

TPO Roofing Systems



**BUILDING SOLUTIONS**



## Why Choose TPO?

Thermoplastic polyolefin (TPO) membranes are the fastest-growing segment in the commercial roofing industry and are highly reflective and heat/UV resistant. TPO membranes first became commercialized for roofing membranes in the late 1980's and since 2007 has been the largest market segment of low-slope roofing.

Versico Roofing Systems' VersiWeld TPO membrane is comprised of three layers – a TPO polymer base; a strong, polyester-reinforced fabric center (scrim) and a tough thermoplastic polyolefin compounded top-ply. Because the top-ply is the most vital membrane component for long-term weathering characteristics, Versico manufactures all of its TPO membranes with an industry leading thicker top-ply over scrim. VersiWeld TPO is also packed with the industry leading OctaGuard XT™ weathering package, a combination of ingredients that allow VersiWeld TPO to stand up to the toughest weather conditions and stand the test of time.

# WHY CHOOSE **VERSIWELD®** TPO?

## Advantages of VersiWeld TPO



**Cleaner Surface**



**Long-term Energy Efficiency in Warm, Southern Climates**



**Greater Weather Resistance**



**Improved Long-term Performance**



**Excellent Heat and UV Resistance**



**Industry Leading Weathering Package**

## The Tests

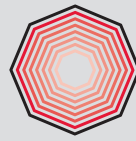
TPO membrane samples from four manufacturers, including Versico, were recently subjected to accelerated heat aging in a controlled 240°F environment. Heat aging accelerates the impact that heat plays on TPO and evaluates its performance on the roof. Samples were removed when they showed signs of cracking or were deemed not suitable to perform as a waterproofing membrane. Extreme Xenon Arc Weatherometer testing also reveals that VersiWeld TPO can withstand twice the ASTM D6878 requirement of 10,080 kJ/m<sup>2</sup> without losing its desired physical properties.

## The Results

Independent test results and a chemical analysis show that VersiWeld TPO with OctaGuard XT contains more weather-protecting ingredients than any other TPO membrane tested, which means Versico's TPO provides superior long-term protection against the dangers of heat and UV exposure.

With Versico's VersiWeld TPO, featuring OctaGuard XT weathering package, you get a whiter, cleaner and more energy-efficient, longer-lasting and weather-resistant TPO roofing system. Versico's VersiWeld TPO with OctaGuard XT weathering package technology has set a new standard in the thermoplastic single-ply industry.

Versico has been at the forefront of TPO development for nearly 20 years and continues to lead the industry with its high-performance OctaGuard XT weathering package that is incorporated into VersiWeld TPO membrane and accessories. OctaGuard XT weathering package technology is comprised of eight performance-enhancing ingredients, including three heat-stabilizing antioxidants and three UV light stabilizers as well as organic and inorganic UV absorbers. When combined, these eight ingredients provide a weathering package second to none in the TPO industry.



**OCTAGUARD XT**  
WEATHERING PACKAGE

### Whiter, Longer

As a white membrane collects dirt, the cost savings associated with having a reflective roof are severely reduced and the higher associated temperatures can accelerate aging. The time-tested VersiWeld TPO compound, which includes OctaGuard XT along with Versico's state-of-the-art manufacturing process, produces one of the smoothest TPO sheets on the market. The extremely smooth top ply of Versico's TPO reduces the ability of dirt, mold, bacteria and other contaminants to collect on the membrane, keeping it whiter longer and increasing the efficiency and potential lifespan of your TPO roof.

### Sustainability

Versico is committed to driving measurable results that will contribute to our legacy of sustainability. Our long history of responsible and sustainable practices extends to the development and production of our highly engineered, energy efficient products and solutions such as VersiWeld TPO roof systems.

Versico's highly reflective VersiWeld TPO membranes can help reduce the urban heat island effect, reduce energy consumption in warm climates, and contribute to sustainable building certifications such as LEED® and Living Building Challenge. Sustainable attributes include:

- 10% pre-consumer recycled content
- Fully recyclable when used in mechanically attached systems
- 3<sup>rd</sup>-Party verified Environmental Product Declaration available
- NSF P151 certification for rainwater catchment\*
- Certified by the Cool Roof Rating Council and California Title 24 compliant\*\*
- Free of Living Building Challenge red list chemicals

\*White membrane only, produced in Tooele, UT

\*\*White and Tan only

### Reflectivity Warranty

Versico backs their commitment to long-term performance and energy-efficiency with an industry-leading 10-year Reflectivity Warranty on all white TPO membranes. A warranty backed by a company with over 50 years of single-ply manufacturing experience.

