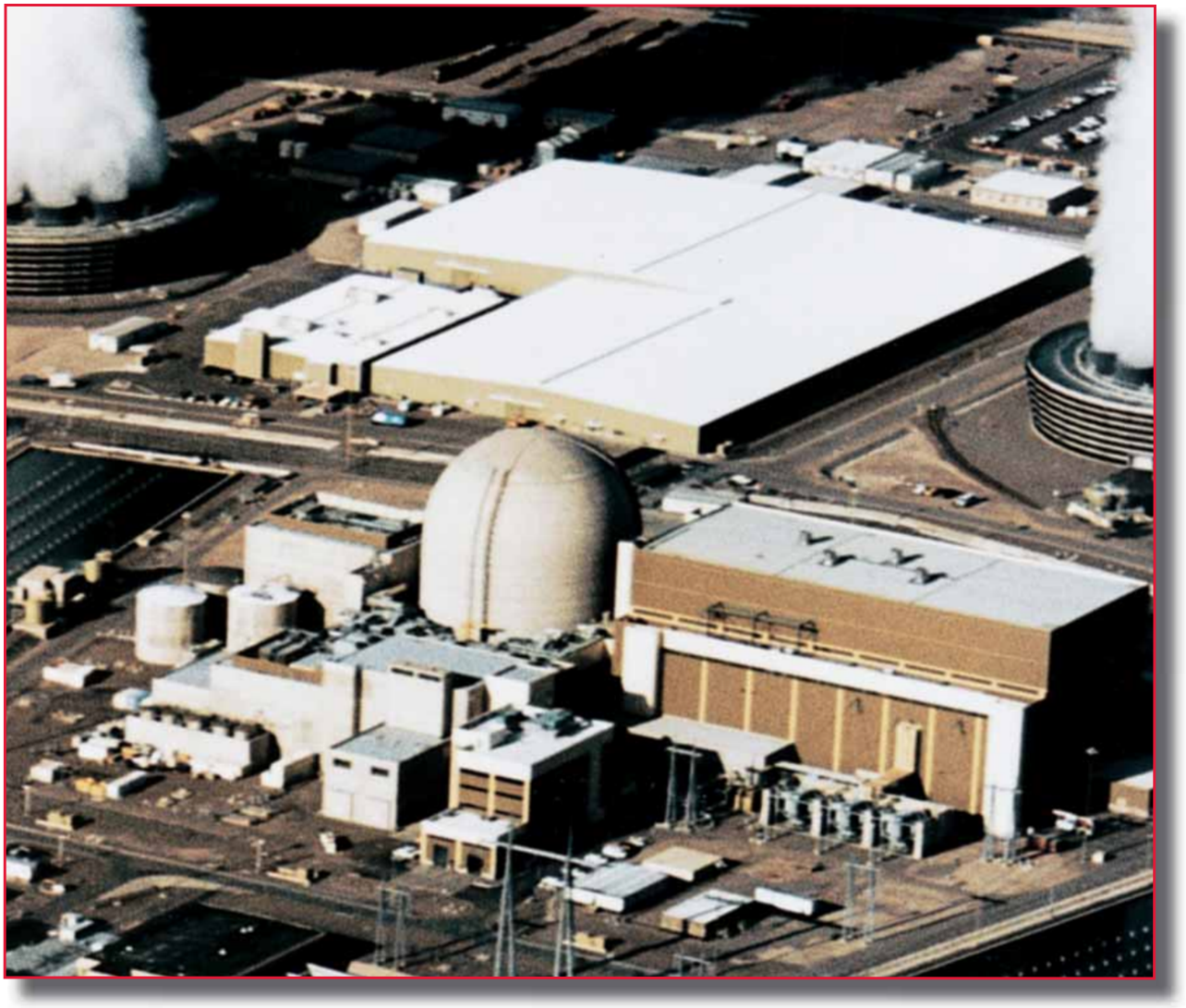
VERSIWELD



TPO ROOFING SYSTEMS

VERSICO
ROOFING SYSTEMS

A SINGLE SOURCE FOR SINGLE-PLY ROOFING

Versico, PO Box 1289, Carlisle, PA 17013
Tel: **800.992.7663** Fax: 717.960.4036 Web: **www.versico.com**

A SINGLE SOURCE FOR

VERSIWELD

VERSIWELD ROOFING SYSTEMS

The VersiWeld® Roofing Systems incorporate 45-mil, 60-mil or 80-mil (TPO) Thermoplastic Polyolefin membrane.

Versico's VersiWeld 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 top ply is the most vital membrane component for long-term weathering characteristics, Versico manufacturers its membranes with an industry leading "thicker" and "smoother" top ply over scrim. The smooth surface resists dirt pick-up and biological growth compared to other thermoplastic membranes.

MEMBRANE BENEFITS

OCTAGUARD XT
WEATHERING PACKAGE

Versico's VersiWeld membranes are enhanced with Versico's OctaGuard XT™ Weathering Package resulting in the most dependable, long-term performance characteristics in the industry.

