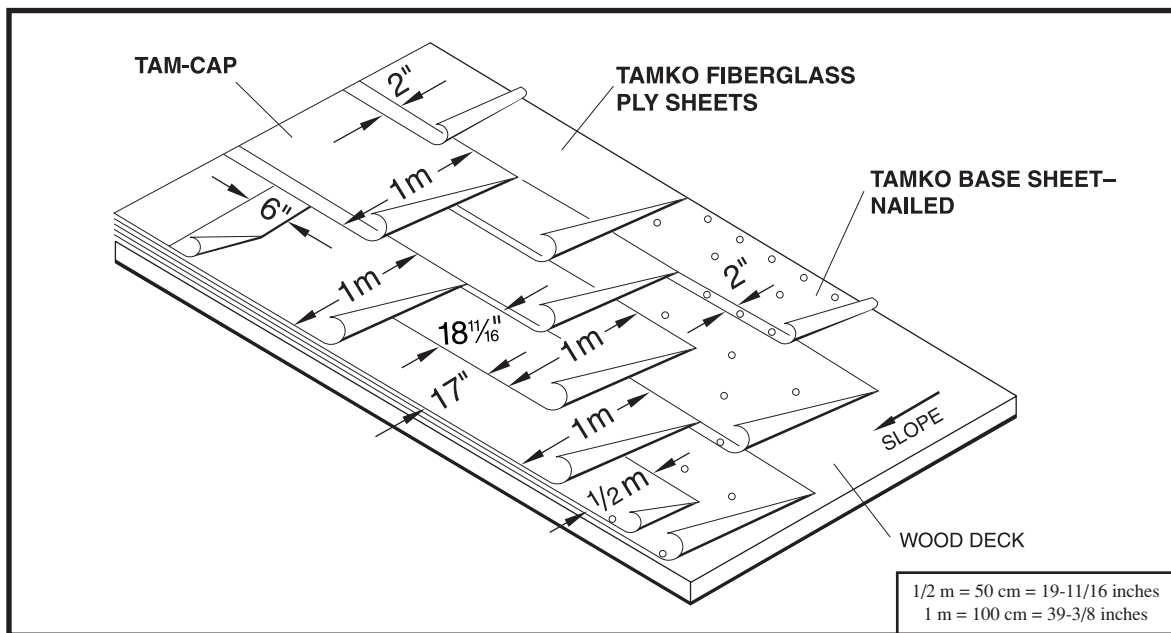
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Material Requirements

TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	2 plies
TAMKO TAM-CAP® Fiberglass Mineral Surfaced Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 1-1/2 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 1-1/2 in.

TYPE 43 Coated Base Sheet or BASE-N-PLY Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. Nail BASE-N-PLY sheet along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

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Fiberglass Ply Sheets: Over the base ply, install **2 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Start with a 1/2 m width followed by full 1 m widths, shingle fashion, lapping each ply 20-11/16 in. over the preceding ply so that at least 2 plies cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

TAM-CAP Mineral Surfaced Cap Sheet: Starting at the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installation by the “fly-in” or “mop and flop” method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvage and the back of the TAM-CAP that will cover the selvage.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”.

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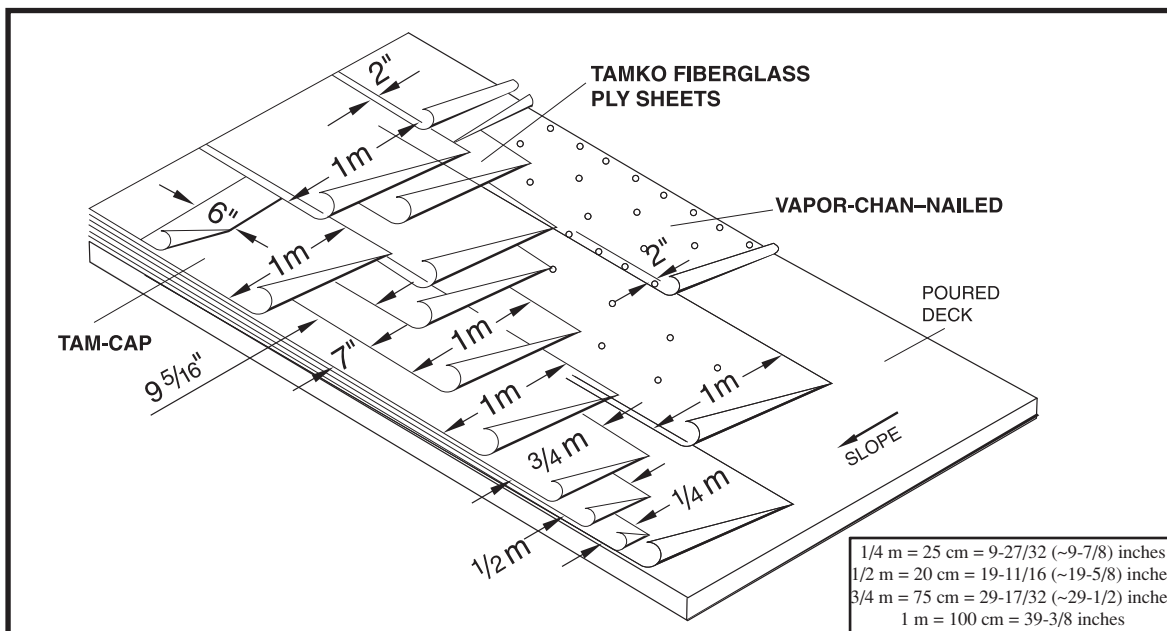
Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

***Except in FL, TX, NM, AZ, CA**

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	4 plies
TAMKO TAM-CAP® Fiberglass Mineral Surface Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 115 lbs.
Clinch-type nails for base sheet (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 3 in.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheets: Over the insulation, install 4 plies of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, an

1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

TAM-CAP: Starting from the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installations by the "fly-in" or "mop and flop" method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvage and the back of the TAM-CAP that will cover the selvage.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic

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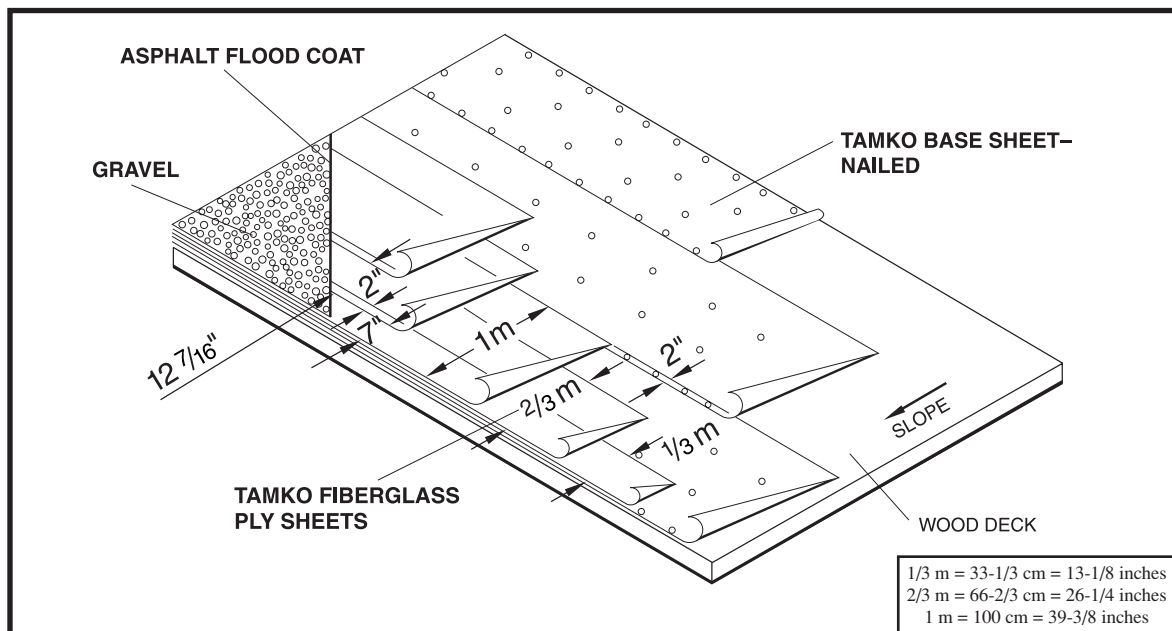
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Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 3 in.

