



RIGID POLYISO FOAM INSULATION GUIDE

For Residential and Commercial Applications



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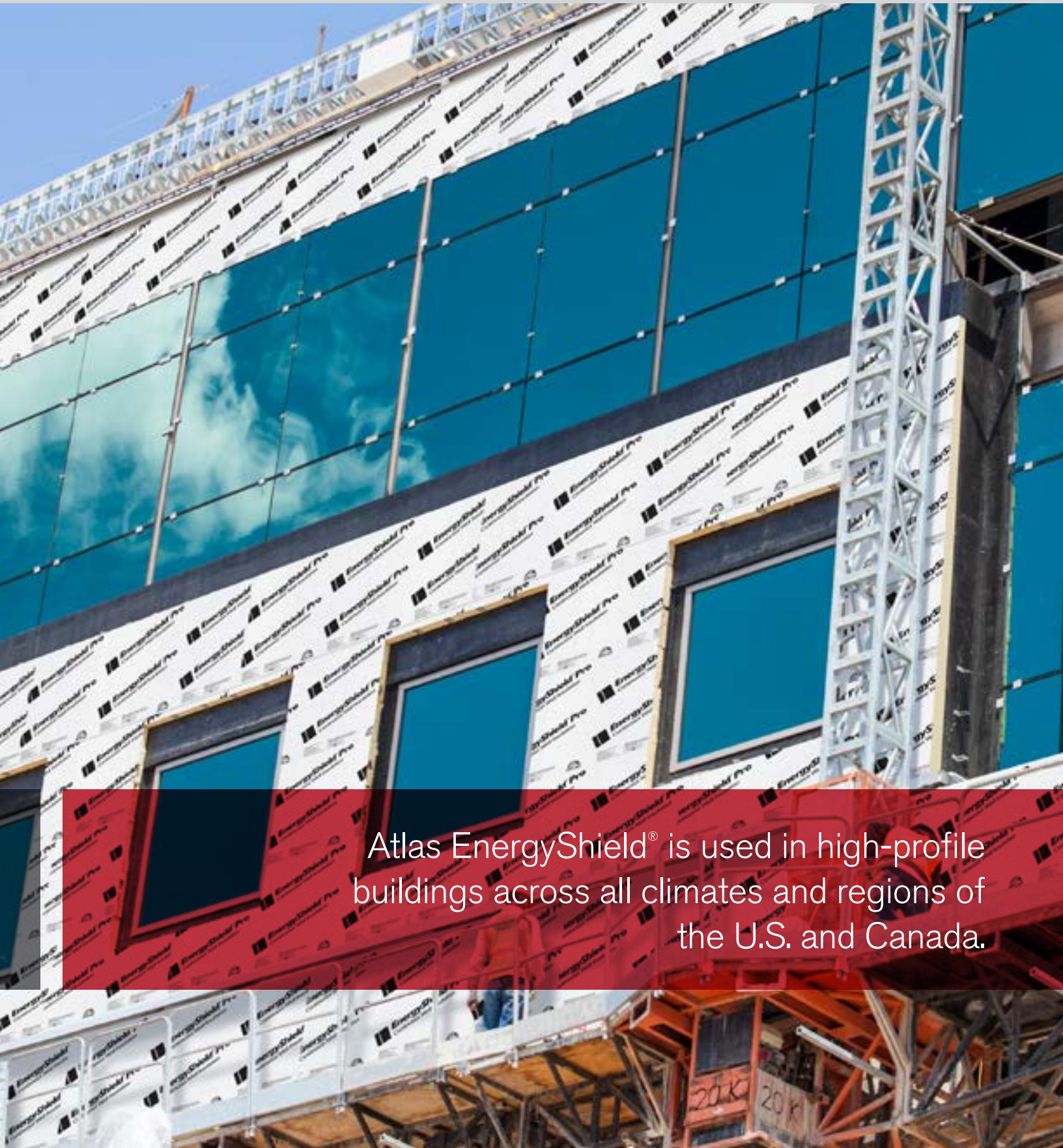
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CONNECTING FUNCTION WITH FACILITY™

