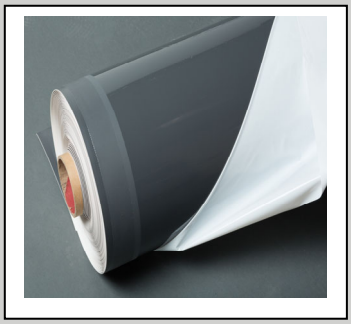
Technical Information Sheet



UltraPly™ TPO SA

Item Description	Item Number
.060" x 10' x 100' (1.5 mm x 3.05 m x 30.5 m) Tan	W56TSAT699
.060" x 10' x 100' (1.5 mm x 3.05 m x 30.5 m) Gray	W56TSAG699
.060" x 10' x 100' (1.5 mm x 3.05 m x 30.5 m) White	W56TSA3699

Description

UltraPly TPO SA with Secure Bond™ Technology is a heat weldable, flexible thermoplastic polyolefin (TPO) membrane with a factory applied pressure sensitive adhesive. Designed to be the next generation in fully adhered roof system application, Elevate's Secure Bond Technology helps ensure uniform adhesion across the entire membrane, creating a powerful bond. This advanced technology not only improves installation speed over traditional adhered application, but also widens the weather window with the ability to install down to 20 °F (-7 °C). With no VOC's, UltraPly TPO SA with Secure Bond Technology is an excellent solution for all your roofing needs. UltraPly TPO SA membrane meets or exceeds all the requirements for ASTM D6878-11 and ASTM D6878M-17 & 19. The membrane is reinforced with a 9 x 9, 1,000 denier polyester weft-inserted fabric. UltraPly TPO SA membrane is self-adhering. No primers or adhesives are required on horizontal surfaces, thus eliminating Volatile Organic Compounds (VOCs).

Product Preparation

1. Substrates must be clean, dry and free of foreign material such as grease and any debris which could inhibit adhesion. This may require cleaning with a broom or blower.
2. Fasten insulation per current Elevate technical specifications to provide a proper substrate.
3. Install UltraPly TPO SA membrane only when ambient and substrate temperatures exceed 20 °F (-7 °C) and rising. Do not install UltraPly TPO SA below this minimum temperature.
4. Apply Single-Ply QuickPrime Primer, Single-Ply LVOC Primer or Elevate Jet Bond Membrane Adhesive to vertical surfaces before installing flashing membrane.
5. Unroll and position the membrane over the substrate to achieve the desired alignment and overlaps. Allow membrane to relax before positioning and adhering. **NOTE: Once membrane has fully relaxed, follow application methods below to adhere the membrane to the approved substrate.**

Method of Application

Field Membrane Application (Steps 1-5):

1. Once the membrane has relaxed in place a minimum of 30 minutes (longer in colder weather), and the seam positions are aligned, carefully fold the sheet back approximately 10' (3.05 m) from one end to expose the release liner without disturbing the original position of the membrane. NOTE: Fold the membrane back from the end, not from the side.

Field Membrane Application (Steps 1-5) Continued:

2. Starting from the center split of the exposed release liner, remove the liner at a 45° angle from the center of the sheet back beyond the membrane edge. Be sure to pull enough of the release liner to hold below the membrane. Remove at least 5' (1.5 m) of release liner from one end of the sheet and adhere it to the substrate. The removed liner should extend at a 45° angle beyond the edges of the membrane.
3. Keeping the membrane flat and secured, and the seam overlap aligned, continue removing the release liner at a 45° angle along the entire length of the sheet: up to 100' (30.5 m). Pulling the release liner at a higher angle can cause the sheet to move and may trap air. The two halves of the release liner should be pulled out at the same time by two people. Keep the release liner as close to the roof surface as possible during removal. NOTE: Removal of the liner and any handling of the exposed SA adhesive should be completed by two persons minimum.
4. To initiate adhesion, use a stiff bristled broom and apply downward pressure across the installed membrane. Broom the membrane from the center of the sheet working toward the edge.
5. Roll the installed membrane with a weighted roller (5 lb per lineal inch) across the width of the sheet to ensure full contact with the substrate. NOTE: Do not roll membrane in place with a weighted roller if installed over ISOGARD™ HD or Resista™ / ISOGARD CG.