TYPE 43 Coated Base Sheet or BASE-N-PLY Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. Nail BASE-N-PLY sheet along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

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Fiberglass Ply Sheets: Over the base ply, install **3 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard

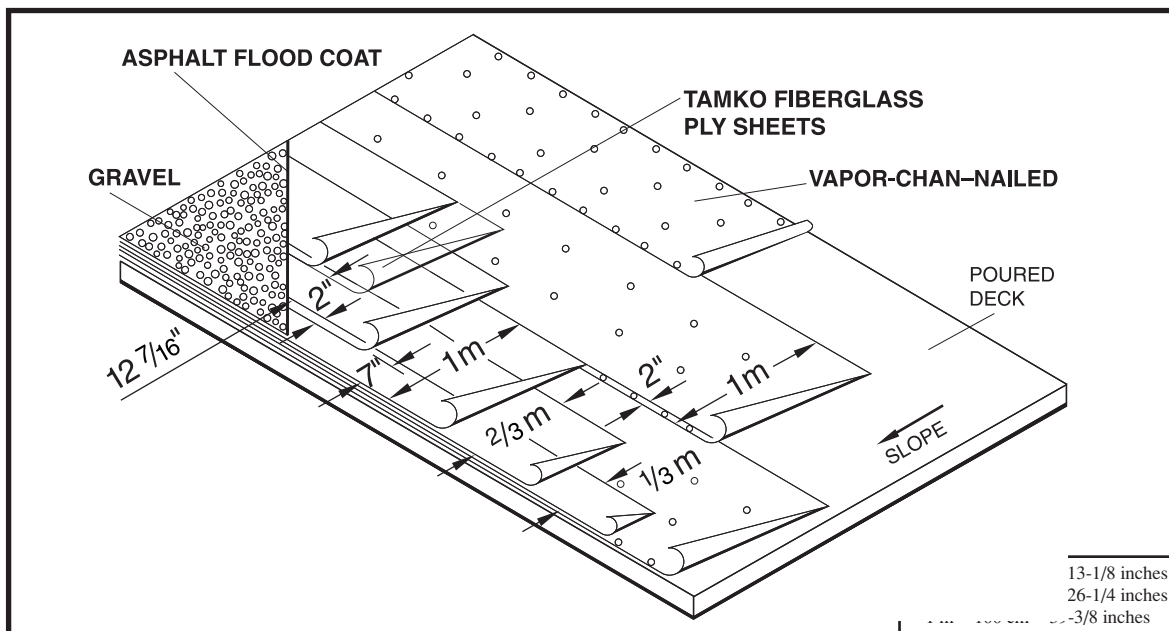
of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 12 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheets: Over the base ply, install **3 plies** of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

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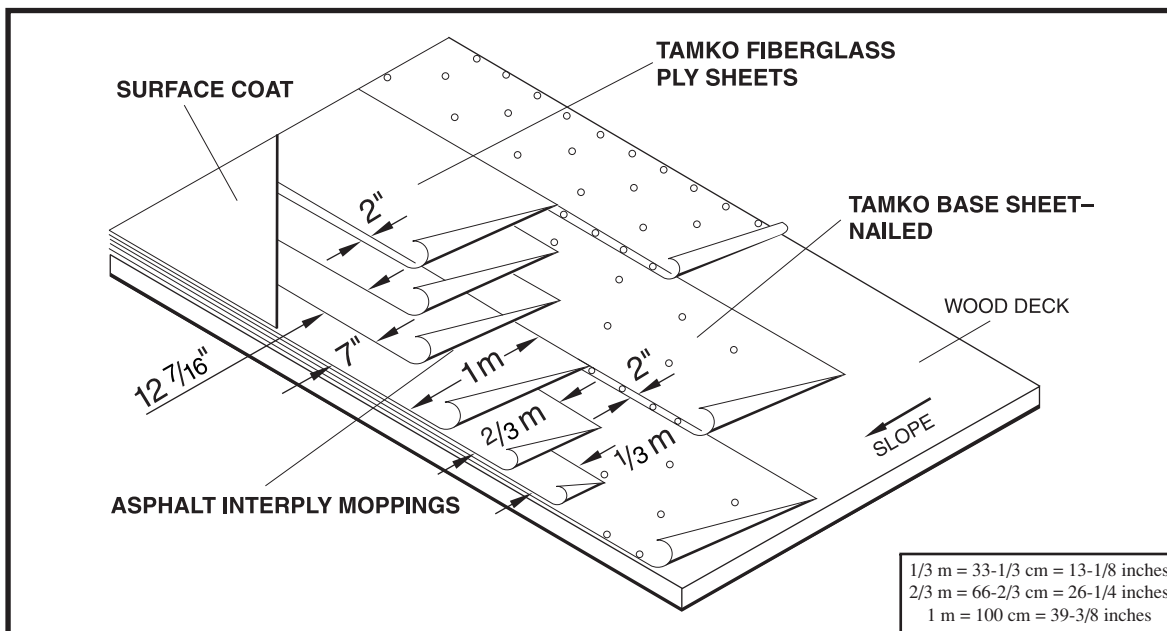
inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-GLASS PREMIUM® Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Surface Coat: (Per 100 sq. ft.)	
(1) Fibered Aluminum Coating	1-1/2 to 2 gals.
(2) Emulsion Coating	3 gals.
(3) Asphalt Glaze Coating	20 to 25 lbs.
(4) TAM-STAR or TAM-GUARD White Elastomeric Roof Coating	2 gals.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type II* for slopes up to 1/2 in. and Type III for slopes up to 1 in.

TYPE 43 Coated Base Sheet or BASE-N-PLY Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. Nail BASE-N-PLY sheet along the lap at intervals of no more than 8 in. Stagger-nail on 16

in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Fiberglass Ply Sheets: Over the base ply, install 3 plies of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surface Coat: Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gals. per 100 sq. ft., or Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or a surface grade hot asphalt using a minimum of 20 lbs. and a maximum of 25 lbs. per 100 sq. ft., or TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at rate of 2 gals. per 100 sq. ft. **Maintenance of the surface coating is required.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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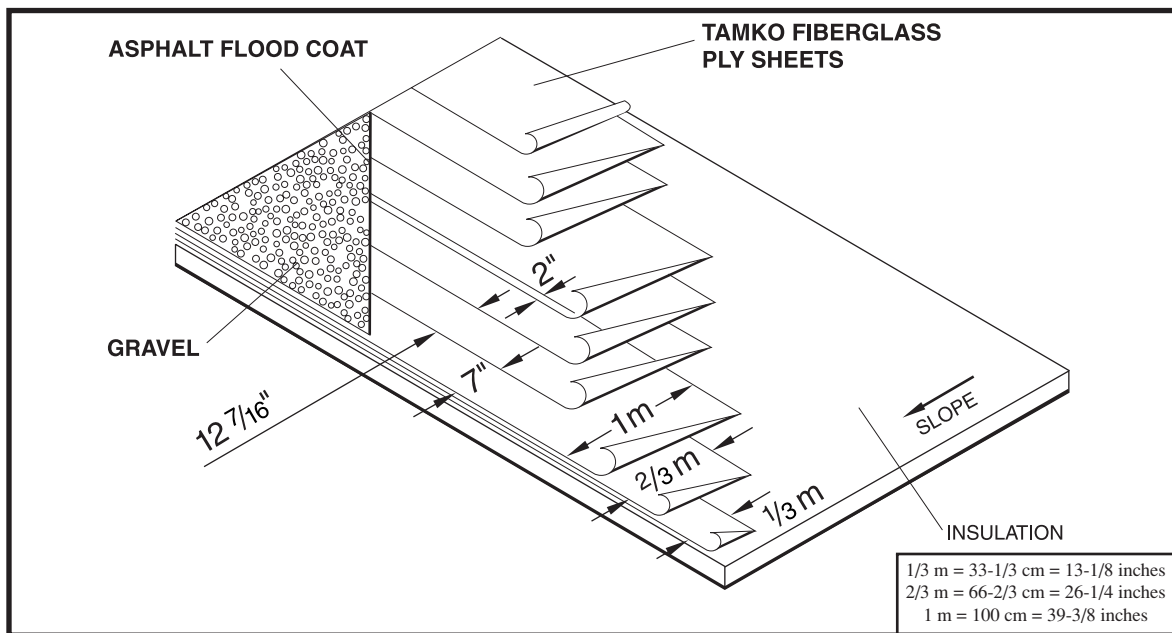
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Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **3 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