INTRODUCTION



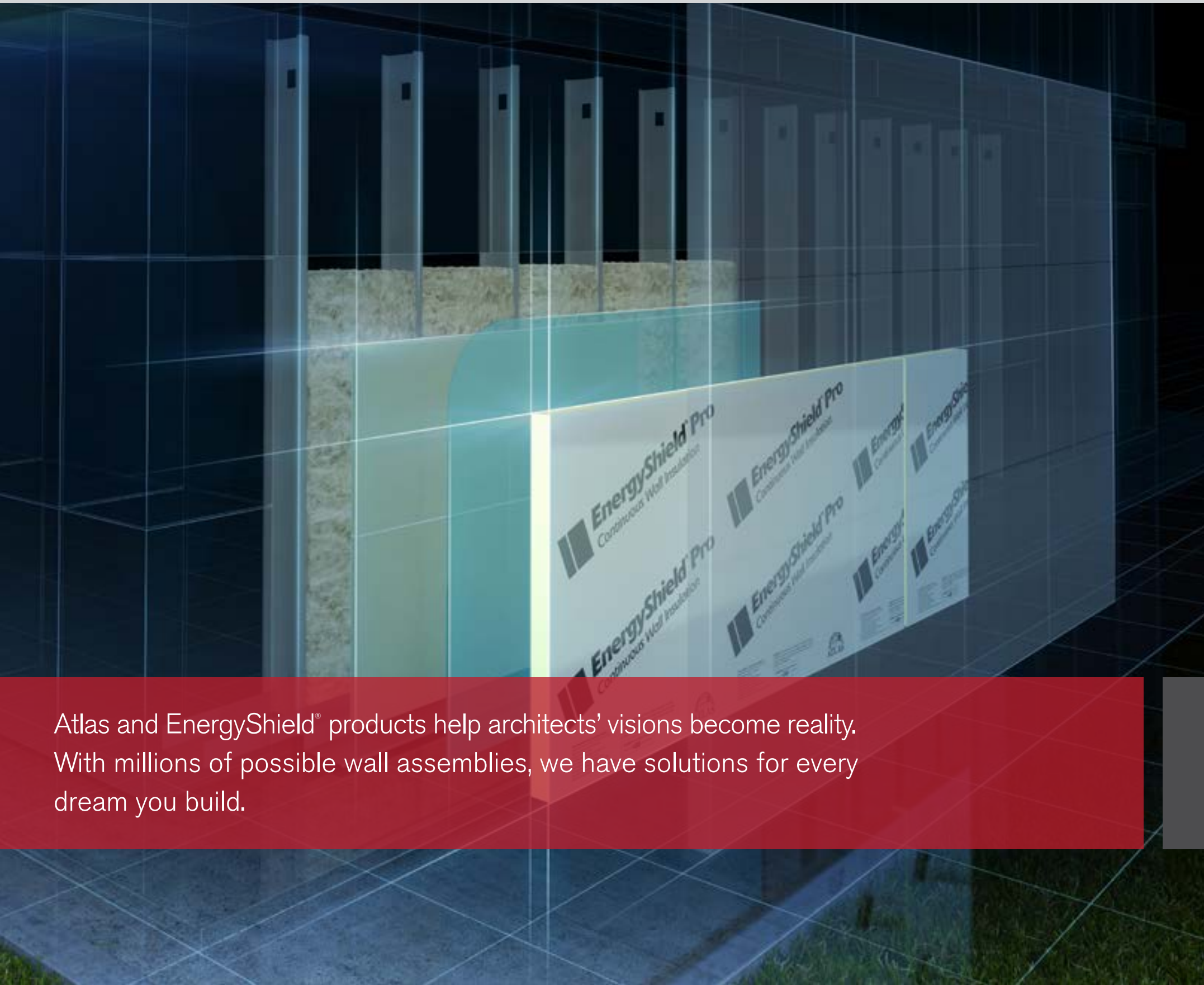
Atlas EnergyShield® is used in high-profile buildings across all climates and regions of the U.S. and Canada.

Atlas is an industry leader in polyiso board insulation technology. Investment in our people and processes enables us to achieve the highest levels of customer service, product performance and product quality in the industry. Atlas products come with the peace of mind associated with reliable, consistent engineering and support delivered when and where it is needed.

Founded in 1982, Atlas has grown to become an industry leader and manufacturer of products in a variety of building material categories—including continuous wall insulation. Throughout our history, Atlas has developed a deep collective knowledge of advanced building science to help our customers with projects that are energy efficient, cost effective and profitable.

