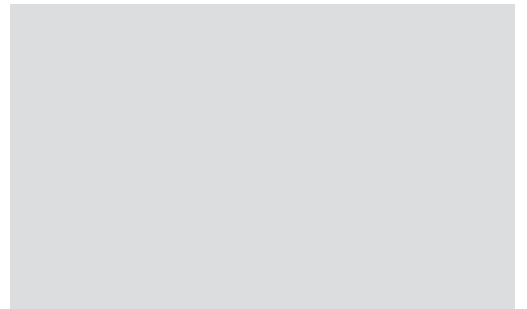


POLYISO INSULATION PRODUCTS



Building Energy Efficiency



BUILDING VALUE



12-02-02 CO: 1

VERSICO ROOFING SYSTEMS: **BUILDING VALUE**

Versico was formed in 1993 through the acquisition of a major single-ply roofing manufacturer. Since then, Versico has positioned itself as one of the top single-ply roofing system suppliers in the U.S. by focusing its efforts on developing and manufacturing the industry's most innovative, highest quality products to enhance building performance and promote sustainability, in addition to providing exceptional service.

One of the simplest ways to support sustainability through construction practices is through the use of insulation. Versico's lightweight, cost-effective polyisocyanurate (polyiso) insulation products provide energy-efficient solutions for buildings in any region and climate, as well as outstanding return on investment and significant energy savings. With an industry leading nine polyiso manufacturing lines strategically positioned throughout North America, Versico is able to provide on-time delivery of its innovative insulation products to any jobsite.

POLYISO INSULATION PRODUCTS

Superior Insulation

Polyiso is a closed-cell, rigid foam board insulation used primarily in offices, health facilities, warehouses, retail buildings, industrial manufacturing facilities, and educational institutions. Because of its high thermal performance, polyiso is the product of choice for energy-conscious consumers who are looking to reduce energy consumption and costs.

Polyiso is one of North America's most widely-used and cost-effective insulation products and has been promoted by the U.S. Environmental Protection Agency for its responsible impact on the environment.

ENERGY-EFFICIENT POLYISO INSULATION

Features and Benefits

- Highest R-value per inch of any commercially available roof insulation
- Unmatched roof design flexibility
- Outstanding installed cost advantages
- Compatible with all single-ply membranes
- Minimal water absorption and vapor transmission
- Exceptional fire resistance (FM 4450 and UL 1256 approvals)
- Zero ODP
- HFC & HCFC free blowing agents
- Polyiso Roof Insulation Boards Environmental Product Declaration
- Quality Mark^{CM} third-party certification for Long-Term Thermal Resistance (LTTR)
- Superior compressive strength
- Excellent dimensional stability
- Readily available throughout North America
- Contains post-industrial recycled content

The Best Option

Polyiso insulation offers the highest level of thermal performance of any rigid foam insulation on the market, providing design flexibility while remaining cost-effective, energy-efficient, and environmentally responsible. Polyiso is the only insulation product that reports Long Term Thermal Resistance. It's also the only insulation that offers QualityMark thermal resistance validation.

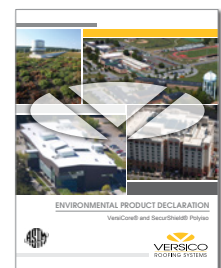
The QualityMark Program is a voluntary program exclusively for manufacturers of polyisocyanurate roof insulation (ASTM C1289, Type II, Class I, Grade 2) in Canada and the United States. The program enables participants to obtain third-party certification of long-term thermal resistance (LTTR) values for insulation products independently selected from manufacturing locations. LTTR certification testing is completed every three years at each location. Additionally, the program provides third-party verification of thermal resistance values (R-values) tested in accordance with the ASTM C518 standard for full thickness products independently selected from distribution locations. R-value verification testing is completed with samples representing each manufacturing location on a quarterly basis. Both LTTR-value certification and R-value verification are required components of the program for participating manufacturers.



Environmentally Sound

Polyiso insulation provides the highest net return on embedded energy and the lowest global warming potential of all rigid commercial roof insulation choices.

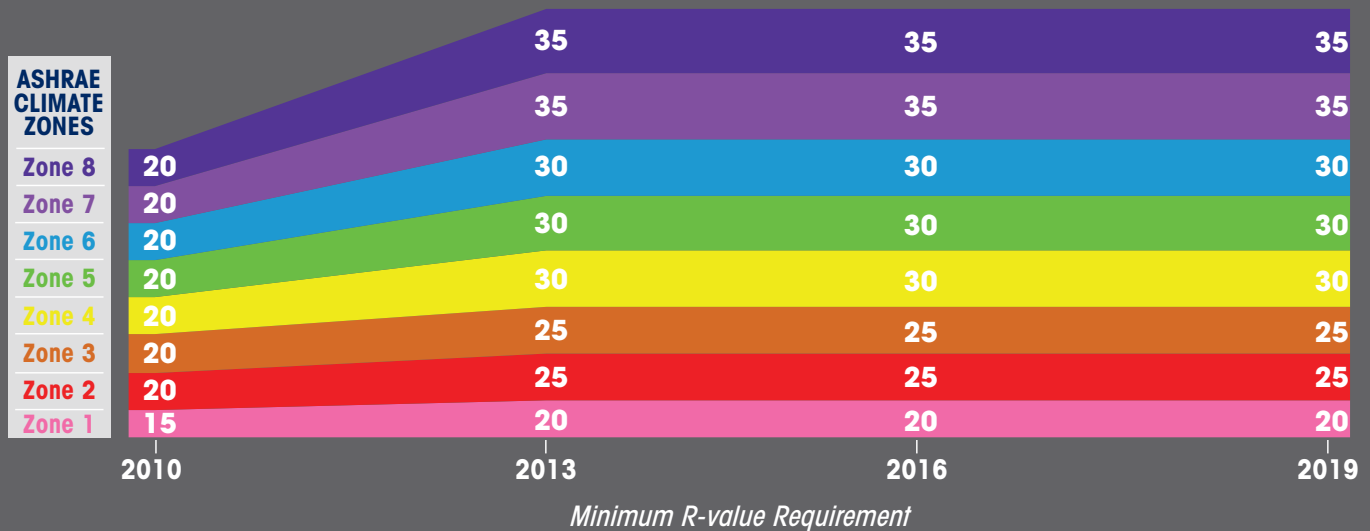
- Zero ozone depletion potential
- HFC & HCFC free blowing agents
- LEED® benefits