VersiWeld TPO membranes carry the ENERGY STAR®* qualification having exceeded the stringent program guidelines based upon solar reflectance and heat emittance. Additionally, VersiWeld is listed as a CRRC (Cool Roof Rating Council) certified product meeting the Title 24 mandates for the state of California.

Versico's ENERGY STAR-qualified VersiWeld membranes with their high reflectivity ratings help reduce the amount of energy required to maintain cool building environments. Less energy consumed results in less pollutants generated back into the atmosphere (lessening the Urban Heat Island Effect) and directly contributes to a cleaner, cooler environment.

ENVIRONMENT

VersiWeld membranes are ideally suited when environmental issues are of concern because the membrane is produced without the use of any chlorinated ingredients or plasticizers. VersiWeld membranes are 100% recyclable.

MEMBRANE FLEXIBILITY

Membrane formulation contains no plasticizers or chlorine so it will not dry out or become brittle with age. This sheeting easily accommodates the building's normal expansion and contraction.

CHEMICAL RESISTANCE

VersiWeld membrane is highly chemical and contaminant resistant. Most liquids and chemicals normally exhausted onto the roof have no effect on the membrane.

FIRE RESISTANCE

VersiWeld roofing meets UL 790 requirements for external fire Class A ratings and UL P assemblies for internal, hourly fire ratings. Consult the UL Building Material Directory for specific assemblies.

WIND RESISTANCE

VersiWeld roofing has surpassed Factory Mutual's I-90 wind resistance classification, one of the most stringent standards in the industry, as listed in the FM Approval Guide.

INSTALLATION

Heat-welded systems are easy to install since minimal labor and few components are required. VersiWeld membrane welds at fast speeds — 10- to 15-feet per minute at moderate temperature settings.

VERSICO TOTAL SYSTEM WARRANTIES

5-year to 30-year No Dollar Limit Total System Warranty coverage is available.

TPO ROOFING SYSTEMS

ACCESSORIES

The most critical and time consuming portion of VersiWeld roofing installation is made easier and faster with VersiWeld Certified Fabricated Accessories. VersiWeld accessories provide exceptional durability and weatherability with the added benefit of being heat weldable. VersiWeld TPO accessories greatly reduce job time, in turn, reducing labor time.

All VersiWeld TPO accessories carry the Certified Fabricated Accessory (CFA) seal of approval meaning they adhere to the most stringent quality tolerances required to be included in a Versico warranted roof system.

TPO PS RUSS

TPO T-Joint Covers

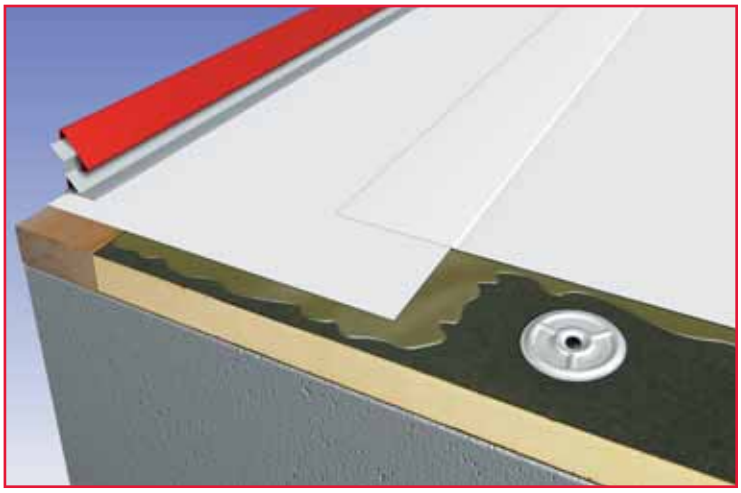
TPO Non-Reinforced Flashing

PS Coverstrip

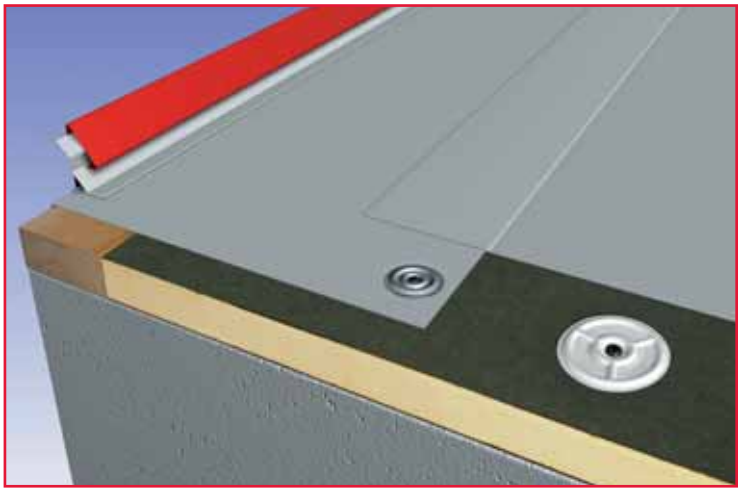
TPO Molded Sealant Pockets

TPO Split Pipe Seals

** Please see VersiWeld accessories literature for a more complete listing of accessories.*



VersiWeld Fully Adhered Roofing System
begins with insulation mechanically attached to the roof deck. The membrane and substrate are then coated with VersiWeld bonding adhesive. The membrane is rolled into place and seams are then hot-air welded.