Exterior continuous insulation is the most effective way to thermally insulate building envelopes. By overcoming the thermal bridging issues that traditional insulations can't address and that impair building performance, Atlas exterior wall insulation products enhance envelope design and improve performance. Atlas EnergyShield® wall insulation products are made with a polyiso core, which achieves a high R-Value (the capacity to resist heat flow) with minimal material thickness. With numerous assembly approvals for all types of wall application, EnergyShield continuous wall insulation brings a high level of design flexibility, allowing designers and builders to enjoy unmatched control over their projects' thermal envelope.

THE IDEAL WALL



Atlas and EnergyShield® products help architects' visions become reality. With millions of possible wall assemblies, we have solutions for every dream you build.








What does the ideal wall do? Every good wall incorporates some type of thermal insulation, but the ideal wall goes further. The ideal wall incorporates thermal, moisture, vapor and air control into its design. Atlas EnergyShield® insulation solutions are an essential component of this ideal wall.

Atlas EnergyShield provides a multi-functional, single-layer solution for exterior and interior walls that serves as a continuous barrier against energy loss and allows vapor and air management. EnergyShield has a higher resistance to heat flow than alternative insulation types, increasing building efficiency for long-term performance. This allows a thinner wall profile, by taking up less space to deliver the same R-value, minimizing total wall thickness. Moisture and vapor management, controlled airflow and thermal properties reduce the risk of moisture intrusion in wall assemblies, providing protection for buildings that last.

Whether you're designing, constructing or improving a building, you can count on EnergyShield products for every stage of the build. The Atlas EnergyShield family of products is proven to deliver outstanding performance and lasting energy efficiency, and can help earn LEED® credits and meet federal, state and local green building codes. EnergyShield products are also GREENGUARD Gold Certified, ensuring that your project can meet the highest standards for indoor air quality.

With more than 30 years of industry expertise in polyiso manufacturing, Atlas EnergyShield continuous wall insulation products deliver confidence with proven performance.

PRODUCT SELECTOR

PRODUCT	FACER TYPE	TYPE V EXTERIOR	COMMERCIAL WALL TYPE I-V EXTERIOR	TYPE I-V INTERIOR EXPOSED	INSULATED CONCRETE PANELS	ASTM C1289 TYPE, CLASS	FEATURES
 EnergyShield Continuous Wall Insulation	■	✓ Class B				Type I, Class 1	<div><div><ul style="list-style-type: none">▪ Foil facer▪ Integrated air, water, vapor barrier▪ Residential and light commercial</div><div><ul style="list-style-type: none">▪ Renovation▪ Attics and crawlspaces</div></div>
 EnergyShield CGF Continuous Wall Insulation	●	✓ Class B				Type II, Class 2	<div><div><ul style="list-style-type: none">▪ Integrated air, water barrier▪ Residential and light commercial▪ Reversible</div><div><ul style="list-style-type: none">▪ Renovation▪ Microbial resistant▪ Attics and crawlspaces</div></div>
 EnergyShield Pro Continuous Wall Insulation	■		✓ NFPA 285 & Class A	✓ NFPA 286 & Class A		Type I, Class 1 Type I, Class 2	<div><div><ul style="list-style-type: none">▪ Printed foil facer on one side, white on the other▪ Integrated air, water, vapor barrier▪ Enhanced fire resistance (NFPA 285 & 286)▪ Commercial interiors</div><div><ul style="list-style-type: none">▪ Commercial exteriors▪ Reversible▪ Basements</div></div>
 EnergyShield CGF Pro Continuous Wall Insulation	●		✓ NFPA 285 & Class A			Type II, Class 2	<div><div><ul style="list-style-type: none">▪ Coated glass facer▪ Integrated air, water barrier▪ Enhanced fire resistance (NFPA 285)</div><div><ul style="list-style-type: none">▪ Commercial exteriors▪ One side black for open joint rainscreen▪ Microbial resistant</div></div>
 EnergyShield Ply Pro Continuous Wall Insulation	●		✓ NFPA 285 & Class A			Type V	<div><div><ul style="list-style-type: none">▪ Coated glass facer laminated to FRT plywood▪ Enhanced fire resistance (NFPA 285)▪ Commercial exteriors (primarily metal panel)</div><div><ul style="list-style-type: none">▪ Microbial resistant▪ Can be installed with or without exterior gypsum in countless NFPA 285 approved wall assemblies</div></div>
 EnergyShield PanelCast Continuous Concrete Insulation	●				✓	Type II, Class 2	<div><div><ul style="list-style-type: none">▪ R-value superior to XPS and EPS▪ Durable coated glass facers▪ Microbial resistant▪ Precast concrete</div><div><ul style="list-style-type: none">▪ Architectural concrete sandwich panels▪ Alkali resistant facers▪ Higher performance finished product</div></div>
 Stucco-Shield Continuous Wall Insulation	●	✓ Class B				Type II, Class 2	<div><div><ul style="list-style-type: none">▪ Designed for use in stucco assemblies▪ Higher performance finished product▪ Microbial resistant▪ Coated glass facers</div><div><ul style="list-style-type: none">▪ 4'×8' boards reduce joints and labor▪ Alkali resistant facers▪ R-value superior to XPS and EPS</div></div>