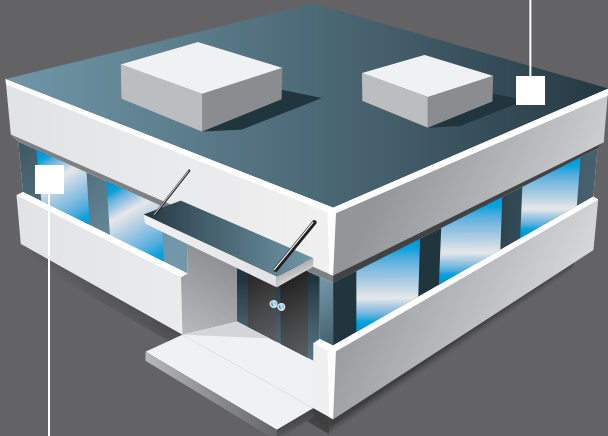
Code Requirements

Code required R-values have increased substantially in a short period of time based upon the growing recognition of the positive impact insulation usage has on reducing energy consumption. A building owner only gets one chance to increase the insulation in the roof system approximately every 20 years. Consider future energy requirements and associated energy costs over the entire lifespan of the installed roof system when making these important decisions.



ENERGY SAVINGS

EPDM - 20-year roof



One-story office building - 50,000 sq. ft.

Additional R-10 Insulation

What is the true cost of adding insulation to a roof system? Adding R-10 to the building above would cost approximately \$31,000 in insulation product. Modeled Energy Savings based on various locations are displayed to the right.

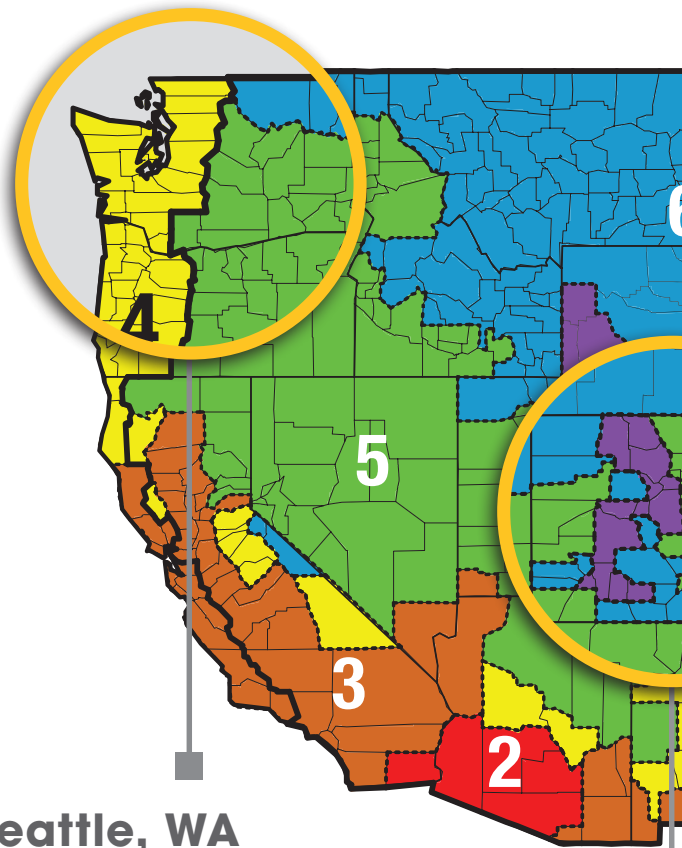
*Electric @ \$0.10/kWh and gas @ \$8.59/1000 cubic ft.
Energy costs assuming 2% annual inflation
Results generated by ORNL's Roof Savings Calculator.*