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Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:
Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts,



SPECIFICATION SUBMITTAL

601 TAM-PLY IV
(Regions 1, 2, & 3)

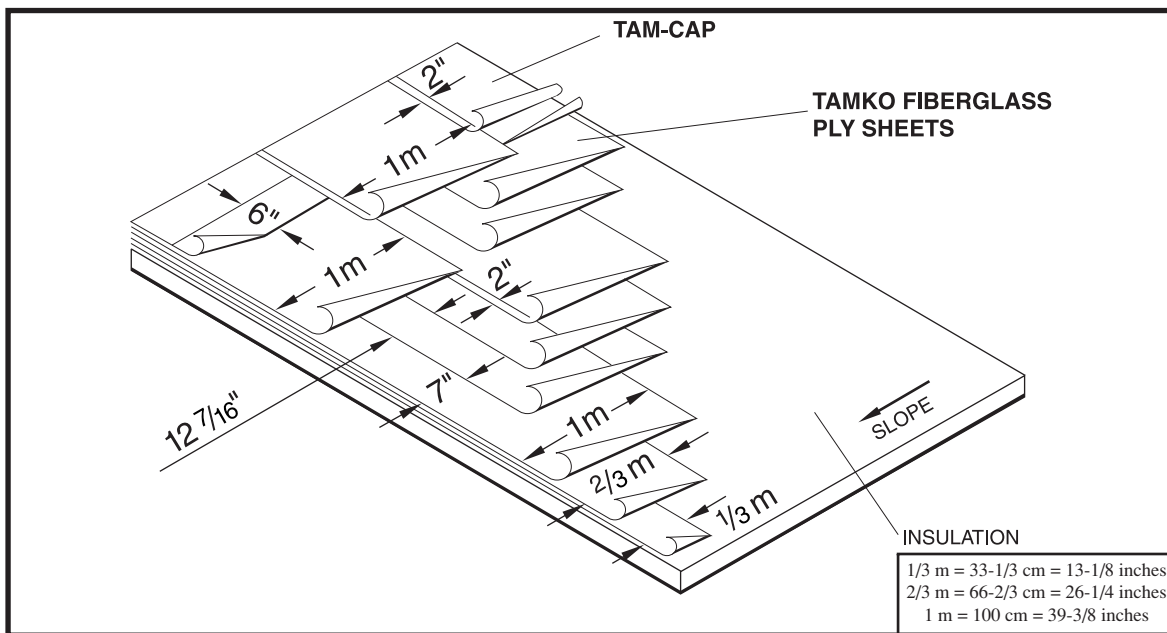
INSULATED DECKS

fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
TAMKO TAM-CAP® Fiberglass Mineral Surfaced Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in. and Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **3 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. ($\pm 15\%$) of specification asphalt per 100 sq. ft. should be used to embed each ply.

TAM-CAP: Starting from the low point of the roof, apply 1 ply of TAM-CAP or VERSA-CAP FR, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. ($\pm 15\%$) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installation by the "fly-in" or "mop and flop" method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvage and the back of the TAM-CAP that will cover the selvage.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

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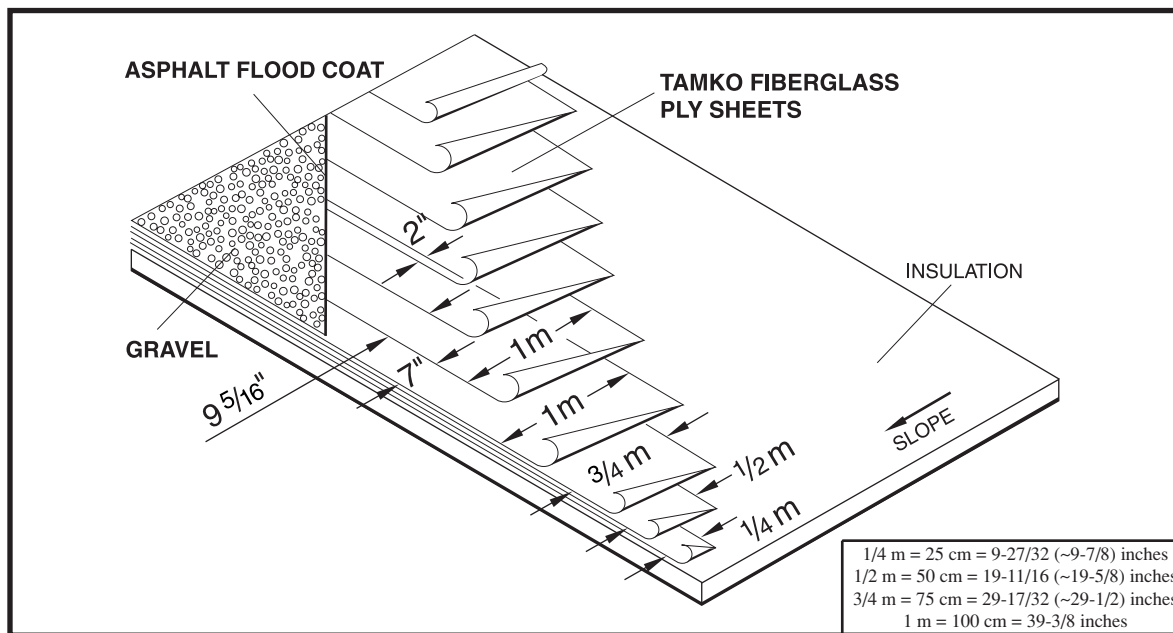
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Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV® Fiberglass Ply Sheet	4 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **4 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, a 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a "probable human carcinogen." During installation and removal of the product(s) in this specification, including "hot mopped" application, workers