This product information has been compiled for your convenience. Please check your local building codes for compliance.

■ FOIL FACED POLYISO THERMAL DATA

R-VALUE ^{1,2}	3.3	5.0	6.5	9.8	10.5	13.1	16.0	19.7	21.7	26.0
NOMINAL BOARD THICKNESS ³	0.5"	0.75"	1.0"	1.5"	1.6"	2.0"	2.5"	3.0"	3.5"	4.0"

¹ Conditioned thermal values were determined by ASTM Test Method C 518 at 75° mean temperature. Test specimens were conditioned in accordance with procedures outlined in ASTM C1289, Section 11.1.2.1

² "R" means resistance to heat flow. The higher the R-value, the greater the insulating power.

³ Other sizes available upon request. Contact your local Atlas sales office.

● COATED GLASS FACED POLYISO THERMAL DATA

R-VALUE ^{1,2}	3.0	4.5	6.0	9.0	12.1	15.3	18.5	21.7	25.0
NOMINAL BOARD THICKNESS ³	0.5"	0.75"	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"



METAL PANEL

EnergyShield® Pro products for commercial insulation from Atlas are the best way to ensure that metal panel claddings will perform with the highest level of energy efficiency. Atlas EnergyShield Pro also provides a functional, rigid wall surface suitable for a variety of cladding types. EnergyShield Pro polyiso insulation provides excellent fire performance, charring in place rather than melting or dripping like other foam plastic insulations. Atlas has extensive NFPA 285 approvals and a wide range of compliant wall assemblies. For every configuration of commercial wall, there is the right Atlas product.

COMMERCIAL

EnergyShield Pro combines Class A fire performance, NFPA 285 compliances and water and air barrier capabilities with the highest available R-value per inch on the market.

EnergyShield® CGF Pro offers the same Class A fire performance as EnergyShield Pro but uses coated glass facers to bring a vapor permeable option that is also highly abuse resistant.

EnergyShield® Ply Pro provides an FRT plywood surface and eliminates the need for separate installation. This reduces labor costs and increases efficiency in a metal building construction project.

RECOMMENDATIONS



EnergyShield Pro integrates perfectly into metal panel assemblies and code compliant combinations. For open joint rainscreen applications, EnergyShield CGF Pro offers a black facer, eliminating the need for a black out fabric. Steel studs, batt cavity insulation, glass-mat faced sheathing, liquid applied air & moisture barrier, EnergyShield Ply Pro, metal panels.

EnergyShield Pro can be used in wall configurations with or without gypsum sheathing. See our technical Evaluation Report for the full range of design options.

EnergyShield Pro makes it easy to combine performance and style in metal-clad designs.

BRICK, STONE & STUCCO



Beautiful and versatile, brick, stone and stucco have been the choices for durability and classic design for centuries. But they can also present challenges—thermal, moisture, vapor and air control are crucial to their success as a cladding. EnergyShield® pairs perfectly with them, offering integrated air, moisture and vapor central technology. It's a combination that is hard to beat.

COMMERCIAL

EnergyShield® Pro is an all-around solution that can work for insulating brick and provides commercial-grade moisture and fire compliance.