Benefits of a Versico VersiWeld TPO roof system featuring the OctaGuard XT weathering package include:

- Cleaner surface
- Long-term energy efficiency in warm, southern climates
- Greater weather resistance
- Improved long-term performance
- Heat and UV resistance

### Heat Aging Following ASTM D6878 Protocol



Versico VersiWeld – 60 Weeks (No Failure)

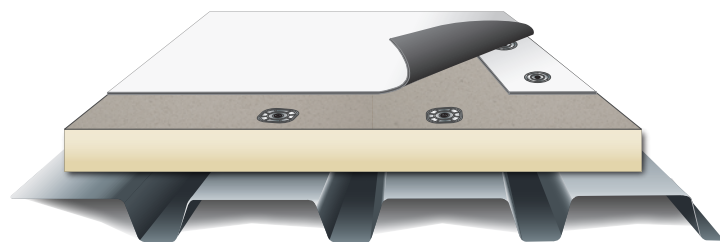


"Competitor C" TPO – 37 Weeks

# SYSTEM OPTIONS

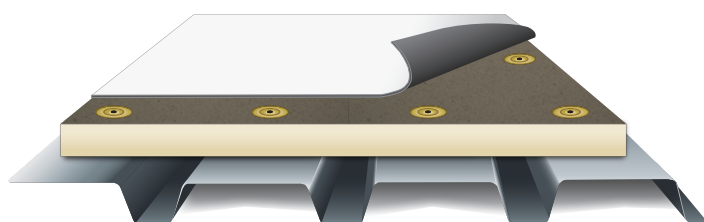
## Mechanically Attached Systems

Mechanically Attached Systems require mechanical attachment of the insulation to the deck and mechanical attachment of the membrane within the seam area. Adjoining membrane sheets are overlapped and joined together by hot-air welding.



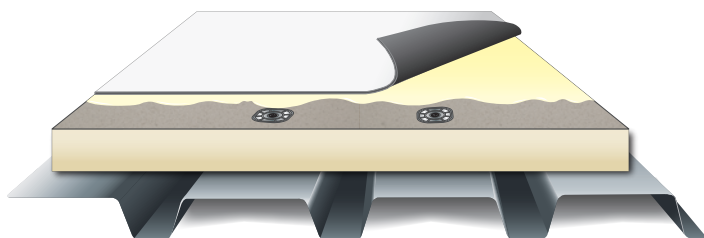
## Induction Welded Systems

Induction welded systems use fasteners and specially coated plates to secure both the insulation and membrane. Each coated plate is heated with a special induction tool and then cooled using a magnet to secure the membrane to each plate. Adjoining membrane sheets are overlapped and joined together by hot air welding.



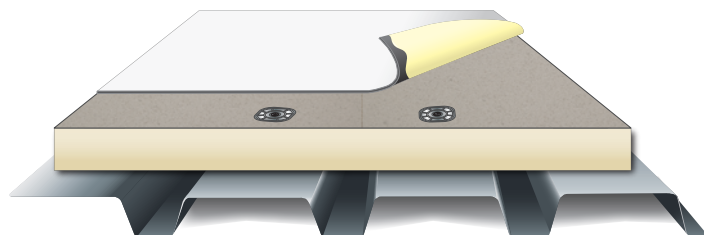
## Fully Adhered Systems

Fully Adhered Systems require mechanical or adhesive attachment of the insulation to the roof deck. The TPO membrane and substrate are then coated with bonding adhesive and the membrane is rolled into place and seams are then hot-air welded.