Minneapolis, MN

ZONE: 6

R-20 VS. R-30 SAVINGS: \$140,049

PAYBACK IN YEARS: 6



Seattle, WA

ZONE: 4

R-20 VS. R-30 SAVINGS: \$101,911

PAYBACK IN YEARS: 7

Denver, CO

ZONE: 5

R-20 VS. R-30 SAVINGS: \$99,027

PAYBACK IN YEARS: 7

Chicago, IL

ZONE: 5

R-20 VS. R-30 SAVINGS: \$118,811

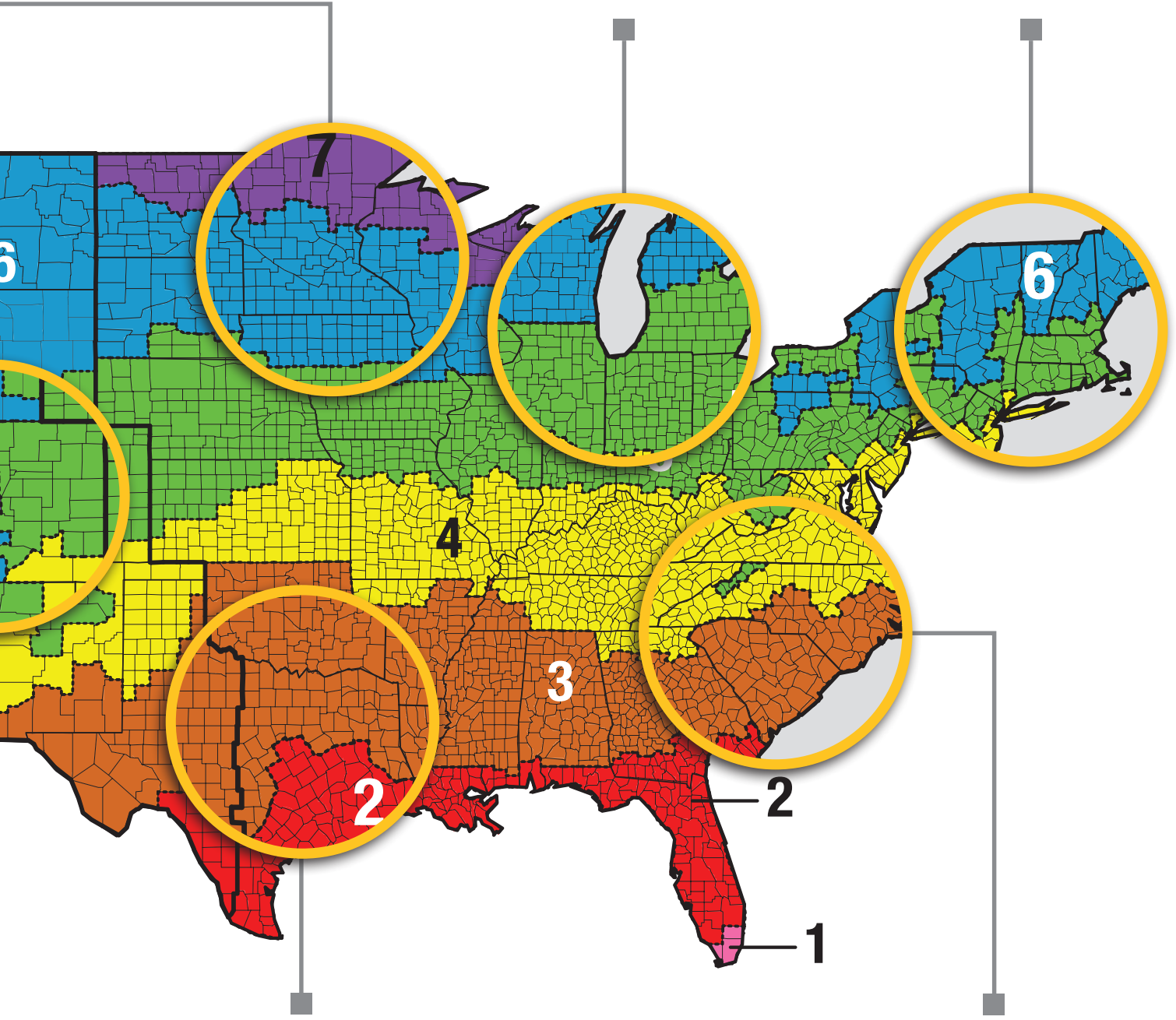
PAYBACK IN YEARS: 7

Boston, MA

ZONE: 5

R-20 VS. R-30 SAVINGS: \$107,371

PAYBACK IN YEARS: 7



Dallas, TX

ZONE: 3

R-20 VS. R-30 SAVINGS: \$70,454

PAYBACK IN YEARS: 10

Charlotte, NC

ZONE: 4

R-20 VS. R-30 SAVINGS: \$75,399

PAYBACK IN YEARS: 10

POLYISO INSULATION PRODUCTS TO MEET EVERY NEED

VersiCore® - A Strong Core

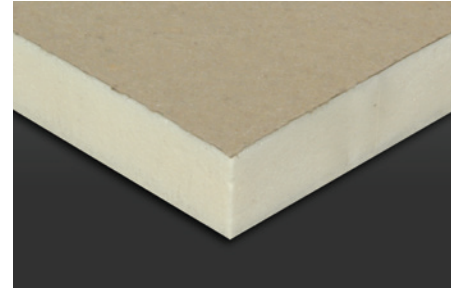
An effective Polyiso insulation used as the foundation for most Versico single-ply, low-slope commercial rooftop applications. The glass-reinforced felt (GRF) facer is compatible with all membranes, including VersiFleece® and all adhesives, including self-adhered technologies.

- VersiCore polyiso insulation provides the highest R-value per inch of any commercially available roof insulation products
- Environmentally friendly construction with 0% ozone-depleting components and HFC & HCFC free
- Approved for direct application to steel decks

DuraFaceR® - Ultimate Defense

The ultimate defense in the harshest of environments. OSB cover board combined with InsulBase insulation to create a single product. DuraFaceR OSB composite insulation is the definitive solution where enhanced hail and uplift resistance are required.

- A superior combination of high-insulating properties and a resilient OSB surface, ideal for high-traffic roof installations
- Higher wind uplift performance
- Composite of insulation and cover board saves handling and installation labor
- Suitable for new construction and re-roofing on commercial projects – Incorporates APA-TECO-rated exposure 1 oriented strand board
- Environmentally friendly construction with 0% ozone-depleting components and HFC & HCFC free
- Approved in FM Very Severe Hail (VSH) roofing assemblies
- 8 fastener FM 1-90 rating with standard plates and fasteners