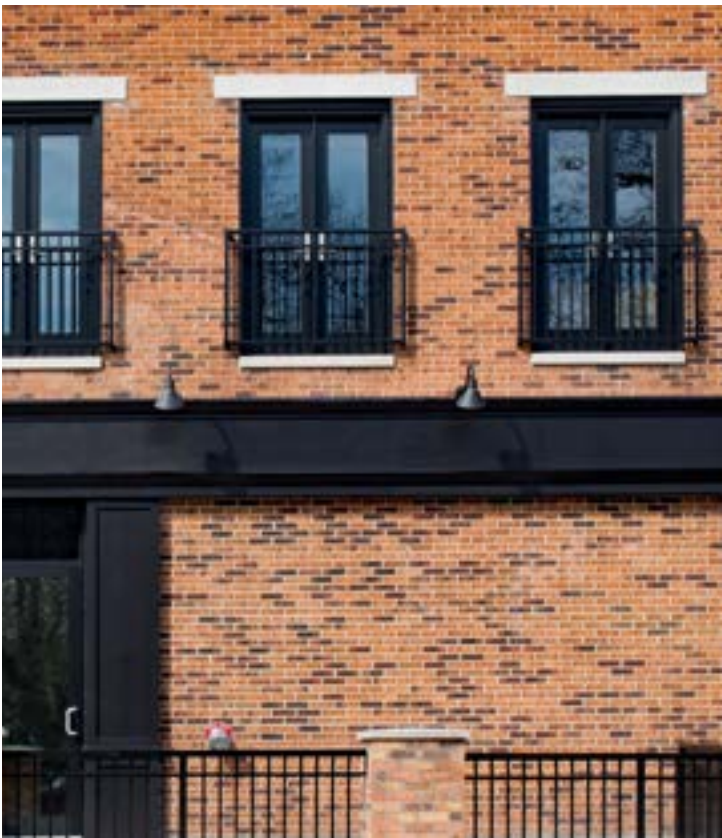
EnergyShield® CGF Pro is great for large-scale commercial applications in which the commercial building needs to “breathe.” It includes a durable coated glass facer that is abuse resistant.

RESIDENTIAL

EnergyShield® For over 30 years, EnergyShield has set the standard for residential continuous insulation. With an R-value of 6.5 per inch, EnergyShield is still the industry leader.

EnergyShield® CGF brings durability together with moisture resistance in vapor-open designs for Type V construction.

Stucco-Shield® Designed for direct-applied stucco, Stucco-Shield is perfect for use with a wide variety of basecoat, mesh and finish systems.



RECOMMENDATIONS



Steel studs, batt cavity insulation, glass-mat faced sheathing, EnergyShield Pro with taped joints, mortar net, brick.



Steel studs, batt cavity insulation, glass-mat faced sheathing, liquid applied air and moisture barrier, EnergyShield Pro, stone cladding.



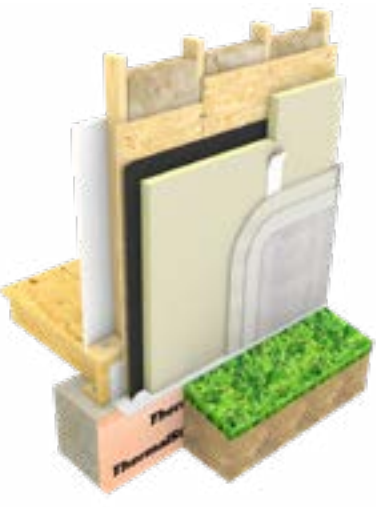
Steel studs, batt cavity insulation, glass-mat faced sheathing, EnergyShield Pro with taped joints, grade D building paper, expanded metal lath, cement plaster scratch and brown coats, stucco finish.



Wood studs, batt cavity insulation, wood sheathing, EnergyShield with taped joints, stone cladding.



Wood studs, batt cavity insulation, wood sheathing, EnergyShield CGF, liquid applied air and moisture barrier, mortar net, brick.



Wood studs, batt cavity insulation, wood sheathing, water resistive membrane, EnergyShield Stucco-Shield, basecoat, mesh, acrylic finish.

INTERIOR EXPOSED

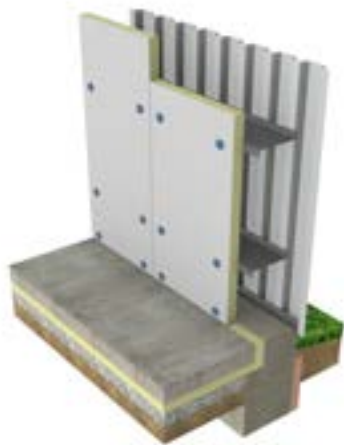


For commercial projects where the design calls for continuous insulation on the interior, such as metal buildings or tilt-up construction, EnergyShield® Pro has an unprinted fiberglass reinforced white foil facer that can be left exposed. Perfect for warehouse, manufacturing or agricultural facilities, EnergyShield Pro provides a clean, functional, uncluttered look for the interior of commercial buildings in addition to the high level of performance expected from commercial-grade Atlas insulation products.

