

# Technical Information Sheet



## Elevate Reinforced Polypropylene (fPP-R) Geomembrane

Item Description	Item Number
Black, White, Tan or Patina Green	Various
Flexible Reinforced Polypropylene (fPP-R) Geomembrane	

### Description

Elevate fPP-R Geomembrane is a flexible reinforced polypropylene geomembrane that is produced with 9 x 9 polyester weft inserted scrim reinforcement. This heat weld-able fPP-R geomembrane is available in 36 mil-0.91 mm (0.036"), 45 mil-1.14 mm (0.045") and 60 mil-1.52 mm (0.060") thicknesses. The membrane is available with surface colors in black, white, patina green, and tan, all with a black backing. All colors are available in 3.05 m (10') widths.

### Preparation of Substrates

1. Substrates must be dry, smooth, and free of sharp edges, loose or foreign materials, oil, grease, and other materials which may damage the geomembrane.
2. All rough surfaces or voids which could damage the geomembrane shall be repaired prior to installing the geomembrane, as specified.

### Method of Application

1. Elevate fPP-R Geomembrane is installed as a continuous layer. Rolls or panels made from rolls are overlapped (Side Laps and End Laps) prior to the heat welding of the seam areas.
2. All cut scrim areas must be sealed with Elevate extrusion weld bead.
3. Install Elevate fPP-R Geomembrane in accordance with current Elevate specifications, guidelines, and details, available at [www.HolcimElevate.com](http://www.HolcimElevate.com).

### Storage

- Store away from sources of punctures and physical damage.
- Store away from ignition sources as geomembrane will burn when exposed to open flame.

## Precautions

- Take care when moving, transporting, handling, etc. to avoid sources of punctures and physical damage.
- Isolate waste products, such as petroleum products, greases, oils (mineral and vegetable) and animal fats from the geomembrane. Contact Holcim for specific recommendations regarding chemical compatibility.
- Refer to Safety Data Sheets (SDS) for additional safety information.

## LEED® Information

Post-Consumer Recycled Content: 0%

Post Industrial Recycled Content: 10%

Manufacturing Location: Wellford, SC or Muscle Shoals, AL

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

Packaging	
Thickness	Weight
0.91 mm (0.036")	0.83 kg/m <sup>2</sup> (0.17 lb/ft <sup>2</sup> )
1.14 mm (0.045")	1.03 kg/m <sup>2</sup> (0.21 lb/ft <sup>2</sup> )
1.52 mm (0.060")	1.22 kg/m <sup>2</sup> (0.25 lb/ft <sup>2</sup> )

Geomembrane Panel Size						
Dimensions	Packaging	Part Number	Gauge	Color	Coverage	Weight (typ max)
10' x 300' (3.05 m x 91.4 m)	Roll	W56VB39930F	0.030" (0.75 mm)	Black	3,000 ft <sup>2</sup> (278.77 m <sup>2</sup> )	360 lb (163 kg)

Typical Properties		
Property	Test Method	Typical Values
Tolerance on nominal thickness, %	ASTM D 5199	0.91 mm (0.036") +15, -10 1.14 mm (0.045") +15, -10 1.52 mm (0.060") +15, -10
Thickness over scrim, mm (inches) 0.91 mm (0.036") 1.14 mm (0.045") 1.52 mm (0.060")	ASTM D 4637 Optical Method	0.381 (0.015) min 0.483 (0.019) min 0.635 (0.025) min
Mass per unit area, kg/m <sup>2</sup> (lb/ft <sup>2</sup> ) 0.91 mm (0.036") 1.14 mm (0.045") 1.52 mm (0.060")	ASTM D 5261	0.89 (0.18) typical 1.03 (0.21) typical 1.22 (0.25) typical
Breaking strength, kN (lbf) (Grab tensile at strain rate of 12"/min) 0.91 mm (0.036") 1.14 mm (0.045") 1.52 mm (0.060")	ASTM D 7004	.98 (220) min 260 typical 300 typical
Elongation at break of fabric, %	ASTM D 7004	15 typical
Tearing strength, N (lbf) (51 mm (2") / min strain rate) 0.91 mm (0.036") 1.14 mm (0.045") 1.52 mm (0.060")	ASTM D 5884 (max. load)	224 (55) min 224 (55) typical 271 (61) typical

Typical Properties (Continued)		
Property	Test Method	Typical Values
Low temperature flexibility, °C (°F)	ASTM D 2136 1/8" mandrel 4 hours @ - 40 (- 40)	PASS
Linear Dimensional Change (shrinkage), % 6h @ 70 °C (158 °F) or 1h @ 100 °C (212 °F)	ASTM D 1204	+/- 1.0 max - 0.5 typical
Ozone resistance, 100 pphm, 168 hours	ASTM D 1149	No cracks
Resistance to water (distilled) absorption After 30 days immersion 50 °C (122 °F) Change in mass, %	ASTM D 471 (coating compound only)	1.0 max 0.5 typical
Hydrostatic resistance, MPa (lbf/in <sup>2</sup> or psi) (Mullen burst) 0.91 mm (0.036") 1.14 mm (0.045") 1.52 mm (0.060")	ASTM D 751 Procedure A	2.4 (350) min 2.9 (426) typical 3.1 (455) typical 3.4 (500) typical
Field seam strength, kN/m (lbf/in.) Seam tested in peel after weld	ASTM D 751 1" wide	3.9 (22) min 5.8 (33) typical
Water vapor permeance, Perms	ASTM E 96	0.10 max 0.05 typical
Puncture resistance, N (lbf) 0.91 mm (0.036") 1.14 mm (0.045") 1.52 mm (0.060")	ASTM D 4833 (index puncture)	334 (75) min 378 (85) typical 423 (95) typical
Resistance to xenon-arc weathering Xenon-Arc, 15,120 kJ/m <sup>2</sup> total radiant exposure, visual condition at 10X	ASTM G 155 0.70 W/m <sup>2</sup> 80 °C B.P.T.	No cracks No loss of breaking or tearing strength
Potable Water Accepted	NSF-61	PASS (for tanks 25 gal or greater)
Chronic Toxicity Screening	EPA/600/4-89/ 001 ASTM E-729 Method 1000.0	PASS
Ultraviolet Light Resistance ≥ 50% strength and elongation retained as per ASTM D6993-IV, with no surface cracking, and minor to no surface chalking	ASTM D7238 @ 70 °C (158 °F) for 20,000 hours	PASS
Ply Adhesion, kN/m (lbf/in.) min. avg.	ASTM D6636	2.6 (15) min. avg.

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

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