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SPECIFICATION SUBMITTAL

603 TAM-PLY IV
(Regions 1, 2, & 3)

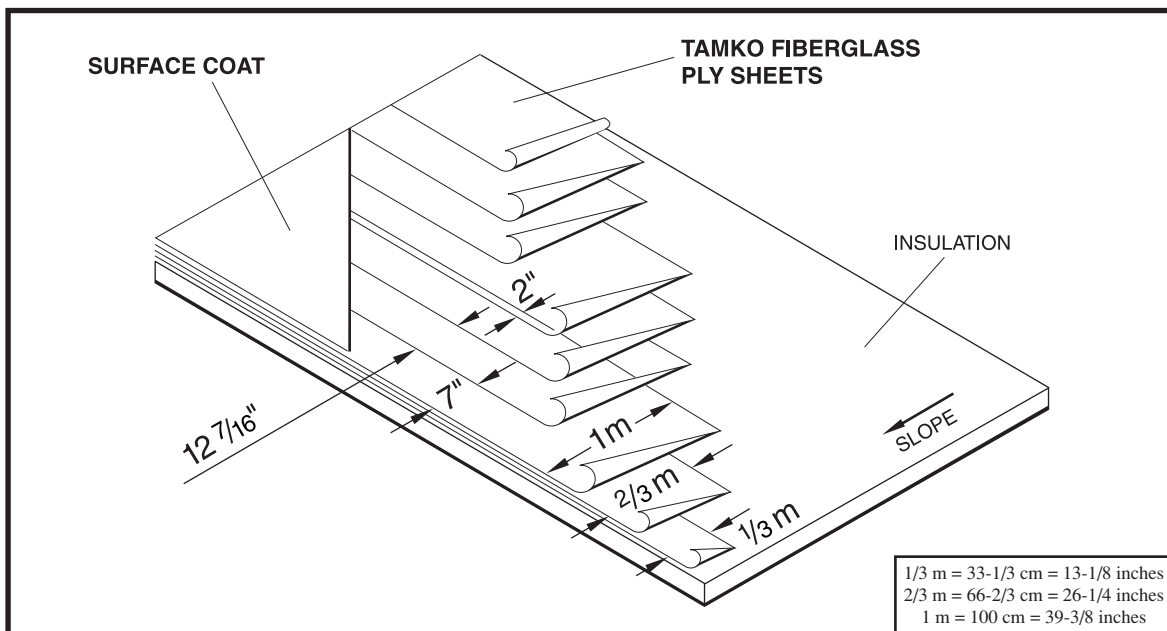
INSULATED DECKS

must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Surface Coat: (Per 100 sq. ft.)	
(1) Fibered Aluminum Coating	1-1/2 to 2 gals.
(2) Emulsion Coating	3 gals.
(3) Asphalt Glaze Coating	20 to 25 lbs.
(4) TAM-STAR or TAM-GUARD	
White Elastomeric Roof Coating	2 gals.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **3 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of

ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surface Coat: Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gals. per 100 sq. ft., or Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or a surface grade hot asphalt using a minimum of 20 lbs. and a maximum of 25 lbs. per 100 sq. ft., or TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at rate of 2 gals. per 100 sq. ft. **Maintenance of the surface coating is required.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains formaldehyde. Formaldehyde has been classified as a "known" human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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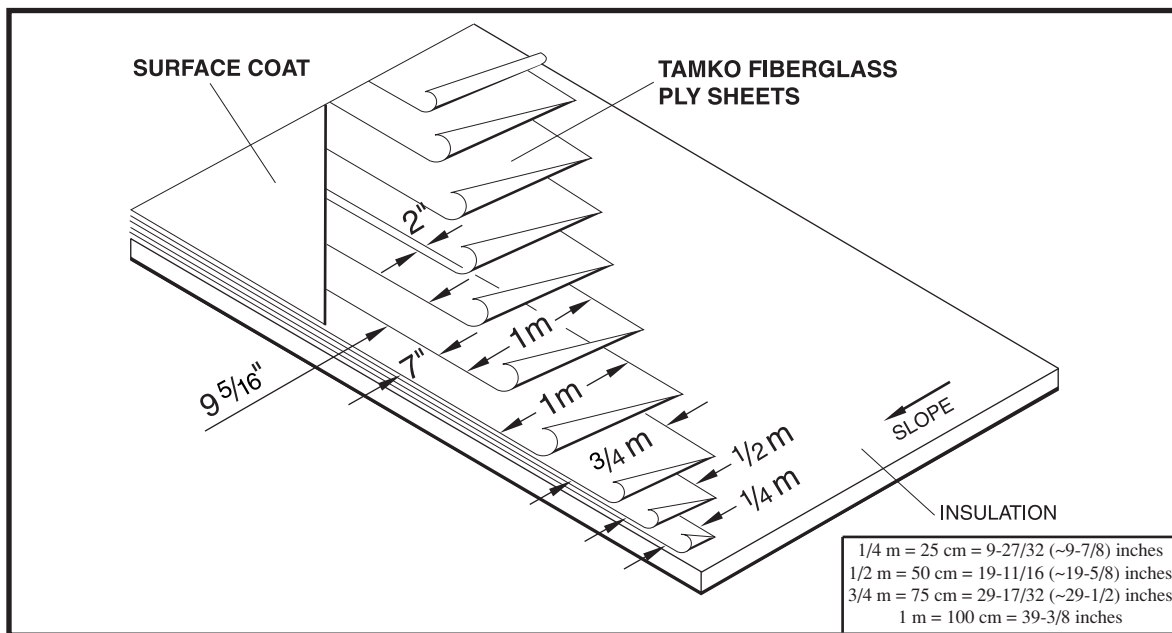
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Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	4 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 92 lbs.
Surface Coat: (Per 100 sq. ft.)	
(1) Fibered Aluminum Coating	1-1/2 to 2 gals.
(2) Emulsion Coating	3 gals.
(3) Asphalt Glaze Coating	20 to 25 lbs.
(4) TAM-STAR or TAM-GUARD	
White Elastomeric Roof Coating	2 gals.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II* for slopes up to 1/2 in.** and **Type III for slopes up to 3 in.**

Fiberglass Ply Sheets: Over the insulation, install **4 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, a 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately

23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surface Coat: Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gals. per 100 sq. ft., or Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or a surface grade hot asphalt using a minimum of 20 lbs. and a maximum of 25 lbs. per 100 sq. ft., or TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at rate of 2 gals. per 100 sq. ft. **Maintenance of the surface coating is required.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

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Application of product(s) in this specification using "hot mopped" applications may expose workers and others in the work area to

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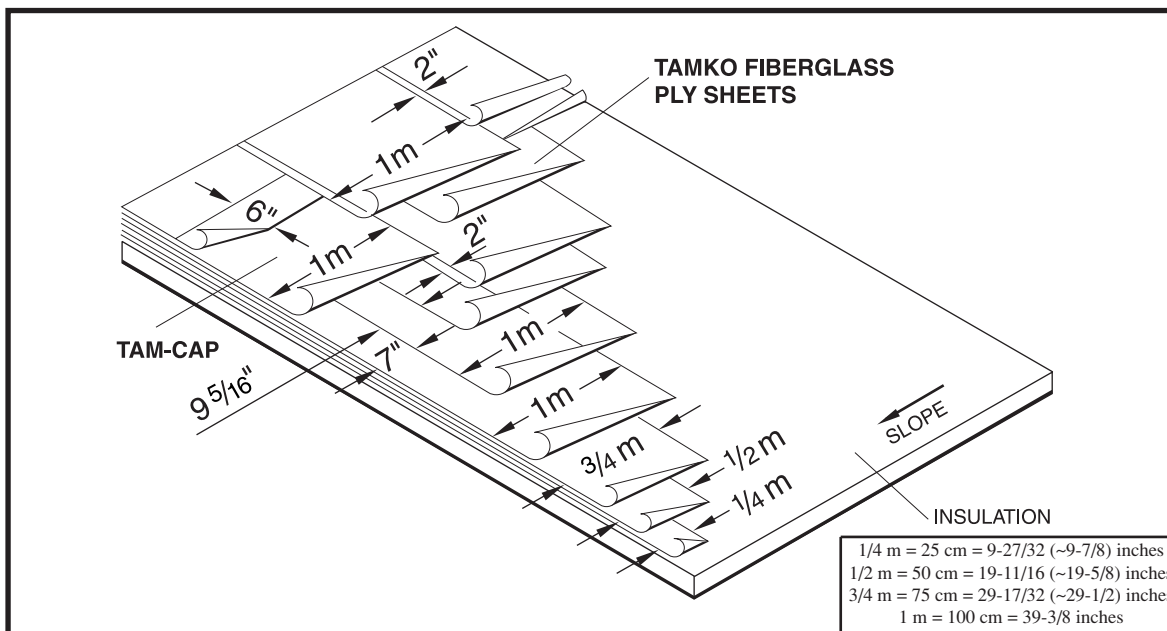
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oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO TAM-PLY IV®	
Fiberglass Ply Sheet	4 plies
TAMKO TAM-CAP®	
Fiberglass Mineral Surfaced Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 115 lbs.