COMMERCIAL & RESIDENTIAL

EnergyShield Pro, offered for building interiors, provides Class A fire performance and high R-value,, helping to limit energy loss. EnergyShield Pro can also be pressure-washed. EnergyShield Pro is NFPA 286 compliant for use on interior walls without requiring a thermal barrier. EnergyShield Pro can be used on interior walls—or ceilings—only.

EnergyShield® Pro Continuous Wall Insulation



Engineered Metal Building: Wall



Engineered Metal: Ceiling



Concrete: Tilt-Up Wall or Residential Basements

- Durable foil facers
- Higher R-value than XPS and EPS*

- Reflective facers
- Cleanable

* Polyiso has a higher R-value per inch than other rigid foam insulation products

Use EnergyShield Pro’s unprinted side for a clean interior look.



CONCRETE PANELS



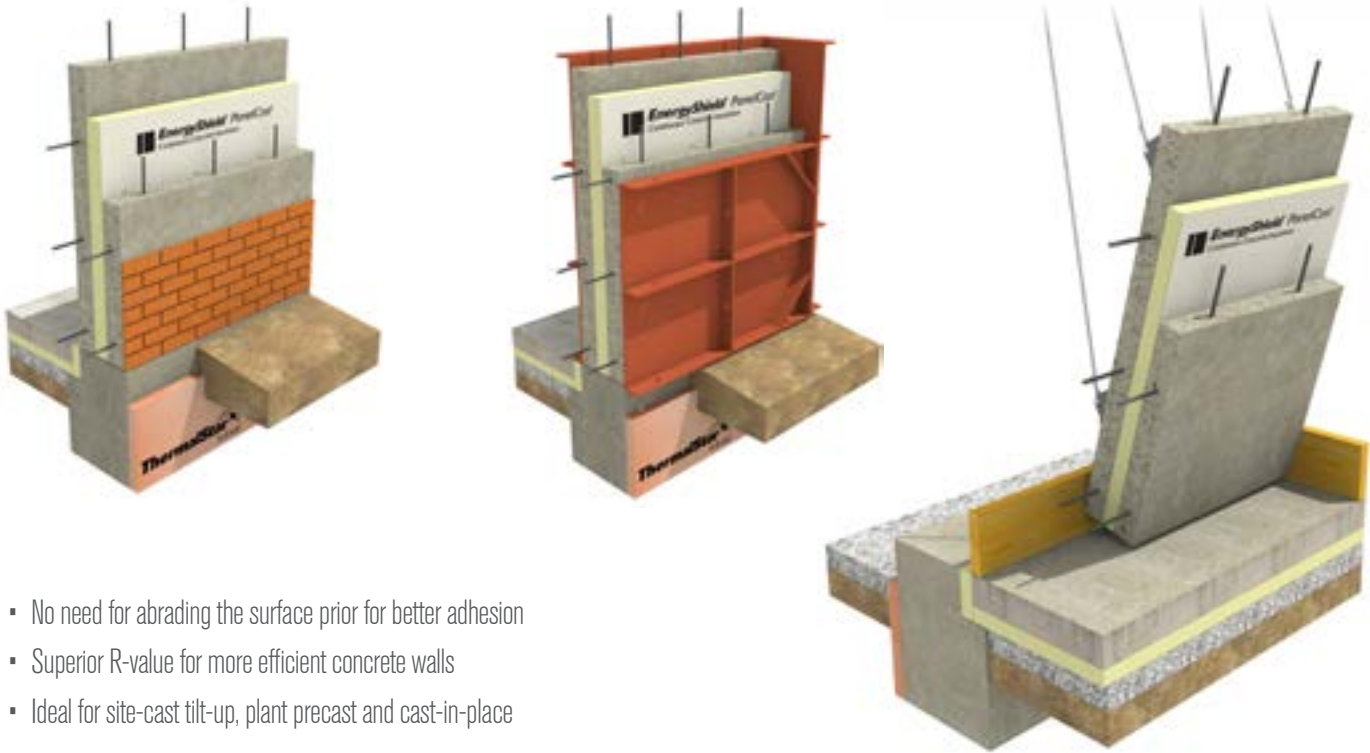
Atlas introduces EnergyShield® PanelCast™, an industry leader in concrete insulation. Based on EnergyShield® CGF technology, EnergyShield PanelCast is coated glass faced insulation that does not require additional labor in the field to prepare it for mounting to concrete surfaces. This efficient, resilient insulation product is vapor permeable, helping to prevent water issues and the formation of mold, providing a better long-term bond to wet concrete than other insulation. EnergyShield PanelCast also includes the full range of EnergyShield CGF benefits such as durability and superior R-value.