Roof Edge (Gravel Stop, Gutter Edge) Membrane Application (Steps 1-5):

1. Once the membrane has relaxed in place a minimum of 30 minutes (longer in colder weather), and it is positioned correctly along the roof edge, carefully fold the sheet back approximately 10' (3.05 m) from one end to expose the release liner without disturbing the original position of the membrane. **NOTE: Fold the membrane back from the end, not from the side.**
2. Starting with the outside (roof edge) portion of the release liner, carefully pull it beneath the membrane, toward the field of the roof at a 45° angle to expose the SA adhesive without disturbing the original position of the membrane. Next, pull the inside portion of the release liner beneath the membrane. Maintain a 12" (305 mm) wide minimum separation between the two sections of liner. Back-roll the 10' (3.05 m) exposed SA section into position onto the substrate without trapping any air beneath the sheet. **NOTE: Removal of the liner and any handling of the exposed SA adhesive should be completed by two persons minimum.**
3. Keeping the release liner as close to the roof surface as possible and maintaining a 10' (3.05 m) minimum space between the two liner halves, pull both halves of the liner at a 45° angle along the length of the roof edge. Pulling the release liner at a higher angle can cause the sheet to move and may trap air.
4. To initiate adhesion, use a stiff bristled broom and apply downward pressure across the installed membrane. Broom the membrane from the center of the sheet working toward the edge.
5. Roll the installed membrane with a weighted roller (5 lb per lineal inch) across the width of the sheet to ensure full contact with the substrate. **NOTE: Do not roll membrane in place with a weighted roller if installed over ISOGARD HD or Resista / ISOGARD CG.**

Application Information – Jet Bond Adhesive Used as Primer on Vertical Surfaces:

1. Apply Jet Bond Adhesive in a one-side (substrate only) primer application using a coverage rate of 2,000 square feet (20 square) per canister.
2. Pattern application shall be two back and forth overlapping passes to ensure full coverage.
3. Allow adhesive to flash off before mating the self-adhered membrane.

Seaming

1. Follow current Elevate technical specifications for heat welding TPO membrane.
2. Side Laps are to be heat-welded. Each membrane panel has a 2" (51 mm) uncoated selvedge edge. Overlap side laps and heat weld the 2" (51 mm) uncoated area to create a minimum 1½" (38 mm) robotic welded seam.

3. End Laps – Because the pressure sensitive adhesive extends the entire length of the roll, all adjoining rolls must be stripped in. Butt end laps together, then strip in the end lap with a minimum 8" (203 mm) wide UltraPly TPO membrane cover strip, centered on the end lap and heat-welded along all edges. (Do not allow primer to contaminate the area to be heat welded.)
4. Detailing – Install approved t-joint patches and apply UltraPly TPO Cut Edge Sealant as required by UltraPly TPO general specification.

Storage

- Warehouse membrane in a clean dry location.
- Membrane stored on jobsite must be kept dry.
- Material must be a minimum of 20 °F (-7 °C) prior to installation.
- Store away from sources of physical damage.
- Make certain the structural decking will support the loads incurred by material when stored on rooftop. The deck load limitations should be specified by the project designer.
- Store away from ignition sources.

Shelf Life

18 Months when stored between 60 °F (16 °C) and 80 °F (27 °C) out of direct sunlight.

Precautions

- Take care when moving, transporting, and handling to avoid physical damage.
- Removal of the plastic release liner from the adhesive backing may create a static electric charge; care should be used when removing and handling the release liner.
- Refer to Safety Data Sheets (SDS) for additional safety information.

LEED® Information

Post-Consumer Recycled Content: 0%
Post Industrial Recycled Content: 3-5%
Manufacturing Location: Tuscumbia, AL

NOTE: LEED® is a registered trademark of the U.S. Green Building Council

Typical Properties

Properties	Test Method	Performance Minimum	Typical Performance
Overall Thickness	D 751	0.039" (0.54 mm)	0.060" (1.52 mm) ±10%
Coating over Scrim	D 7635	0.015" (0.39 mm)	0.021" (0.54 mm)
Breaking Strength	D 751 Grab Method	220 lbf (979 N)	390 lbf (1,735 N)
Elongation at Reinforcement Break	D 751 Grab Method	15%	30%
Tearing Strength	D 751	55 lbf (245 N)	156 (694)
Brittleness Point	D 2137	-40 °F (-40 °C)	Pass
Ozone Resistance, No cracks	D 1149	Pass	Pass
Retention of Breaking Strength	D 751 Grab Method	90%	>90%
Retention of Elongation at Break	D 751 Grab Method	90%	>90%
Retention of Tearing Strength	D 751 Grab Method	60%	>60%