VersiWeld Mechanically Attached Roofing System
starts with insulation fastened to the substrate. VersiWeld membrane is then fastened through the insulation with fasteners and plates. (Consult the Versico Fastener Sell Sheet) Adjoining membrane sheets are overlapped and joined together by hot-air welding.

VERSIWELD

VERSIWELD 45- & 60-MIL THICK REINFORCED TPO

Basic Properties and Characteristics (Standard and HS)

Physical Property	ASTM D6878 Requirement	45-mil	60-mil	80-mil
Tolerance on nominal thickness, % ASTM D751 test method	+15, -10	± 10	± 10	± 10
Thickness over scrim, in. (mm) ASTM D6878 optical method, average of 3 areas	0.012 min (0.305)	0.018 typ (0.457)	0.024 typ (0.610)	0.034 typ (0.864)
Breaking srength, lbf (kN) ASTM D751 grab method	220 (976 N) min	225 (1.0) min 320 (1.4) typ	250 (1.1) min 360 (1.6) typ	350 (1.6) min 425 (1.9) typ
Elongation break of reinforcement, % ASTM D751 grab method	15 min	15 min 25 typ	15 min 25 typ	15 min 25 typ
Tearing strength, lbf (N) ASTM D751 proc. B 8 in. x 8 in.	55 (245) min	55 (245) min 130 (578) typ	55 (245) min 130 (578) typ	55 (245) min 130 (578) typ
Brittleness point, °F (°C) ASTM D2137	-40 (-40) max	-40 (-40) max -50 (-46) typ	-40 (-40) max -50 (-46) typ	-40 (-40) max -50 (-46) typ
Linear dimensional change, % ASTM D1204, 6 hours at 158°F	± 1 max	± 1 max -0.2 typ	± 1 max -0.2 typ	± 1 max -0.2 typ
Ozone Resistance, no cracks 7X ASTM D1149, 100 pphm, 168 hrs	PASS	PASS	PASS	PASS
Water absorption resistance, mass % ASTM D471 top surface only 166 hours at 158°F water	± 3.0 max	± 3.0 max 2.0 typ	± 3.0 max 2.0 typ	± 3.0 max 2.0 typ
Factory seam strength, lbf/in (kN/m) ASTM D751 grab method	66 (290) min	66 (290) min	66 (290) min	66 (290) min
Field seam strength, lbf/in (kN/m) ASTM D1876 tested in peel	No requirement	25 (4.4) min 50 (8.8) typ	25 (4.4) min 60 (10.5) typ	40 (7.0) min 70 (12.3) typ
Water vapor permeance, Perms ASTM E96 proc. B	No requirement	0.10 max 0.05 typ	0.10 max 0.05 typ	0.10 max 0.05 typ
Puncture resistance, lbf (kN) FTM 101C, method 2031 (see supplemental section)	No requirement	250 (1.1) min 325 (1.4) typ	300 (1.3) min 350 (1.6) typ	400 (1.8) min 450 (2.0) typ
Properties after heat aging ASTM D573, 670 hours @ 240°F Breaking strength, % retained Elongation reinf., % retained Tearing Strength, % retained Weight change, %	 90 min 90 min 60 min ± 1.0 max	 90 min 90 min 60 min ± 1.0 max	 90 min 90 min 60 min ± 1.0 max	 90 min 90 min 60 min ± 1.0 max
Typical Weights		0.23 lb/ft² (1.1 kg/m²)	0.29 (1.4)	0.40 (2.0)

** Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.*

FM APPROVED

CLASSIFIED UL

Radiative Properties for ENERGY STAR® Cool Roof Rating Council (CRRC) & LEED®

Physical Property	Test Method	White TPO	Tan TPO	Gray TPO
ENERGY STAR initial solar reflectance	Solar Spectrum Reflectometer	0.87	0.68	n/a
ENERGY STAR solar reflectance after 3 years	Solar Spectrum Reflectometer (after cleaning)	0.83	0.64	n/a
CCRC initial solar reflectance	ASTM C 1549	0.79	0.71	0.46
CCRC solar reflectance after 3 years	ASTM C 1549 (uncleaned)	0.70	0.64	0.43
CCRC initial thermal emittance	ASTM C 1371	0.90	0.86	0.90
CCRC thermal emittance after 3 years	ASTM C 1371 (uncleaned)	0.86	0.87	0.88
LEED thermal emittance	ASTM E 408	0.95	0.95	0.95
SRI (Solar Reflectance Index)	ASTM E 1980	110	88	55

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