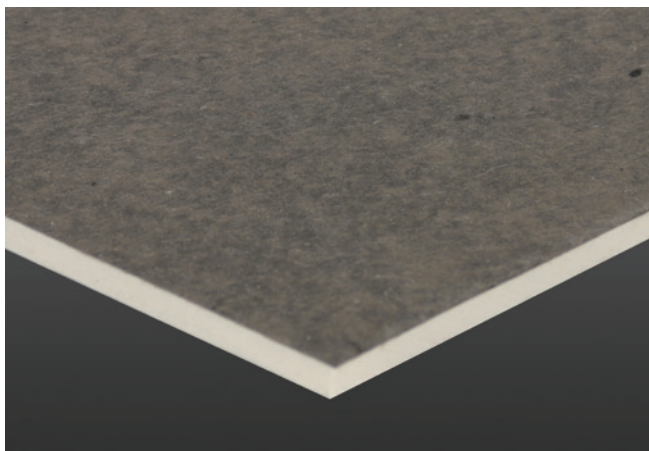
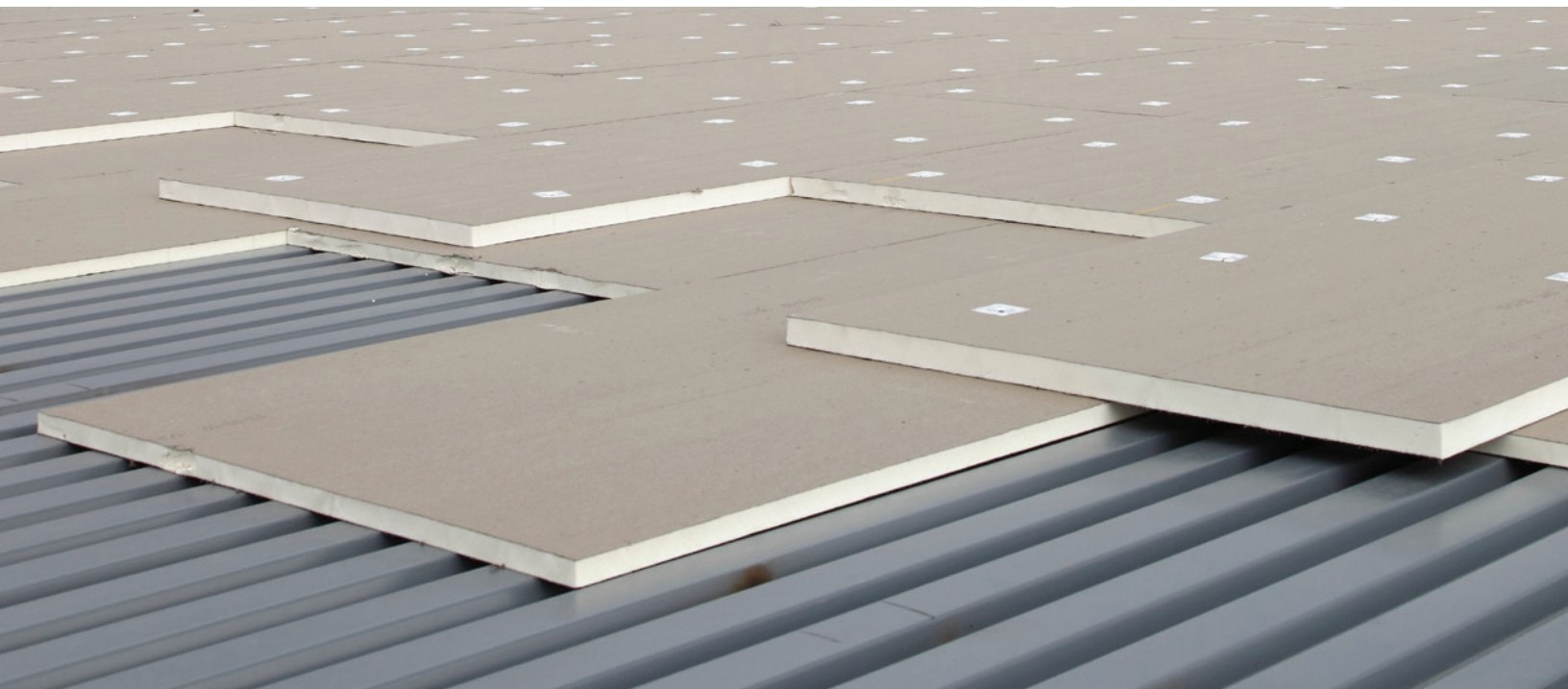
VersiCore

A rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded to **glass-reinforced felt (GRF) facers**. UL and FM approved for direct application over steel decks, polyiso provides the highest R-value per inch of any commercially available roof insulation product.



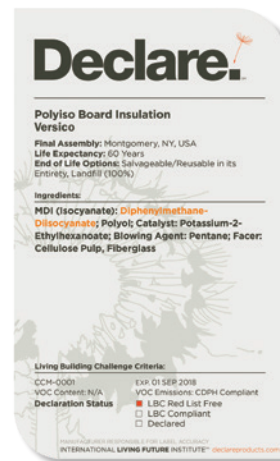
DuraFaceR

A rigid roof insulation composite panel composed of a closed-cell polyisocyanurate foam core bonded to a **glass-reinforced felt (GRF) facer** on one side and 7/8" oriented strand board (OSB) on the other.



VersiCore HD

A rigid roof insulation panel composed of 1/2" high-density, closed-cell polyisocyanurate foam core bonded to glass-reinforced felt (GRF) facers specifically designed to be used as a cover board in mechanically-fastened or induction-welded systems only. Provides 5 times the R-value at one-fifth the weight of traditional gypsum cover boards



VersiCore NH

A Living Building Challenge (LBC) "Red List Free" rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded to the appropriate facer. VersiCore NH and SecurShield NH contain **zero halogenated flame retardants**.