COMMERCIAL

EnergyShield PanelCast offers durable, alkali-resistant facers on a high-psi foam core. PanelCast is designed to withstand the harshest jobsite conditions and abuse, while bringing industry leading R-value to every project.

EnergyShield® PanelCast™

Continuous Concrete Insulation



- No need for abrading the surface prior for better adhesion
- Superior R-value for more efficient concrete walls
- Ideal for site-cast tilt-up, plant precast and cast-in-place

Excellent performance
in under slab applications.



FIBER CEMENT, WOOD & SIDING



The versatility of fiber cement, vinyl and wood sidings have made them a mainstay of design. Today's high performance buildings use EnergyShield® products to integrate energy conservation and moisture resistance with their classic visual appeal.

COMMERCIAL

EnergyShield® Pro When your project requires NFPA 285 and Class A performance, turn to EnergyShield Pro products. EnergyShield Pro can be used in a nearly limitless number of commercial wall assemblies with a wide variety of cladding types.

EnergyShield® CGF Pro NFPA 285 compliance and Class A fire performance joined with abuse resistant facers for the ultimate in commercial performance. EnergyShield CGF Pro even includes a black facer for open joint rainscreen designs.

EnergyShield® Ply Pro is a product that helps control labor costs and offers convenience on the jobsite. Faced on one side with fire-resistant plywood, EnergyShield Ply Pro offers users faster installation with fewer steps.

RESIDENTIAL

EnergyShield is a popular choice for Type V residential projects built with wood and traditional siding because of its high R-value, effectiveness as a moisture barrier and its minimal thickness. It's also a cost-effective option with all-around suitability for residential construction.

EnergyShield® CGF is a high-durability option for Type V residential construction, and is especially effective for buildings that need vapor permeable insulation. It's water resistant, rigid and environmentally friendly.



RECOMMENDATIONS



Steel studs, batt cavity insulation, glass-mat faced sheathing, EnergyShield Pro, liquid-applied air and moisture barrier, fiber-cement panel cladding.



Steel studs, batt cavity insulation, glass-mat faced sheathing, EnergyShield CGF Pro with black facer side out and taped joints, metal panels installed with open joints.










Wood studs, batt cavity insulation, wood sheathing, taped joints, EnergyShield, wood battens, fiber-cement siding.



Wood studs, batt cavity insulation, wood sheathing, water resistive membrane, EnergyShield CGF, wood battens, fiber-cement siding.