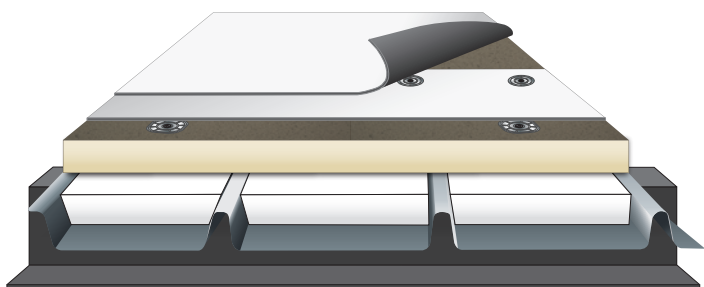
## Quick-Applied Systems

VersiWeld QA (Quick-Applied) TPO membrane is a 60- or 80-mil TPO membrane laminated to an elastomeric factory-applied adhesive. The pre-applied adhesive eliminates VOC and odor concerns typically associated with fully adhered systems. QA TPO also allows for faster installation because it eliminates time spent applying adhesive and waiting for it to flash off.



## Metal Retrofit Systems

VersiWeld TPO can be installed over an existing standing seam metal roof to offer proven, long-lasting protection while increasing the energy efficiency of the building. This solution can be more cost effective than replacing the metal roof while proving to be a much longer-term solution compared to coatings.

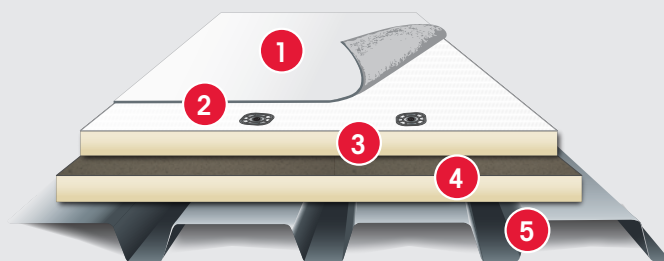




## Versico's RapidLock Roofing Systems

- 1 VersiFleece® RL™ TPO Membrane with RapidLock Technology
- 2 Insulation Fasteners and Plates
- 3 VersiCore® RL Polyiso, SecurShield® RL Polyiso or SecurShield HD RL Polyiso with RapidLock Technology
- 4 VersiCore Polyiso or SecurShield Polyiso
- 5 Steel Deck

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 TPO to achieve performance on par with traditional fully adhered single-ply systems. Underlayment options include VersiCore RL, SecurShield RL Polyiso, or SecurShield HD RL Polyiso. The RL system is VOC- and odor-free, has no application temperature restrictions, and provides significant labor savings thanks to the simplicity of the system and ease of installation.



**RapidLock**  
TECHNOLOGY

### System Features & Benefits

- No application temperature restrictions
- VOC- and odor-free
- Adhesive-less system saves time and labor
- RL fleece is specifically designed to work with RL Insulation facer and features a removable slip sheet for ease of installation
- Excellent Wind uplift performance and ratings (up to FM 1-225), comparable to traditional fully adhered single-ply systems
- Fleece reinforcement adds toughness, durability, and enhanced resistance to hail and punctures

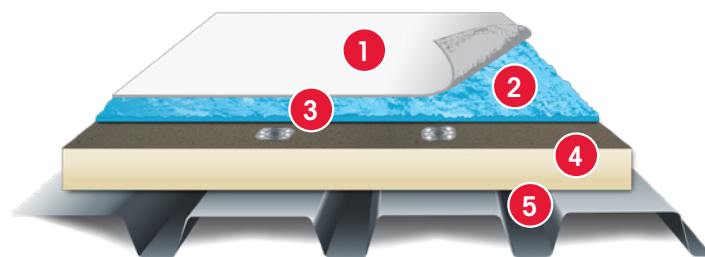
## VersiFleece TPO

Versico's VersiFleece TPO contains the OctaGuard XT weathering package, which provides excellent resistance to UV and extreme temperatures. VersiFleece TPO is typically adhered using Versico's Flexible DASH Adhesive, a low-odor and VOC-free urethane adhesive that provides superior wind uplift performance.

### Membrane Options

<b>Colors</b>	White, Gray, Tan. *Special Colors: Medium Bronze, Rock Brown, Terra Cotta, Slate Gray, Patina Green
<b>Thicknesses</b>	TPO + Fleece: 100, 115, and 135 mils
<b>Standard Widths</b>	6' and 12'
<b>Standard Lengths</b>	50' and 100' (100- and 115-mil) 75' (135-mil)

\*Special Colors available in limited thicknesses and sizes. Contact a Versico Representative for more details.