SECURSHIELD® WITH READYFLASH® TECHNOLOGY - ENHANCED PERFORMANCE



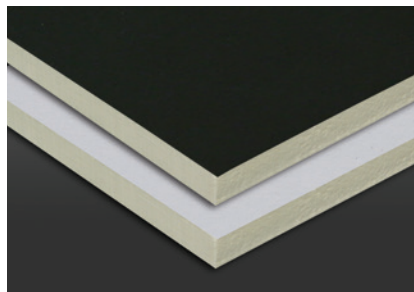
SecurShield - Enhanced Performance

Enhanced performance through superior moisture resistance. The coated glass facer (CGF) is compatible with all membranes, adhesives, and ideal for use with adhered membranes. Offering increased resistance to foot traffic, hail, wind uplift and fire, the SecurShield family of products offer the **best value** in Polyiso insulation for low-slope commercial rooftop applications.



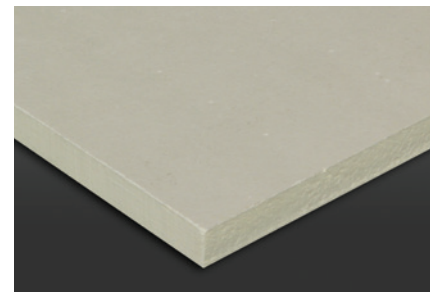
SecurShield

A rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded to high performance **coated glass facers (CGF)**. Ideal for use in adhered membrane systems.



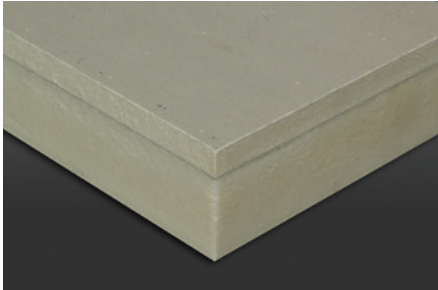
SecurShield HD

A rigid roof insulation panel composed of ½" high-density, closed-cell polyisocyanurate foam core bonded to a premium performance coated glass facer (CGF) specifically designed for use as a **cover board**. Provides 5 times the R-value at one-fifth the weight of traditional gypsum cover boards.



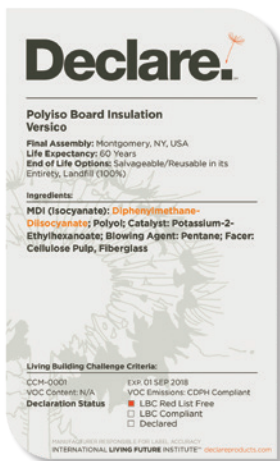
SecurShield HD Plus

A rigid roof insulation panel composed of a ½" high-density, closed-cell polyisocyanurate foam core bonded to a premium performance coated glass facer (CGF) specifically designed for use as a **cover board**. Enhanced performance of the HD Plus product provides a **FM 1-90 wind uplift rating with only 8 fasteners**.



SecurShield HD Composite

A unique composite insulation panel comprised of a ½" high-density polyiso cover board bonded during the manufacturing process to SecurShield rigid polyiso roof insulation. Eliminates the need for a separate cover board, reduces inter-ply adhesives and saves labor on the roof. **A single product solution.**



SecurShield NH

A Living Building Challenge (LBC) “Red List Free” rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded to the appropriate facer. VersiCore NH and SecurShield NH contains **zero halogenated flame retardants.**

ReadyFlash Technology

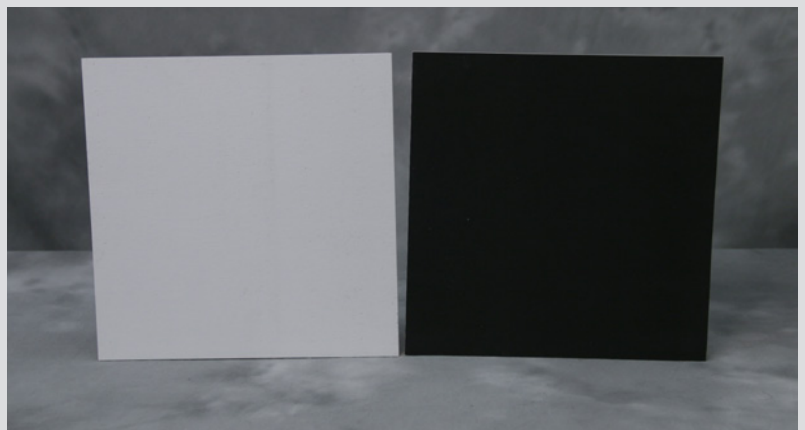
ReadyFlash Technology allows contractors to manage adhesive flash-off times by choosing between two different-colored facers on every board. ReadyFlash products feature a dark-colored coated glass facer (CGF) on one side of the insulation board and a light-colored CGF on the other. ReadyFlash Technology comes standard on SecurShield flat and SecurShield HD polyiso products.

ReadyFlash TECHNOLOGY

Utilizing the sun’s energy, the dark facer accelerates adhesive flash-off, while the light facer slows it down. Contractors can choose which side of the board to use, helping to offset environmental variables affecting adhesive flash-off; such as temperature, sunlight, humidity, wind speed, size of crew, current pace, and time of day.