PRODUCT SELECTOR

PRODUCT	FACER TYPE	TYPE V EXTERIOR	COMMERCIAL WALL TYPE I-V EXTERIOR	TYPE I-V INTERIOR EXPOSED	INSULATED CONCRETE PANELS	ASTM C1289 TYPE, CLASS	FEATURES
 EnergyShield® Continuous Wall Insulation	■	✓ Class B				Type I, Class 1	<ul style="list-style-type: none">Foil facerIntegrated air, water, vapor barrierResidential and light commercial <ul style="list-style-type: none">RenovationAttics and crawlspaces
 EnergyShield® CGF Continuous Wall Insulation	●	✓ Class B				Type II, Class 2	<ul style="list-style-type: none">Integrated air, water barrierResidential and light commercialReversible <ul style="list-style-type: none">RenovationMicrobial resistantAttics and crawlspaces
 EnergyShield® Pro Continuous Wall Insulation	■		✓ NFPA 285 & Class A	✓ NFPA 286 & Class A		Type I, Class 1 Type I, Class 2	<ul style="list-style-type: none">Printed foil facer on one side, white on the otherIntegrated air, water, vapor barrierEnhanced fire resistance (NFPA 285 & 286)Commercial interiors <ul style="list-style-type: none">Commercial exteriorsReversibleBasements
 EnergyShield® CGF Pro Continuous Wall Insulation	●		✓ NFPA 285 & Class A			Type II, Class 2	<ul style="list-style-type: none">Coated glass facerIntegrated air, water barrierEnhanced fire resistance (NFPA 285) <ul style="list-style-type: none">Commercial exteriorsOne side black for open joint rainscreenMicrobial resistant
 EnergyShield® Ply Pro Continuous Wall Insulation	●		✓ NFPA 285 & Class A			Type V	<ul style="list-style-type: none">Coated glass facer laminated to FRT plywoodEnhanced fire resistance (NFPA 285)Commercial exteriors (primarily metal panel) <ul style="list-style-type: none">Microbial resistantCan be installed with or without exterior gypsum in countless NFPA 285 approved wall assemblies
 EnergyShield® PanelCast® Continuous Concrete Insulation	●			✓	✓	Type II, Class 2	<ul style="list-style-type: none">R-value superior to XPS and EPSDurable coated glass facersMicrobial resistantPrecast concrete <ul style="list-style-type: none">Architectural concrete sandwich panelsAlkali resistant facersHigher performance finished product
 Stucco-Shield® Continuous Wall Insulation	●	✓ Class B				Type II, Class 2	<ul style="list-style-type: none">Designed for use in stucco assembliesHigher performance finished productAlkali resistantCoated glass facers <ul style="list-style-type: none">4' x 8' boards reduce joints and laborAlkali resistant facersR-value superior to XPS and EPS

This product information has been compiled for your convenience. Please check your local building codes for compliance.

■ FOIL FACED POLYISO THERMAL DATA

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NOMINAL BOARD THICKNESS ³	0.5"	0.75"	1.0"	1.5"	1.6"	2.0"	2.5"	3.0"	3.5"	4.0"

¹Conditioned thermal values were determined by ASTM Test Method C 518 at 75° mean temperature. Test specimens were conditioned in accordance with procedures outlined in ASTM C1285, Section 11.1.2.1.
²"R" means resistance to heat flow. The higher the R-value, the greater the insulating power.
³Other sizes available upon request. Contact your local Atlas sales office.

● COATED GLASS FACED POLYISO THERMAL DATA

R-VALUE ^{1,2}	3.0	4.5	6.0	9.0	12.1	15.3	18.5	21.7	25.0
NOMINAL BOARD THICKNESS ³	0.5"	0.75"	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"



 **EnergyShield[®]**
Continuous Wall Insulation



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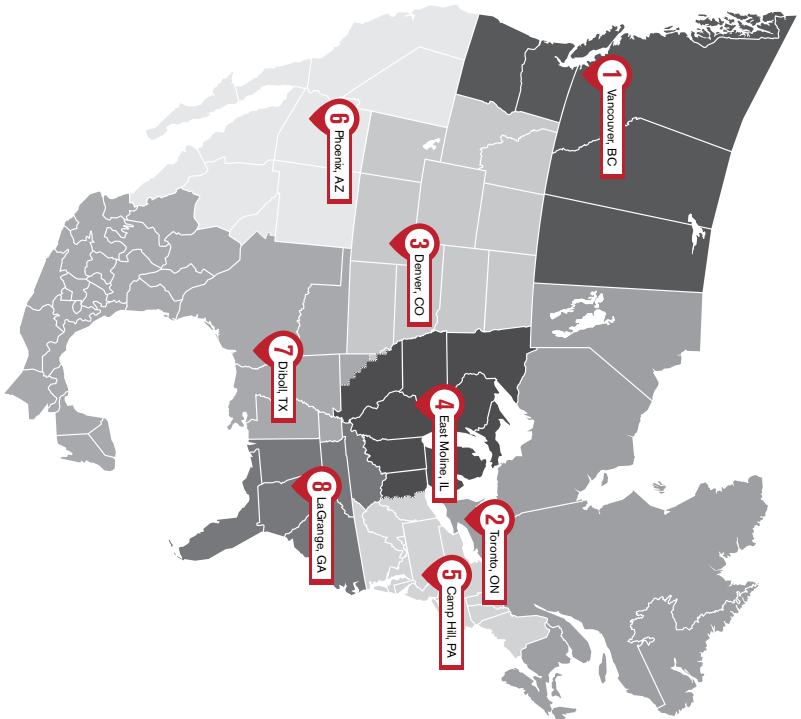
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