- 1 VersiFleece TPO Membrane
- 2 Flexible DASH Adhesive
- 3 Versico Fasteners and Plates
- 4 2" VersiCore Polyiso Insulation
- 5 Steel Deck

# VERSIWELD TPO WITH APEEL™ PROTECTIVE FILM

Versico's patented APEEL Protective Film guards the surface of TPO membrane from scuffs and dirt accumulation during installation, eliminating the need to clean the roof once the project is complete. Durable and easy to remove, APEEL Protective Film helps save time and labor, improves aesthetics and increases customer satisfaction. VersiWeld TPO membrane with APEEL Protective Film is ideal for re-roofing, re-cover and new construction projects.

## Features and Benefits:

- Film keeps membrane clean during installation to maximize initial and long term roof reflectivity and energy savings
- Tough protective film helps prevent scuffs and scratches on TPO membrane during the construction process
- Holes in the film during removal can help identify accidental cuts or punctures made during installation before a leak occurs
- Eliminates the need to clean the roof after installation
- Film is easily removed by one person due to its manageable 5-foot-wide size
- Gray color helps the surface dry quickly and cuts down on glare



## Versico's APEEL Cover Tape & APEEL Cover Tape Applicator

Versico's APEEL Cover Tape and APEEL Cover Tape Applicator allow contractors to keep 100 percent of the TPO surface clean during installation, including the seams and around details where film may have been removed for welding.



# VERSIWELD PLUS TPO

VersiWeld Plus TPO is Versico's thickest, most durable, and longest-lasting TPO membrane. Available in standard and fleece-backed versions, VersiWeld Plus TPO provides excellent long-term durability and exceptional resistance to hail and punctures. VersiWeld Plus TPO also offers superb UV resistance due to the increased levels of Versico's OctaGuard XT Weathering Package that thicker membranes contain.

## **Versico's VersiWeld Plus TPO products include:**

- 80-mil VersiWeld TPO
- 80-mil VersiWeld QA TPO
- 135-mil VersiFleece TPO
- 155-mil VersiFleece AC TPO

## **Dependability**

Because of their unmatched performance, VersiWeld Plus membranes are available with a variety of enhanced warranty packages. The warranty packages available for VersiWeld Plus membranes include:

- Puncture warranty
- 10-year reflectivity warranty (available for white membranes)
- 30-year No Dollar Limit watertight warranty, which covers:
  - Membrane, insulation, fasteners, and terminations
  - Accidental puncture
  - Wind damage up to 120 mph
  - Hail damage (up to 2")

Each detail of a VersiWeld Plus TPO roofing system is meticulously engineered by Versico to ensure its long-term performance. Every square inch of VersiWeld Plus TPO is enhanced with the most advanced weathering package on the market: Versico's OctaGuard XT.

## **VERSIWELD** PLUS TPO ROOFING SYSTEMS

Because thicker TPO membranes contain higher levels of the OctaGuard XT weathering package, Versico's 80-mil VersiWeld Plus TPO provides longer-lasting protection against the negative effects of UV degradation and heat exposure. The additional protection provided by an upgrade to VersiWeld Plus TPO often adds as little as 8% to the system's total installed costs, while increasing the lifespan of the roof by as much as 33%.

All of these dependable attributes lead to unmatched warranties for VersiWeld Plus TPO roof systems.

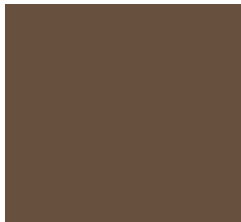




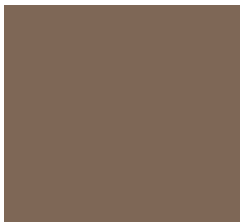
# VERSIWELD HS TPO SPECIAL COLOR PROGRAM

## Special Color Program

Turn your roof into a canvas with Versico's TPO Special Color Program. The leader in single-ply technology offers more pre-formulated colors than any other manufacturer in the marketplace with reinforced membrane available in 10' x 100' sheets, non-reinforced flashing available in 24" x 50' rolls, TPO Rib Profiles, custom accessories and flashings, and TPO coated metal available in 4' x 10' sheets.