ReadyFlash Technology benefits:

- Allows the contractor to speed up or slow down adhesive flash-off time
- Increases surface temperature of the dark facer up to 50°F (28°C) above ambient temperature
- Decreases surface temperature of the light facer up to 10°F (6°C) below ambient temperature
- Provides up to 4x faster adhesive flash-off when utilizing the dark facer



RAPIDLOCK TECHNOLOGY

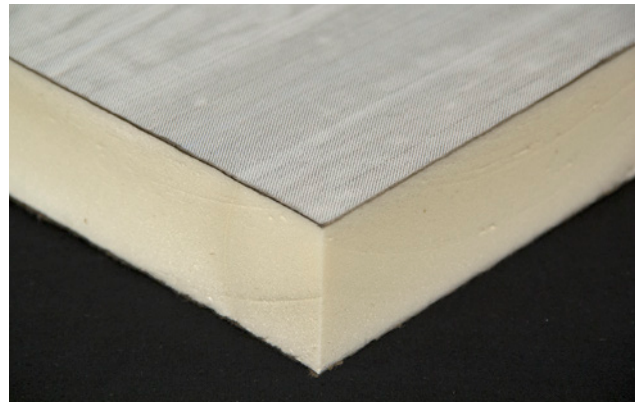
Revolutionary Membrane Attachment Method



Versico's RapidLock (RL™) Roofing System is a revolutionary membrane attachment method that provides a fully adhered system without the use of adhesives. The RL system utilizes VELCRO® Brand Securable Solutions along with VersiFleece RL EPDM, VersiFleece RL TPO, or VersiFleece RL PVC to achieve performance on par with traditional fully adhered single-ply systems. Underlayment options include VersiCore RL, SecurShield RL, SecurShield HD RL, and SecurShield HD Composite RL Polyiso. The RL system is VOC- and odor-free, has no bottom-end application temperature restrictions, and provides significant rooftop labor savings due to its ease of installation.

RapidLock

TECHNOLOGY



RapidLock Membrane

- VersiFleece RL EPDM
- VersiFleece RL TPO
- VersiFleece RL PVC

RapidLock Insulation

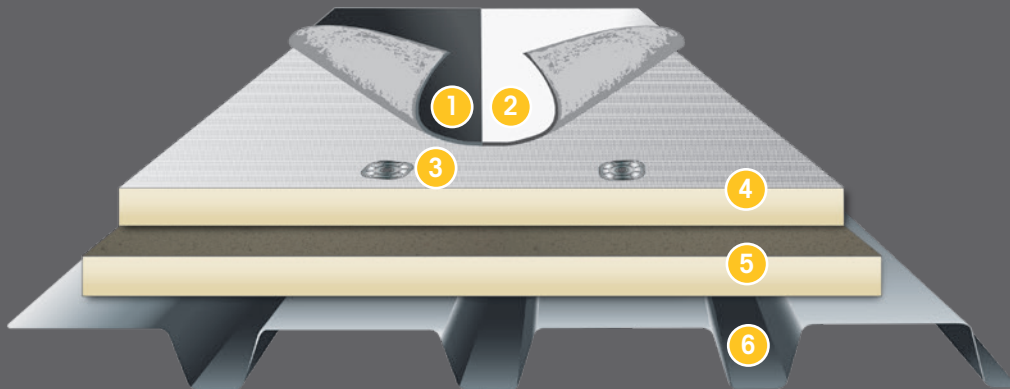
- VersiCore RL
- SecurShield RL
- SecurShield HD RL
- SecurShield HD Composite RL

System Features And Benefits

- No application temperature restrictions
- VOC- and odor-free
- Adhesive-less system saves time and labor
- Integrated slip sheet lightly adhered to VersiFleece for ease of installation
- Factory Mutual wind uplift ratings similar to traditional fully adhered VersiFleece systems
- Excellent resistance to hail and punctures
- Total System Warranties up to 30 years



RapidLock Roofing System



- 1 VersiFleece RL EPDM Membrane with RapidLock Technology
- 2 VersiFleece RL TPO or VersiFleece RL PVC Membrane with RapidLock Technology
- 3 Insulation Fasteners and Plates
- 4 VersiCore RL or SecurShield RL Polyiso with RapidLock Technology
- 5 VersiCore or SecurShield Polyiso
- 6 Steel Deck

ENGINEERED FOR POSITIVE ROOF DRAINAGE

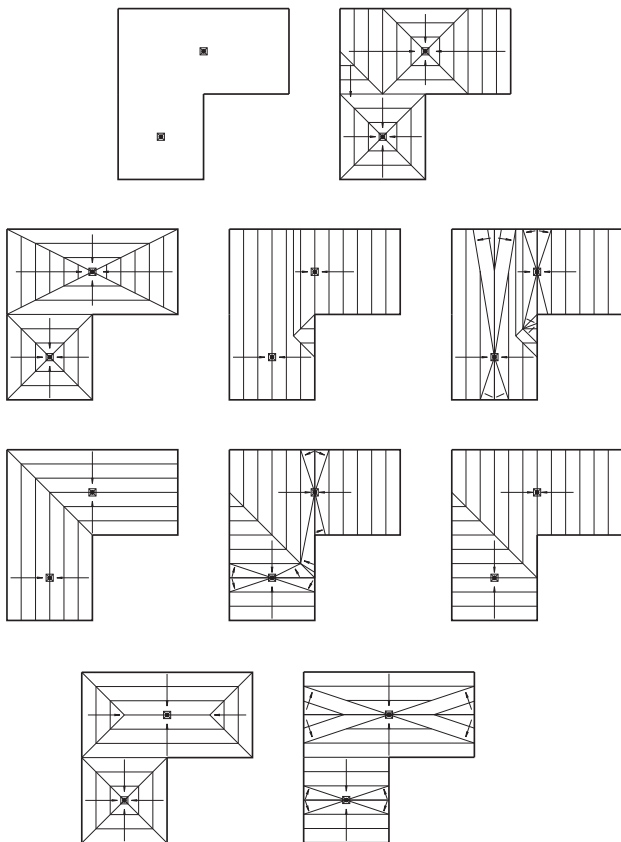


Tapered Systems

StormFlow Technology

Buildings with poor roof drainage may experience issues that can compromise their long-term performance. A properly designed tapered insulation system can help to minimize the detrimental effects of ponding water while providing the required R-value and reducing energy consumption.