Slope: Positive drainage up to 3 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Insulation: The insulation should be installed according to the manufacturer's specification in the thickness required. The insulation should conform to TAMKO requirements. Polyisocyanurate and expanded polystyrene must have an overlay of a minimum 1/2 in. fiberboard, perlite, or fiberglass roof insulation.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 3 in.

Fiberglass Ply Sheets: Over the insulation, install **4 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, a 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

TAM-CAP: Starting from the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installation by the "fly-in" or "mop and flop" method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvage and the back of the TAM-CAP that will cover the selvage.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known" human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any

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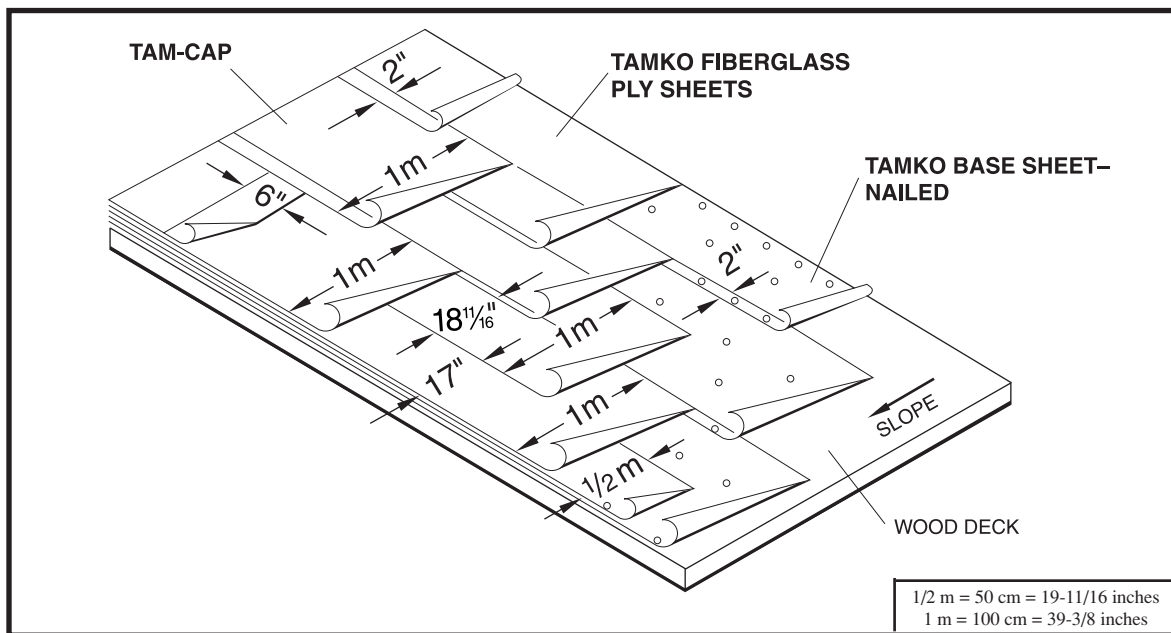
inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	2 plies
TAMKO TAM-CAP® Fiberglass Mineral Surfaced Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 1-1/2 in. per linear ft. **For slopes above 1 in. per linear ft.,** fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 1-1/2 in.

TYPE 43 Coated Base Sheet or BASE-N-PLY Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. Nail BASE-N-PLY sheet along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. **For specific fastening patterns for wind uplift listings, contact the Technical Services Department.**

Fiberglass Ply Sheets: Over the base ply, install **2 plies** of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Start with a 1/2 m width followed by full 1 m widths, shingle fashion, lapping each ply 20-11/16 over the preceding ply so that at least 2 plies cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

TAM-CAP Mineral Surfaced Cap Sheet: Starting at the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Alternately, installation by the “fly-in” or “mop and flop” method requires the installer to use a maximum of 12 ft. sections and to mop the 2 in. selvedge and the back of the TAM-CAP that will cover the selvedge.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational

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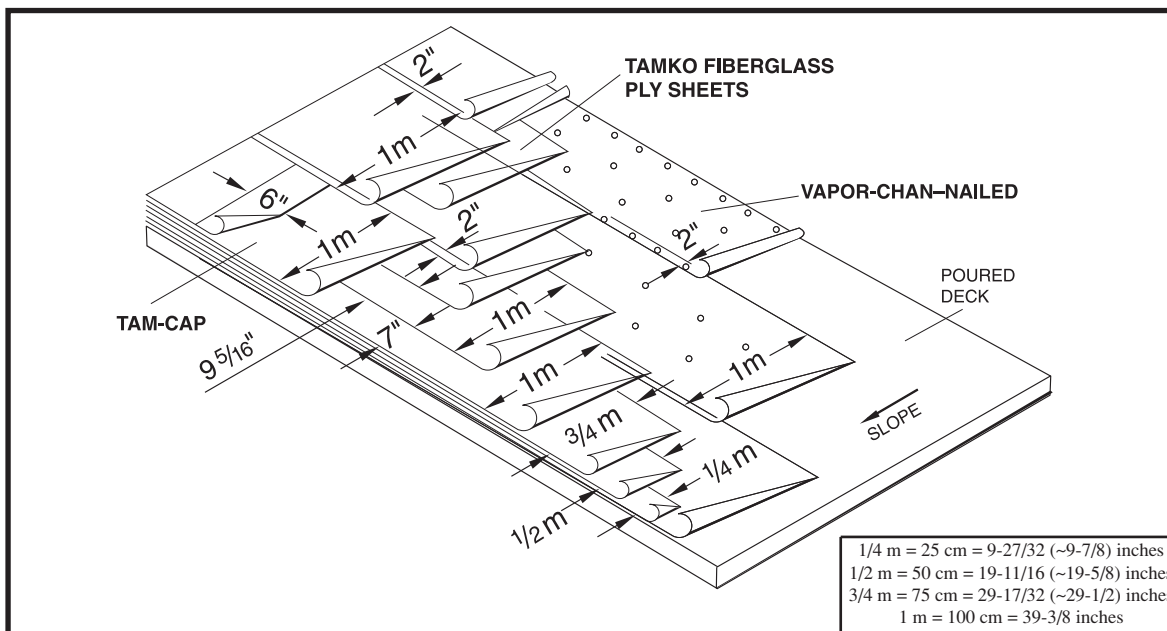
exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	4 plies
TAMKO TAM-CAP® Fiberglass Mineral Surface Cap Sheet	1 ply
Interply Asphalt (Per 100 sq. ft.)	Approx. 115 lbs.
Clinch-type nails for base sheet (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type II* for slopes up to 1/2 in. and Type III for slopes up to 3 in.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Fiberglass Ply Sheets: Over the insulation, install 4 plies of TAM-GLASS PREMIUM Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/4 m width, an 1/2 m width, then a 3/4 m width. Follow with full 1 m widths, shingle fashion, lapping each ply 30-1/16 in. in such a manner so that at least 4 plies of ply sheet cover the insulation at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

TAM-CAP: Starting from the low point of the roof, apply 1 ply of TAM-CAP, side lapping each sheet 2 in. and end lapping 6 in. over the preceding sheets. Fully mop each sheet with specification asphalt at the rate of 23 lbs. (±15%) per 100 sq. ft. On slopes of 1 in. per foot or greater, nail adjacent to top edge on 12 in. centers. Nail the laps on 3 in. centers and mop the full width with specification asphalt. **NOTE: Before application of TAM-CAP, cut it into 12 ft. to 18 ft. lengths and allow it to flatten and relax. Stagger the end laps.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic