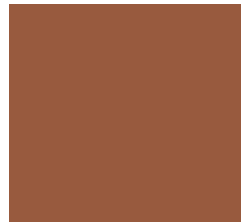
Medium Bronze



Rock Brown



Slate Gray



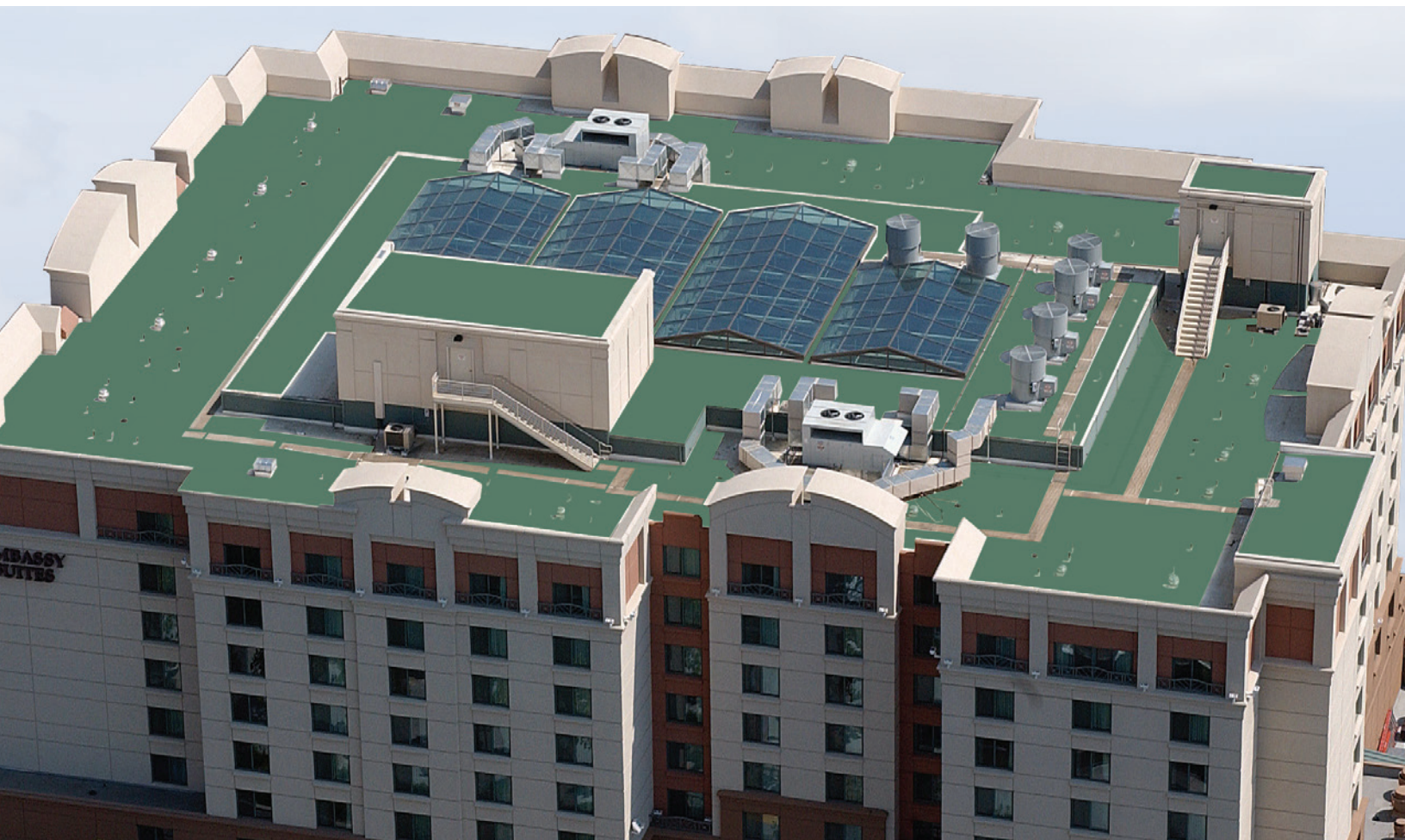
Terra Cotta



Patina Green

\* Color samples printed here are approximations. For actual colors, request a sample of TPO Special Color Membrane.