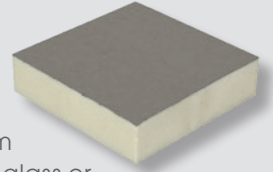
Versico can offer recommendations that address each building's unique requirements while increasing energy-efficiency and ensuring positive drainage. Versico's tapered design experts have over 100 years of collective experience and can provide a 24-hour turnaround on most tapered design requests.



Tapered Insulation Options

Tapered Polyiso

A sloped, rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded to a coated glass or fiber-reinforced facer. Designed to **promote positive drainage** and prevent ponding water.



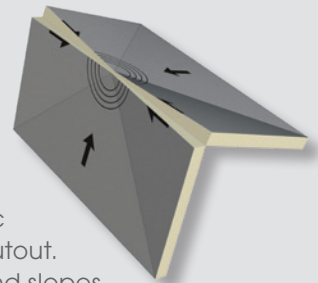
Pre-Cut Hips and Valleys

For use in tapered polyiso systems, Versico's Pre-Cut Hips and Valleys arrive ready to install and **require no field cuts**, saving time and labor. Custom-designed to meet job requirements, including slope and thickness, with no waste.



Hinged Target Sumps

Designed for use in tapered polyiso systems, Versico's Hinged Target Sumps arrive ready to install, **saving valuable time on the roof**. Concentric circles simplify drain cutout. Multiple thicknesses and slopes are available to accommodate specific job conditions with no waste.



CLASSIFICATIONS, COVER BOARD, AND INSULATION OPTIONS

ASTM C1289 Polyiso Roofing Insulation Classifications

Type II			Type V
			OSB on one side with reinforced felt or glass fiber mat on the other side
Class 1 Glass-reinforced felt (GRF) facers on both sides	Class 2 Coated glass (CGF) facers on both sides	Class 4 Coated glass (CGF) facers on both sides (1/2" max thickness)	
Available in: Grade 2 (20 PSI) Grade 3 (25 PSI)	Available in: Grade 2 (20 PSI) Grade 3 (25 PSI)	Available in: Grade 1 (80 PSI min, 109 PSI max)	Available in: Grade 2 (20 PSI)
VersiCore Insulation VersiCore Tapered Insulation VersiCore NH Polyiso VersiCore RL Polyiso VersiCore HD Polyiso	SecurShield Insulation SecurShield Tapered Insulation SecurShield RL Polyiso SecurShield NH Polyiso	SecurShield HD Insulation SecurShield HD Plus Insulation SecurShield HD RL Polyiso SecurShield HD Composite Polyiso SecurShield HD Composite RL	DuraFaceR Insulation

Cover Board Options

High-Density Polyisocyanurate Cover Boards

Cover Board	Thickness	Direct Membrane Attachment
VersiCore HD	1/2"	Mechanically-Fastened
SecurShield HD	1/2"	Mechanically-Fastened Fully-Adhered
SecurShield HD Plus	1/2"	Fully-Adhered
SecurShield HD RL	1/2"	Hook & Loop

Insulation Options

Polyisocyanurate Insulation Glass-Reinforced Felt (GRF) Facers

Insulation	Thickness	Direct Membrane Attachment
VersiCore	1/2" - 4 1/2" (available in taper)	Fully-Adhered Mechanically-Fastened Ballasted
VersiCore NH	1/2" - 4 1/2" (available in taper)	Fully-Adhered Mechanically-Fastened Ballasted
VersiCore RL	2", 2.6"	Hook & Loop

Polyisocyanurate Insulation Coated Glass Facers (CGF)

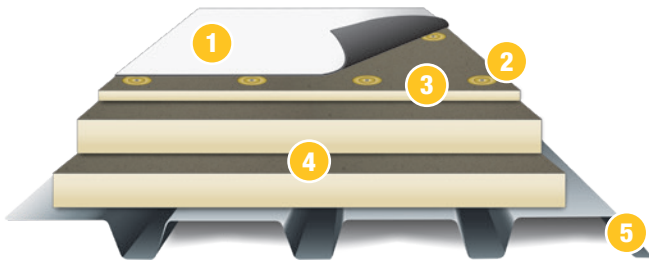
SecurShield	1/2" - 4 1/2" (available in taper)	Fully-Adhered Mechanically-Fastened Ballasted
SecurShield NH	1/2" - 4 1/2" (available in taper)	Fully-Adhered Mechanically-Fastened Ballasted
SecurShield RL	2", 2.6"	Hook & Loop

Composite Polyiso

SecurShield HD Composite	1 1/2" to 4 1/2"	Fully-Adhered Mechanically-Fastened
SecurShield HD Composite RL	2" to 4"	Direct Membrane Attachment: Hook & Loop

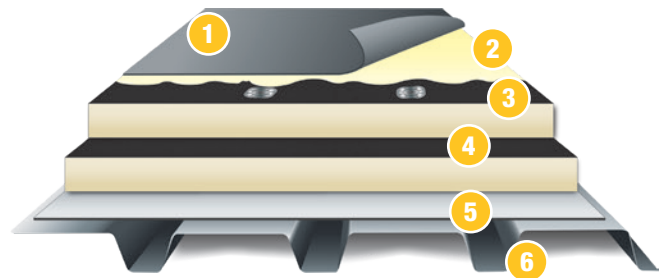
TYPICAL APPLICATIONS

VersiCore HD Polyiso Insulation



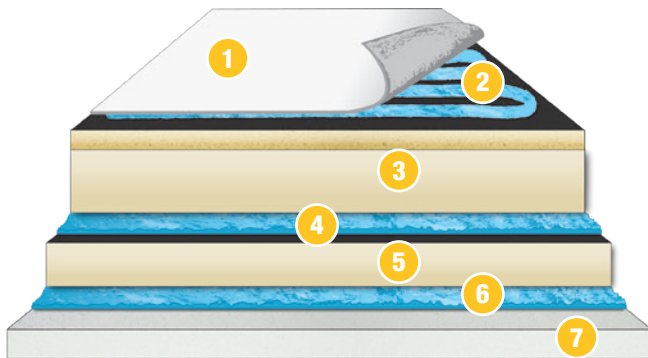
- 1 Versico Mechanically Attached TPO Membrane
- 2 Induction Welded Plates with Fasteners
- 3 1/2" VersiCore HD
- 4 2 Layers of VersiCore Polyiso Insulation
- 5 Metal Deck

