Lange Containment Systems, Inc
5150 Race Court
Denver, CO 80216

XR-5 Geomembrane – Mechanical Properties

XR-5® 8130 Reinforced	Test Method	Specification
Base Fabric Type	ASTM D3776	Polyester
Base Fabric Weight (nominal)	ASTM D3776	6.5 oz/yd^2
Thickness	ASTM D751	30.0 mils (min.)
Weight	ASTM D751	30.0 ± 2 oz/yd^2
Tear Strength	ASTM D4533, Trapezoid Tear	35/35 lb_f (min.)
Breaking Strength	ASTM D751, Grab Tensile	550/550 lb_f (min.)
Low Temperature	ASTM D2136, 4hr – 1/8" mandrel	Pass @ -30 ^oF
Dimensional Stability	ASTM D1204, 212^{o}F / 100^{o}C – 1 hr	1.5% max. each direction
Adhesion – Heat Sealed Seam	ASTM D751, Dielectric Weld	35 lb_f/2 in (min.)
Dead Load – Seam Shear Strength	ASTM D751	2 in seam, 4 hr, 1 in strip 210 lb_f @ 70^{o}F 105 lb_f @ 160^{o}F
Bursting Strength	ASTM D751 Ball Tip	650 lb_f (min.) 800 lb_f (typical)
Hydrostatic Resistance	ASTM D751, Method A	800 psi (min.)
Blocking Resistance	ASTM D751 (180^{o}F / 82^{o}C)	#2 Rating (max.)
Adhesion – Ply	ASTM D413	15 lb_f/in (min.) or Film Tearing Bond
Bonded Seam Strength	ASTM D751 as modified by NSF 54	550 lbf (min.)
Abrasion Resistance	ASTM D3389 (H-18 Wheel, 1000 g load)	2,000 cycles (min.) before fabric exposure 50 mg/ 100 cycles max weight loss
Weathering Resistance	ASTM G23 (Carbon-Arc)	8,000 hrs (min.) – No appreciable changes or stiffening or cracking of coating
Water Absorption	ASTM D471, Section 12, 7 days	0.025 kg/m^2 (max.) @ 70^{o}F / 21^{o}C 0.14 kg/m^2 (max.) @ 212^{o}F / 100^{o}C
Wicking	Shelter-Rite® Procedure	1/8 in (max.)
Puncture Resistance	ASTM D4833	250 lb_f (min.)
Coefficient of Thermal Expansion / Contraction	ASTM D696	8 x 10^{-6} in/in/^{o}F (max.)

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