\*\* Special Color membranes will 'fade' over time mainly due to the ultraviolet portion of sunlight. Since most roof surfaces are exposed to variable sunlight, some areas will be more susceptible to color changes caused by UV fading. Warranties for Special Color membranes do not cover fading of colors.





# WHY CHOOSE A VERSIWELD TPO METAL RETROFIT SYSTEM?

Metal buildings are often chosen because of their cost-effective design and speed of construction. However, when the metal roof begins to leak and deteriorate replacement can be very costly. With decades of experience in single-ply roofing, Versico Roofing Systems has a wide range of metal retrofit options.

Versico's VersiWeld TPO can be installed over an existing standing seam metal roof to offer proven, long-lasting protection while increasing the energy efficiency of the building. This solution can be more cost effective than replacing the metal roof while proving to be a much longer-term solution compared to coatings.



Convenience, value, and performance are three critical considerations when it comes to the success of any re-roofing project. A VersiWeld TPO Metal Retrofit System offers the following features and benefits:

## Convenience



Installs directly over the existing metal roof eliminating costly and disruptive removal and replacement.

## Value



Highly reflective TPO membranes offer additional energy savings.

## Performance



TPO's proven history of long-term performance provides a lasting solution compared to coatings and spray-applied restoration products.



Multiple membrane and insulation options to meet a variety of performance, budget, and efficiency needs.

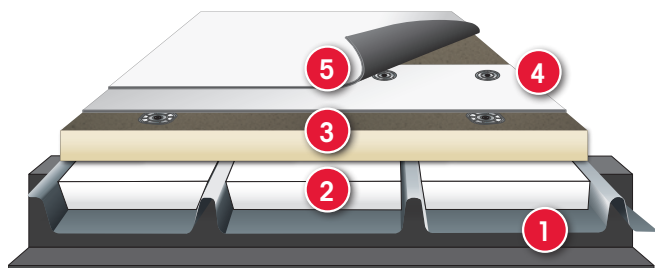


Improves R-value and energy efficiency of the building while reducing noise for occupants.



Backed by Versico's industry-leading Total System Warranty for up to 20 years, with optional hail, puncture and reflectivity warranties available upon request.

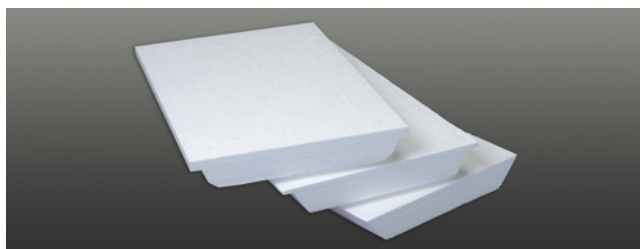
# INSTALLING TPO METAL RETROFIT SYSTEMS



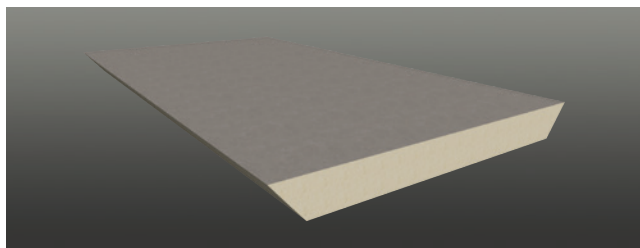
## 1 Existing Standing Seam Metal Roof

**2 Flute Fill Insulation:** a key component of a metal retrofit system is the addition of custom-fit insulation between the standing seams of the metal roof panels. Versico offers both EPS (expanded polystyrene – shown) and Polyiso flute-fill insulation that can be factory cut to fit between each metal panel. This insulation layer also adds R-value and can be loose-laid or adhered.

**3 Additional insulation:** once flute-fill has been installed, additional insulation ranging from a ¼-inch cover board to several inches of Polyiso insulation can be installed to create a smooth flat substrate for the membrane. Adding thicker Polyiso insulation and cover boards can add additional R-value to the system. Using a high-compressive strength Polyiso cover board or gypsum cover board can also enhance impact resistance and fire resistance.