SecurShield Polyiso Insulation with ReadyFlash Technology



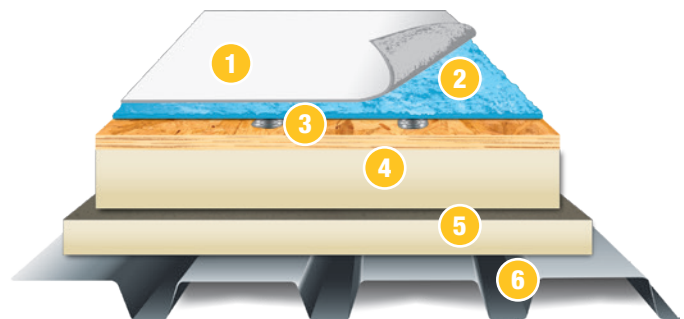
- 1 Versico Adhered EPDM Membrane
- 2 Versico Bonding Adhesive
- 3 Insulation Fasteners and Plates
- 4 2 Layers of SecurShield Polyiso Insulation with ReadyFlash Technology
- 5 VapAir Seal™ MD
- 6 Metal Deck

SecurShield HD Composite



- 1 Versico Adhered VersiFleece TPO Membrane
- 2 Flexible DASH Adhesive
- 3 SecurShield HD Composite Polyiso Insulation
- 4 Flexible DASH Adhesive
- 5 SecurShield Polyiso Insulation with ReadyFlash Technology
- 6 Flexible DASH Adhesive
- 7 Concrete Deck

DuraFaceR Polyiso Insulation



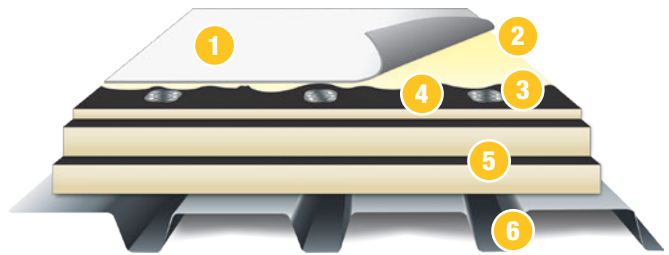
- 1 Versico Adhered VersiFleece TPO Membrane
- 2 Flexible DASH Adhesive
- 3 Insulation Plates and Fasteners
- 4 DuraFaceR Polyiso Insulation
- 5 VersiCore Polyiso Insulation
- 6 Metal Deck

Wood Deck



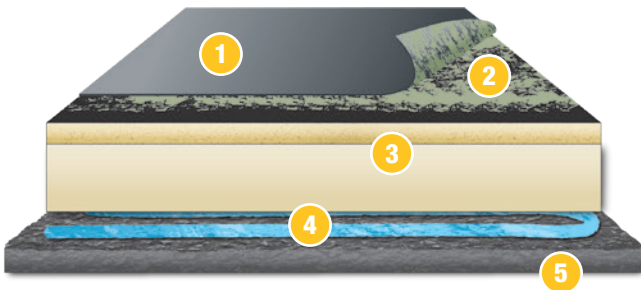
- 1 Versico Mechanically Attached TPO Membrane
- 2 HPVX Plates
- 3 Insulation Fasteners and Plates
- 4 1" SecurShield Polyiso Insulation with ReadyFlash Technology
- 5 Wood Deck

SecurShield HD Polyiso Insulation with ReadyFlash Technology



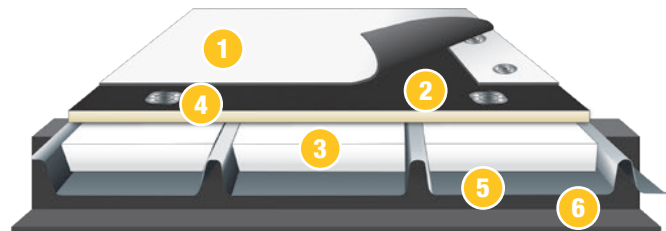
- 1 Versico Adhered PVC Membrane
- 2 Low-VOC PVC Bonding Adhesive
- 3 Insulation Fasteners and Plates
- 4 1/2" SecurShield HD Polyiso Insulation with ReadyFlash Technology
- 5 Base layers of SecurShield Polyiso with ReadyFlash Technology
- 6 Metal Deck

Gravel BUR Recover



- 1 Versico Adhered EPDM Membrane
- 2 CAV-GRIP® 3V Spray Adhesive
- 3 SecurShield HD Composite Polyiso Insulation
- 4 Flexible DASH Adhesive
- 5 Existing Gravel BUR System

Polyiso Insulation Over Flute Fill



- 1 Versico Mechanically Attached TPO Membrane
- 2 HPVX Plates
- 3 Insulation Fasteners and Plates
- 4 1/2" SecurShield HD Polyiso Insulation with ReadyFlash Technology
- 5 Flute Fill Insulation
- 6 Existing Metal Roof



A SINGLE SOURCE FOR SINGLE-PLY ROOFING

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