

GEOMEMBRANE LINER  
ENGINEERING SPECIFICATION GUIDE



## XR-5<sup>®</sup> 8138

### High Performance Reinforced Geomembrane

PROPERTY	TEST METHOD	SPECIFIED VALUES	
		Standard	Metric
Base Fabric Type		Polyester	
Basic Fabric Weight (nominal)	ASTM D751	6.5 oz/yd <sup>2</sup>	220 g/m <sup>2</sup>
Thickness	ASTM D751	40.0 mils nominal	1.0 mm nominal
Weight	ASTM D751	38.0 ± 2 oz/yd <sup>2</sup>	1288 ± 70 g/m <sup>2</sup>
Tear Strength	ASTM D4533 Trap Tear	40/55 lbs min	175 / 245 N min.
Breaking Yield Strength	ASTM D751 Grab Tensile	550/550 lbs min	2448/2448 N min.
Low Temperature	ASTM D2136 4 hr – 1/8” mandrel	Pass @ -30° F	Pass @ -34° C
Dimensional Stability	ASTM D1204 212° F – 1 hr	0.5% max each direction	
Adhesion Heat Sealed Seam	ASTM D751 Dielectric Weld	40 lb / 2 in min	175 daN/5 cm min
Dead Load - Seam Shear Strength	ASTM D 751 4-hour test	Pass 240 lb/in @ 70°F Pass 120 lb/in @ 160°F	Pass 1068 N/2.54cm @ 21° C Pass 534 N/2.54cm @ 70 ° C
Bursting Strength	ASTM D751 Ball Tip	750 lb min	3330 N min.
Hydrostatic Resistance	ASTM D751 Method A	800 psi min	5.51 MPa min
Blocking Resistance	ASTM D751 (180°F/82°C)	#2 Rating max.	
Adhesion – Ply	ASTM D413 Type A	15 lbs/in min or Film Tearing Bond	13 daN/5 cm min. or Film Tearing Bond
Bonded Seam Strength	ASTM D751, Grab Test Method, Procedure A	550 lb min	2450 N min.
Abrasion Resistance	ASTM D3389 (H-18 Wheel 1 kg Load)	2000 cycles (min) before fabric exposure 50 mg/100 cycles max weight loss	
Weathering Resistance	Carbon-Arc ASTM G 153	8000 hrs (min)-No appreciable changes Or stiffening or cracking of coating	
Water Absorption	ASTM D471 Section 12, 7 Days	0.025 kg/m <sup>2</sup> @ 70°F/21°C 0.14 kg/m <sup>2</sup> max @ 212°F/100°C	
Wicking	ASTM D 751	1/8 in max.	0.3 cm max.
Puncture Resistance	ASTM D4833	275 lb min	1200 N min.
Coefficient of Thermal Expansion/Contraction	ASTM D696	8 x 10 <sup>-6</sup> in/in/°F max	1.4 X 10 <sup>-5</sup> cm/cm/°C max.
Puncture Resistance	FED-STD-101C Method 2031	350 lb (approx)	1550 N (approx)

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