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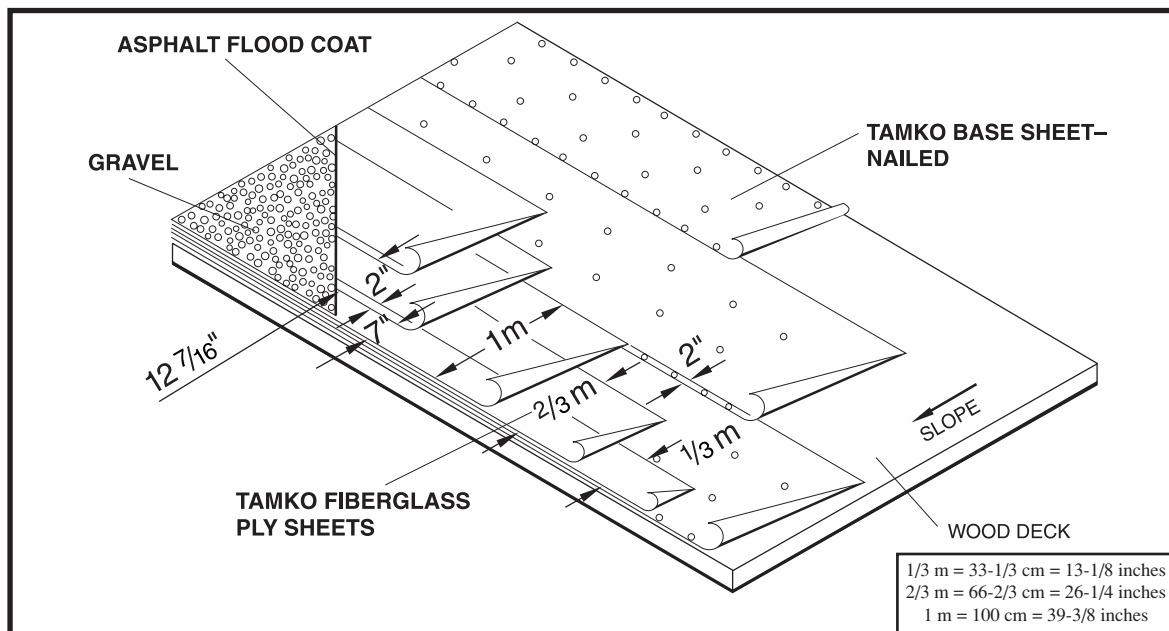
Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, **Type II*** for slopes up to 1/2 in. and **Type III** for slopes up to 3 in.

TYPE 43 Coated Base Sheet or BASE-N-PLY Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. Nail BASE-N-PLY sheet along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Fiberglass Ply Sheets: Over the base ply, install 3 plies of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

Caution: A product(s) in this specification contains crystalline silica, formaldehyde and wood dust. Crystalline silica, formaldehyde and wood dust have been classified as “known” human carcinogens by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. A product(s) in this specification also contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing have been classified by IARC as a “probable human carcinogen”. Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as known or probable human carcinogens. The physical nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating

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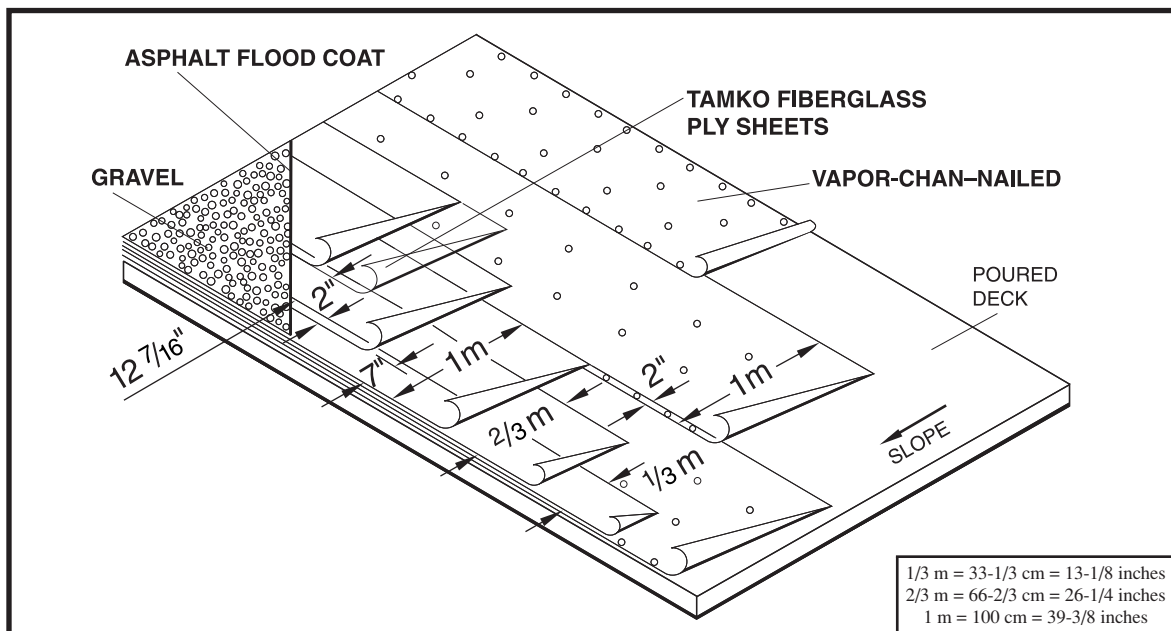
or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

Application of product(s) in this specification using “hot mopped” applications may expose workers and others in the work area to oxidized asphalt and its emissions. The International Agency for Research on Cancer has classified occupational exposures to oxidized asphalt and its emissions during roofing as a “probable human carcinogen.” During installation and removal of the product(s) in this specification, including “hot mopped” application, workers must take precautions to assure adequate ventilation and use effective personal protective equipment to prevent exposures to dusts, fumes, vapors and mists. It is the responsibility of the contractor and workers to protect themselves and others in the work area from exposure to oxidized asphalt and its emissions when applying the product(s) in this specification.

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Material Requirements

TAMKO VAPOR-CHAN® Fiberglass Venting Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Flood Coat Asphalt (Per 100 sq. ft.)	Approx. 60 lbs.
Gravel (Per 100 sq. ft.)	Approx. 400 lbs.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type II* for slopes up to 1/2 in. and Type III for slopes up to 3 in.

VAPOR-CHAN: Starting at the low point of the roof, install 1 ply of VAPOR-CHAN, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail the sheets along the lap at intervals of no more than 8 in. Stagger-nail down the center of the sheet on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Fiberglass Ply Sheets: Over the base ply, install 3 plies of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surfacing: Apply a flood coat of 60 lbs. (±15%) of specification asphalt per 100 sq. ft. over the entire surface. While hot, embed approximately 400 lbs. of clean roofing gravel or 300 lbs. of slag per 100 sq. ft. of completed roof area.

Flashing: The flashing material must be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

Contact TAMKO for information on U.L. systems requirements.