Typical Properties Continued

Properties	Test Method	Performance Minimum	Typical Performance
Weight of Change	D 1204, 6h at 158 °F (70 °C)	±1% max	<0.02%
Linear Dimension Change	D 1204	<1%	<1%
Water Absorption	D 471	±3% max	<1.2%
Weather Resistance, 80 °C Black Panel, no cracking, crazing when wrapped around a 3" mandrel and inspected at 7x magnification	G 155	> 60,000 kJ/m^2	> 60,000 kJ/m^2
Puncture Resistance	FTM 101C, Method 2031	lbf (N)	300 lbf (1,334 N)
Dynamic Puncture Resistance MD	D 5635	Pass (20 J)	Pass (40 J)
Dynamic Puncture Resistance CD	D 5635	Pass (35 J)	Pass (50 J)
Static Puncture Resistance	D 5602	Pass (25 kg)	Pass (25 kg)
Air Permeance (Material)	E 2178*	< 0.004 ft^3/ft^2 (0.02 L/(s·m^2))	Pass

NOTE:

1. * The ASTM 2178 values listed above are for the air permeance of the UltraPly TPO Membrane component only.
2. When system design includes an air barrier, please consult your Regional Technical Coordinator for additional roof system securement enhancements.
3. Consult the Designer / Architect, Code Agency or Authority having Jurisdiction (AHJ) for requirements regarding the selection and use of an appropriate air barrier material, and its installation into the building envelope.

Acceptable Substrates

Acceptable Substrates	Primer Required	Acceptable Application Temperatures	Special Application Considerations
ISO 95+™ GL / ISOGARD GL	No	20 - 120 °F (-7 – 49 °C)	
ISOGARD HD	No	20 - 120 °F (-7 – 49 °C)	Do not roll in place with weighted roller
Resista / ISOGARD CG	No	20 - 120 °F (-7 – 49 °C)	Do not roll in place with weighted roller
Structural Concrete	No	20 - 120 °F (-7 – 49 °C)	Must be clean, dry and properly cured prior to application
Lightweight Concrete	No	20 - 120 °F (-7 – 49 °C)	Use on clean, dry and properly cured cellular lightweight concrete only, not acceptable with lightweight aggregate concrete
DensDeck* Prime	No	20 - 120 °F (-7 – 49 °C)	
Securock®**	No	20 - 120 °F (-7 – 49 °C)	
Plywood	No	20 - 120 °F (-7 – 49 °C)	Check local code for acceptance of direct application
OSB Board	No	20 - 120 °F (-7 – 49 °C)	Check local code for acceptance of direct application
CMU / Masonry and Vertical Substrates	Yes	20 - 120 °F (-7 – 49 °C)	Apply Elevate Single-Ply or Single-Ply LVOC Primer to all vertical substrates

*DensDeck is a registered trademark of the G-P Gypsum Corporation
**Securock is a registered trademark of the USG Corporation

Typical Properties – Pressure Sensitive Adhesive				
Property	**Test Method**	**Units**	**Performance Minimum**	**Typical Values**
Color	---	---	---	clear
Nominal Thickness	ASTM E 408-71	in (mm)	N/A	0.008 (0.18)
Weight	---	lbf/ft^2 (kg/m^2)	---	0.4 (.20)
Permeability	ASTM E 96	Perms	N/A	0.6
Specific Gravity	ASTM D 71	---	N/A	0.93

Radiative Properties		
Cool Roof Rating Council (CRRC): Initial / 3 yr	**White**	**Light Tan (HR)**
Solar Reflectance	0.74 / 0.59	0.76 / 0.67
Thermal Emittance	0.84 / 0.84	0.90 / 0.91
Solar Reflectance Index (SRI)	90 /69	94 / 82
Rated Product ID	0033	0608
Licensed Manufacturer ID	0608	0091
Classification	Production Line	Production Line

Please contact Holcim Technical Services at 800-428-4511 for further information.