VERSICO VERSIWELDä REINFORCED TPO MEMBRANE

GENERAL:

Versiweld Premier is a heat-weldable single-ply membrane designed for new roof construction and reroofing applications. Versiweld Premier thermoplastic polyolefin (TPO) membrane is based on advanced polymerization technology that combines the durability and weatherability of ethylene-propylene (EP) rubber with the heat weldability of polypropylene. The membrane is specifically formulated for long-term weather resistance without the use of either polymeric or liquid plasticizers. Physical properties of the membrane are enhanced by a strong, polyester fabric that is encapsulated between the TPO based top and bottom plies. The combination of the fabric and TPO plies provide Versiweld Premier reinforced membranes with high breaking and tearing strength and puncture resistance. The relatively smooth surface of Versiweld Premier produces a "total surface fusion weld" that creates a consistent, watertight monolithic roof assembly.

Versiweld Premier is available in highly reflective white, tan and gray .045"-and .060"-thick reinforced membrane. Available widths are 4 and 5-ft perimeter sheets and 8 and 10-ft. field sheets. The membrane is environmentally friendly and safe to install (particularly during welding) because it is free of chlorinated polymers or chlorine containing ingredients.

TYPICAL PROPERTIES AND CHARACTERISTICS:

See table that is attached. Typical weights are 0.25 lb/ft^2 for .045" and .034 lb/ft^2 for .060" membrane.

CAUTIONS AND WARNINGS:

- Sunglasses which filter out ultraviolet light are strongly recommended since the white surface is highly reflective to sunlight. White surfaces reflect heat and light. Roofing technicians should dress appropriately and wear sunscreen to protect skin from the sun.

- White surfaces may promote slippery conditions due to frost and ice build-up. Exercise caution during cold conditions to prevent falls.

- Care must be exercised when working close to a roof edge when surrounding area is snow covered- roof edge may not be clearly visible.

- Use proper stacking procedures to ensure sufficient stability of the materials.

- Exercise caution when walking on wet membrane. Membranes are slippery when wet.

- Store Versiweld Premier membrane in the original undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. Versiweld Premier membrane that has been exposed to the elements overnight or longer must be prepared with Versico Weathered Membrane Cleaner prior to hot air welding.

INSTALLATION:

Versiweld Roofing Systems are fast to install since minimal labor and few components are required. The systems may be installed utilizing laborsaving devices that make sheet welding easy to learn, clean, and consistent, while reducing strain on the roofing technician.

The Mechanically Attached Roof System installation starts with the insulation being fastened with a minimum of 5 fasteners per 4 by 8-ft. board. The Versiweld Premier reinforced membrane is mechanically attached a maximum of 18" on center for FM 1-60 rating using the appropriate Versico fastener and plates. For higher wind resistance, the membrane fastening must be 12" on center for 1-90 and 6" on center for 1-120 ratings.

The Fully Adhered Roofing System application begins with the insulation being fastened at the required density (max.1 every 2 sq. ft) for the necessary rating. The substrate and membrane are coated with Versiweld Bonding Adhesive and the membrane is rolled into place.

Contact your Versico representative for the specific design requirements and installation procedures for these systems.

VERSIWELDä .045 & .060 THICK REINFORCED TPO SHEET

Typical Properties and Characteristics			
Physical Property	**Test Method**	**Property of Unaged Sheet**	**Property After Aging[1]**
Tolerance on nominal thickness, %	ASTM D 751	± 10	
Thickness over scrim, in.	ASTM D 4637 Optical Method	0.015 (0.381) ± 10%	
Solar reflectance (albedo x 100), % Min. for Energy Star® approval is 65%	Solar Spectrum Reflectometer	White – 75 min, 87 typical Tan – 65 min, 70 typical	
Emittance, infrared	ASTM E 408	0.92 typical	
Breaking strength, lbf	ASTM D 751 Grab Method	225 (1.0) min. 340 (1.5) typical	225 (1.0) min. 340 (1.5) typical
Elongation at break of fabric, %	ASTM D 751	25 typical	25 typical
Tearing strength, lbf 8 by 8 in. specimen	ASTM D 751 B Tongue Tear	55 (245) min. 130 (578) typical	55 (245) min. 130 (578) typical
Brittleness point, °F	ASTM D 2137	-40 (-40) max. -50 (-46) typical	
Linear Dimensional Change (shrinkage), %	ASTM D 1204		+/- 1.0 max. -0.5 typical
Ozone resistance, 100 pphm, 168 hours	ASTM D 1149	No Cracks	No Cracks
Resistance to water absorption After 7 days immersion 158°F Change in mass, %	ASTM D 471	4.0 max. 2.0 typical	
Resistance to microbial surface growth, rating (1 is very poor, 10 is no growth)	ASTM D 3274 2 yr. S. Florida	9 – 10 typical	
Field seam strength, lfb/in. Seam tested in peel	ASTM D 1876	40 (7.0) min. 60 (10.5) typical	
Water vapor permeance, Perms	ASTM E 96	0.10 max. 0.05 typical	
Puncture resistance, lbf (N)	FTM 101C Method 2031	250 (1110) min. 300 (1330) typical - .045 350 (1560) typical - .060	250 (1110) min. 300 (1330) typical - .045 350 (1560) typical - .060
Resistance to xenon-arc weathering [2] Xenon-Arc, 5040 kJ/m^2 total radiant exposure, visual condition at 10X	ASTM G 26 0.70 W/m2 80°C B.P.T.	No cracks No loss of breaking or tearing strength	

[1] Aging conditions are 28 days at 240°F equivalent to 400 days at 176°F for breaking strength, elongation, tearing strength, linear dimensional change, ozone and puncture resistance.
[2] Approximately equivalent to 8000 hours exposure at 158°F black panel temperature.