EPS Flute Fill



Polyiso Flute Fill

**4 Attachment:** the VersiWeld TPO membrane can be mechanically attached using fasteners and plates, attached using induction welding plates, or fully adhered using a TPO bonding adhesive. See the back cover for more information on each attachment method.

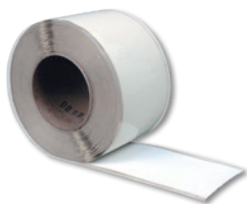
**5 VersiWeld TPO Membrane:** the adjoining TPO membrane sheets are hot-air welded together using an approved hot-air welder.



# ACCESSORIES & ADHESIVES



Non-Reinforced Flashing



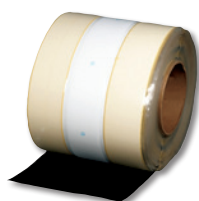
Pressure-Sensitive Coverstrip



Yellow Pressure-Sensitive  
Warning Strip



TPO Bonding Adhesive



Pressure-Sensitive RUSS



Split Pipe-Seals



Molded Pipe Seals



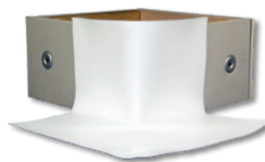
Low-VOC Primer



1-TPO Inside Corners  
2-TPO Outside Corners  
3-TPO T-Joint Covers



Molded Sealant Pockets



Curb Wrap Corners



CAV-GRIP® 3V Low-VOC  
Adhesive/Primer



Universal Corners



TPO Rib Profile



CAV-PRIME Low-VOC Primer  
and CAV-PRIME TPO Primer

## Labor Saving Features and Benefits:

### VersiGard White EPDM Peel & Stick Accessories on TPO

Versico Roofing Systems allows contractors to use several of its labor-saving VersiGard White EPDM Peel & Stick (P&S) accessories on VersiWeld TPO roofing systems (with up to 20-year Total System Warranties). VersiGard White P&S accessories can provide substantial labor savings on projects with hard-to-flash penetrations and are ideal for circumstances in which the use of a generator and hand welder are not practical.



LABOR SAVER



# 10 THINGS TO CONSIDER **WHEN INVESTING** **IN A TPO ROOFING SYSTEM**

- 1 Experience and Innovation:** Versico has led the industry in TPO research and development for over 20 years. Billions of square feet of TPO membrane have been installed on rooftops across the globe; more than any other manufacturer.
- 2 Weathering Package:** Versico's TPO membrane is enhanced with OctaGuard XT Weathering Package which results in the most dependable, long-term performance characteristics in the industry.
- 3 Seam Strength:** Independent tests show that Versico's TPO membrane exhibits far stronger seams than competing products. That means better wind uplift performance and fewer leaks.
- 4 Weldability:** VersiWeld TPO membranes can be welded at the widest temperature and humidity ranges resulting in strong welds without having to modify welder settings to compensate for changing climatic conditions.
- 5 Energy Efficiency:** Versico's White TPO membrane features an initial Cool Roof Rating Council solar reflectance of .79 and emissivity of .90 to keep the building cooler on hot sunny days and meet LEED and cool roofing requirements.
- 6 Appearance:** A combination of our state-of-the-art manufacturing process and over 20 years of manufacturing experience creates a smoother top surface designed to resist dirt, debris, mildew and bacteria build-up. That means you get a cleaner, more solar reflective membrane throughout the life of your roof.
- 7 Diversity and Versatility:** Versico manufactures VersiWeld TPO membranes with a wide range of thicknesses, widths, lengths and colors, providing the ability to get the perfect TPO membrane for your roofing project.
- 8 Thickness over Scrim:** Versico's TPO features a typical thickness over scrim well above the ASTM minimum. This thickness leads to greater weathering resistance for added protection against solar heat and UV.
- 9 Warranties:** Versico's Total System warranties, as well as a large warranty reserve, reflect a commitment and ability to address any warranty issue.
- 10 Prefabricated Accessories:** Versico offers over a dozen prefabricated, in-stock, accessories and countless custom-order accessories. All carry a CFA (Certified Fabricated Accessory) stamp of approval, so you know they are manufactured to the highest standards.



**A SINGLE SOURCE FOR SINGLE-PLY ROOFING**

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