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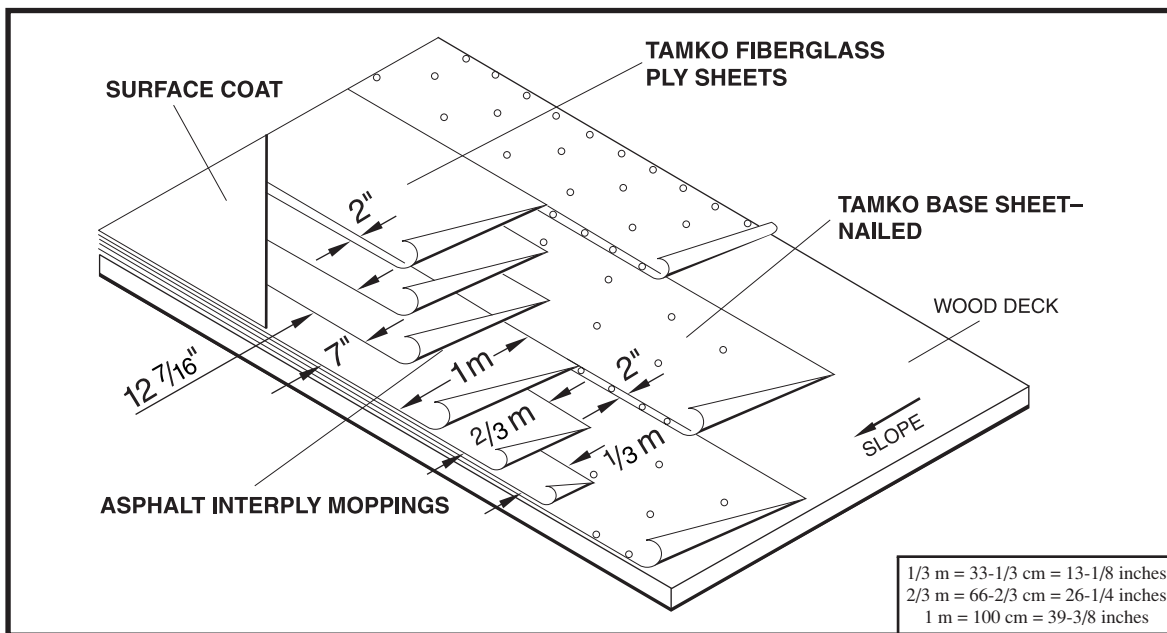
nature of the product(s) in this specification may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of the product(s) in this specification. Take precautions to prevent breathing and contact with skin.

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Material Requirements

TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY® Base Sheet	1 ply
TAMKO TAM-PLY IV® Fiberglass Ply Sheet	3 plies
Interply Asphalt (Per 100 sq. ft.)	Approx. 69 lbs.
Surface Coat: (Per 100 sq. ft.)	
(1) Fibered Aluminum Coating	1-1/2 to 2 gals.
(2) Emulsion Coating	3 gals.
(3) Asphalt Glaze Coating	20 to 25 lbs.
(4) TAM-STAR or TAM-GUARD White Elastomeric Roof Coating	2 gals.
Clinch-type nails (Per 100 sq. ft.)	Approx. 100 Nails

Slope: Positive drainage up to 3 in. per linear ft. For slopes above 1 in. per linear ft., fastening of the roofing felts is required.

Deck: The deck should conform to TAMKO general requirements.

Asphalt: The asphalt should be certified by the manufacturer to meet ASTM D-312, Type II* for slopes up to 1/2 in. and Type III for slopes up to 1 in.

TYPE 43 Coated Base Sheet or BASE-N-PLY Base Sheet: Starting at the low point of the roof, install 1 ply of TAMKO TYPE 43 Coated Base Sheet or BASE-N-PLY, side lapped 2 in. and end lapped 4 in. Apply at a right angle to the slope of the roof. Nail TYPE 43 Coated Base Sheet along the lap at intervals of no more than 9 in. Stagger-nail on 18 in. centers along 2 lines located 12 in. from each edge of the base sheet. Nail BASE-N-PLY sheet

along the lap at intervals of no more than 8 in. Stagger-nail on 16 in. centers along 2 lines located 13 in. from each edge of the base sheet. For specific fastening patterns for wind uplift listings, contact the Technical Services Department.

Fiberglass Ply Sheets: Over the base ply, install 3 plies of TAM-PLY IV Fiberglass Ply Sheet in specification asphalt. Starting from the low point of the roof, apply a 1/3 m width, then a 2/3 m width, and follow with full 1 m widths, shingle fashion, lapping each ply 26-15/16 in. in such a manner so that at least 3 plies of ply sheet cover the base ply at any point. Approximately 23 lbs. (±15%) of specification asphalt per 100 sq. ft. should be used to embed each ply.

Surface Coat: Coat the entire roof surface with Fibered Aluminum Roof Coating at a rate of 1-1/2 to 2 gals. per 100 sq. ft., or Emulsion Roof Coating at a rate of not less than 3 gals. per 100 sq. ft., or a surface grade hot asphalt using a minimum of 20 lbs. and a maximum of 25 lbs. per 100 sq. ft., or TAM-STAR or TAM-GUARD White Elastomeric Roof Coating at rate of 2 gals. per 100 sq. ft. **Maintenance of the surface coating is required.**

Flashing: The flashing material **must** be a TAMKO polyester reinforced modified asphalt flashing material.

U.L. Requirements:

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Any roof insulation manufactured as a 4' x 8' board must be mechanically fastened according to the requirements of Factory Mutual, or contact the insulation manufacturer for their application recommendations.

For 15- and 20-year Roofing System Limited Warranties, TAMKO requires a minimum of 2 layers of insulation and the top layer must be adhered in hot asphalt.

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<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELIGIBILITY</u>
Cant Strip of America Phoenix, AZ	Fesco	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee
GAF Corporation Wayne, NJ	GAFTEMP Permalite GAFTEMP Recover Board	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee
Johns Manville Denver, CO	Fesco Retro-Fit Board	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee

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<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELIGIBILITY</u>
Cant Strip Corp. of America Phoenix, AZ	Wood Fiber	Premium Roofing System NDL Guarantee Roofing System Guarantee
GAF Corporation Wayne, NJ	Fiberboard	Premium Roofing System NDL Guarantee Roofing System Guarantee
Georgia Pacific Atlanta, GA	High Density Fiberboard	Premium Roofing System NDL Guarantee Roofing System Guarantee
Huebert Fiberboard Boonville, MO	Fiberboard	Premium Roofing System NDL Guarantee Roofing System Guarantee
International Bildrite, Inc. International Falls, MN	Woodfiber Board	Premium Roofing System NDL Guarantee Roofing System Guarantee
Knight - Celotex Northfield, IL	Structodek	Premium Roofing System NDL Guarantee Roofing System Guarantee
Koppers Industries Pittsburgh, PA	KOP-R Regular KOP-R High Density	Premium Roofing System NDL Guarantee Roofing System Guarantee
Temple-Inland Diboll, TX	Fiber Base	Premium Roofing System NDL Guarantee Roofing System Guarantee
GYPSUM US Gypsum Company Chicago, IL	Securock	Premium Roofing System NDL Guarantee Roofing System Guarantee

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<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELIGIBILITY</u>
CELLULAR GLASS		
Pittsburgh Corning Corporation Pittsburgh, PA	Foamglas®	Premium Roofing System NDL Guarantee Roofing System Guarantee
FIBERGLASS		
Johns Manville Denver, CO	Fiberglass	Premium Roofing System NDL Guarantee Roofing System Guarantee
BASALT		
Cant Strip Corp. of America Phoenix, AZ	CSC Roc	Premium Roofing System NDL Guarantee Roofing System Guarantee
Roxul Milton, Ontario	Toprox Baseboard	Premium Roofing System NDL Guarantee Roofing System Guarantee
THERMAL BARRIER		
Georgia Pacific Corp. Atlanta, GA	Dens-Deck	Premium Roofing System NDL Guarantee Roofing System Guarantee
EXTRUDED POLYSTYRENE		
Dow Chemical Co. Midland, MI	Deckmate Plus Deckmate	Premium Roofing System NDL Guarantee Roofing System Guarantee
GYPSUM		
US Gypsum Company Chicago, IL	Securock	Premium Roofing System NDL Guarantee Roofing System Guarantee

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<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELEGIBILITY</u>
Atlas Energy Products Atlanta, GA	AC-Foam I AC-Foam II	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee
Cant Strip Corp. of America Phoenix, AZ	AC-Foam Blackore	Premium Roofing System NDL Guarantee Roofing System Guarantee
Carpenter Insulation Richmond, VA	ISO Deck GF	Premium Roofing System NDL Guarantee Roofing System Guarantee
Dow Midland, MI	Thermax	Premium Roofing System NDL Guarantee Roofing System Guarantee
Dyplast Foam Industries Miami, FL Lakeland, FL Starr, SC	ISO-Shield Standard ISO-Shield Adhered+	Premium Roofing System NDL Guarantee Roofing System Guarantee
Firestone Carmel, In	Rhoflex Isocyanurate ISO 95+ ISO 95+ Tapered	Premium Roofing System NDL Guarantee Roofing System Guarantee
GAF Corporation Wayne, NJ	GAFTEMP ISOtherm R	Premium Roofing System NDL Guarantee Roofing System Guarantee
Hunter Panels, LLC Portland, ME	H-Shield	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee
Johns Manville Denver, CO	UltraGard Gold	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee
Koppers Industries Pittsburgh, PA	KOP-R Iso	Premium Roofing System NDL Guarantee Roofing System Guarantee
Rmax, Inc. Dallas, TX	Multi-Max	Premium Coverage Roofing System NDL Guarantee Premium Roofing System NDL Guarantee Roofing System Guarantee
Temple-Inland Diboll, TX	Tempro Standard Tempro HD	Premium Roofing System NDL Guarantee Roofing System Guarantee
Versico Carlisle, PA	Polyiso	Premium Roofing System NDL Guarantee Roofing System Guarantee

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Any roof insulation manufactured as a 4' x 8' board must be mechanically fastened according to the requirements of Factory Mutual, or contact the insulation manufacturer for their application recommendations.

For 15- and 20-year Roofing System Limited Warranties, TAMKO requires a minimum of 2 layers of insulation and the top layer must be adhered in hot asphalt.

If you need more information or clarification regarding TAMKO's insulation requirements, contact the Technical Services Department at P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELEGIBILITY</u>
ACH Foam Technologies Denver, CO	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Allied Foam Products, Inc. Gainesville, GA	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Big Sky Insulations, Inc. (AFM) Belgrade, MT	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Diversifoam Products Rockford, MN	Raylite EPS	Premium Roofing System NDL Guarantee Roofing System Guarantee
Dyplast Products Miami, FL Lakeland, FL Sarr, SC	Dyplast EPS	Premium Roofing System NDL Guarantee Roofing System Guarantee
Falcon Foam A division of Atlas Roofing Products Perryville, MO	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Georgia Foam, Inc. Gainesville, GA	EPS Insulation	Premium Roofing System NDL Guarantee Roofing System Guarantee
Insulated Building Systems, Inc. (AFM) Sterling, VA	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Insifoam (Premier Industries) Kent, WA Dalas, TX Dixon, CA Chino, CA Anchorage, AK Phoenix, AZ Albuquerque, NM	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Iowa EPS Products, Inc. Des Moines, IA	EPS Insulation	Premium Roofing System NDL Guarantee Roofing System Guarantee
Mid-Atlantic Foam Fredericksburg, VA	EPS Insulation	Premium Roofing System NDL Guarantee Roofing System Guarantee
Northwest Foam Products, Inc. Twin Falls, ID	EPS	Premium Roofing System NDL Guarantee Roofing System Guarantee
Perma R Products Grenada, MS Johnson City, TN Midlothian, TX	EPS Insulation	Premium Roofing System NDL Guarantee Roofing System Guarantee
Poly Foam Inc. (AFM) Lester Prairie, MN	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee

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Any roof insulation manufactured as a 4' x 8' board must be mechanically fastened according to the requirements of Factory Mutual, or contact the insulation manufacturer for their application recommendations.

For 15- and 20-year Roofing System Limited Warranties, TAMKO requires a minimum of 2 layers of insulation and the top layer must be adhered in hot asphalt.

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<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELEGIBILITY</u>
PowerFoam Insulation A Division of Metl-Span Corp. Midlothian, TX	EPS Insulation	Premium Roofing System NDL Guarantee Roofing System Guarantee
Stanark Plastics, Inc. North Little Rock, AR	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Styrotech, Inc. Minneapolis, MN	Styroflex	Premium Roofing System NDL Guarantee Roofing System Guarantee
Team Industries Grand Rapids, MI	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Thermal Foams (AFM) Buffalo, NY	Contour Taper Tile Perform I	Premium Roofing System NDL Guarantee Roofing System Guarantee
Tri-State Foam Martinsville, VA	EPS Insulation	Premium Roofing System NDL Guarantee Roofing System Guarantee

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<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELEGIBILITY</u>
ACH FoamTechnologies Denver, CO	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Allied Foam Products, Inc. (AFM) Gainesville, GA	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Atlas Energy Products Atlanta, GA	AC Foam Composite	Premium Roofing System NDL Guarantee Roofing System Guarantee
Big Sky Insulations, Inc. (AFM) Belgrade, MT	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Carpenter Insulation Richmond, VA	Styrodeck EPS	Premium Roofing System NDL Guarantee Roofing System Guarantee
Celotex Corporation Tampa, FL	Hy-Therm Composite	Premium Roofing System NDL Guarantee Roofing System Guarantee
Dyplast Products Miami, FL Lakeland, FL Sarr, SC	Dyplast EPS	Premium Roofing System NDL Guarantee Roofing System Guarantee
Falcon Foam Byron Center, MI	Falcon Foam	Premium Roofing System NDL Guarantee Roofing System Guarantee
Firestone Carmel, IN	Iso 95+ Composite Rhoflex Composite	Premium Roofing System NDL Guarantee Roofing System Guarantee
GAF Corporation Wayne, NJ	GAFTEMP Composite	Premium Roofing System NDL Guarantee Roofing System Guarantee
Hunter Panels, LLC Portland, ME	H-Shield-P H-Shield-WF	Premium Roofing System NDL Guarantee Roofing System Guarantee
Insulated Building Systems, Inc. (AFM) Sterling, VA	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Insulfoam (Premier Industries) WA, TX, CA, AK, AZ, NM	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Northwest Foam Products, Inc. Twin Falls, ID	EPS Composite	Premium Roofing System NDL Guarantee Roofing System Guarantee
Poly Foam Inc. (AFM) Lester Prairie, MN	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee

The following insulations are manufactured by companies who have read and responded to TAMKO's requirements for insulations. This list IS NOT an approval or endorsement of the insulations with regard to any physical or thermal requirements. **This list is subject to change.**

Any roof insulation manufactured as a 4' x 8' board must be mechanically fastened according to the requirements of Factory Mutual, or contact the insulation manufacturer for their application recommendations.

For 15- and 20-year Roofing System Limited Warranties, TAMKO requires a minimum of 2 layers of insulation and the top layer must be adhered in hot asphalt.

If you need more information or clarification regarding TAMKO's insulation requirements, contact the Technical Services Department at P. O. Box 1404, Joplin, MO 64802 • 1-800-641-4691 • www.tamko.com

<u>MANUFACTURER</u>	<u>PRODUCT NAME</u>	<u>GUARANTEE ELEGIBILITY</u>
Power Foam Insulation A Division of Metl-Span Corp. Midlothian, TX	Composite	Premium Roofing System NDL Guarantee Roofing System Guarantee
Rmax, Inc. Dallas, TX	Thermarroof	Premium Roofing System NDL Guarantee Roofing System Guarantee
Johns Manville Denver, CO	Fesco-Foam Fes-Core	Premium Roofing System NDL Guarantee Roofing System Guarantee
Stanark Plastics, Inc. (AFM) North Little Rock, AR	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Team Industries, Inc. (AFM) Grand Rapids, MI	Perform II	Premium Roofing System NDL Guarantee Roofing System Guarantee
Thermal Foams (AFM) Buffalo, NY	Perfrom II	Premium Roofing System NDL Guarantee Roofing System Guarantee