



Western Environmental
Liner

**High Performance XR-5 8130 Reinforced Geomembrane
Specification Sheet**

XR-5® 8130 Reinforced	Test Method	Standard	Metric
Base Fabric Type Base Fabric Weight (nominal)		Polyester 6.5 oz/yd ²	Polyester 220 g/m ²
Thickness	ASTM D 751	30.0 mils min	0.75 mm min
Weight	ASTM D 751	30.0 ± 2 oz/yd ²	1020 ± 70 g/m ²
Tear Strength	ASTM D 4533 Trapezoid Tear	35/35 lb min	155/155 N min
Breaking Yield Strength	ASTM D 751 Grab Tensile Procedure A	550/550 lb min	2450/2450 N min
Low Temperature	ASTM D 2136 4-hr 1/8" mandrel	Pass @ -30°F	Pass @ -35°C
Dimensional Stability	ASTM D 1204 212 °F – 1 hr	1.5% max each direction	1.5% max each direction
Adhesion Heat Sealed Seam	ASTM D 751 Dielectric Weld	35 lb/2 in min	150 N/5 cm min
Dead Load Seam Shear Sealed	ASTM D 751 Dielectric Weld	2 in seam, 1 in strip 210 lb @ 70°F 105 lb @ 160°F	5 cm seam, 2.5 cm strip 935 N @ 21°C 465 N @ 70°C
Bursting Strength	ASTM D 751 4-hour test	650 lb min 800 lb typical	2890 N min 3560 N typical
Hydrostatic Resistance	ASTM D 751 Ball Tip	800 psi min	540 N/sq cm min
Blocking Resistance	ASTM D 751 Method A	#2 Rating max	
Adhesion – Ply	ASTM D 413 Type A	15 lb/in min Or Film Tearing Bond	65 N/2.5 cm min or Film Tearing Bond
Bonded Seam Strength	ASTM D 751 Grab Test Method Procedure A	550 lb min	2450 N min
Abrasion Resistance	ASTM D 3389 H-18 Wheel 1000 g Load	2000 cycles (min) before fabric exposure 50 mg/100 cycles max weight loss	
Weathering Resistance	ASTM G153 (Carbon – Arc)	8000 hrs (min)-No appreciable changes or stiffening or cracking of coating	
Water Absorption	ASTN D 471 Section 12 7 Days	0.025 kg/m ² max @ 70°F/21°C 0.14 kg/m ² max @ 212°F/100°C	
Wicking	ASTM D 751	1/8 in max	0.3 cm max
Puncture Resistance	ASTM D 4833	250 lb min	110 N min
Coefficient of Thermal Expansion/Contraction	ASTM D 696	8 x 10 ⁻⁶ in/in/°F max	1.4 x 10 ⁻⁵ cm/cm/°C max

Seaming: Thermal welding methods are recommended. No glues or solvents are suggested.

XR-5® Fluid Resistance Guidelines

The data below is the result of laboratory tests and is intended to serve only as a guide. No performance warranty is intended or implied. The degree of chemical attack on any material is governed by the conditions under which it is exposed. Exposure time, temperature, and size of the area of exposure usually varies considerably in application, therefore, this table is given and accepted at the user's risk. Confirmation of the validity and suitability in specific cases should be obtained.

When considering [XR-5 for specific application](#), it is suggested that a sample be tested in actual service before specification. Where impractical, tests should be devised which simulate actual service conditions as closely as possible.

EXPOSURE	RATING	EXPOSURE	RATING
AFFF	A	JP-4 Jet Fuel	A
Acetic Acid (5%)	B	JP-5 Jet Fuel	A
Acetic Acid (50%)	C	JP-8 Jet Fuel	A
Ammonium Phosphate	T	Kerosene	A
Ammonium Sulfate	T	Magnesium Chloride	T
Antifreeze (ethylene glycol)	A	Magnesium Hydroxide	T
Animal Oil	A	Methanol	A
Aqua Regia	X	Methyl Alcohol	A
ASTM Fuel A (100% Iso-octane)	A	Methyl Ethyl Ketone	X
ASTM Oil #2 (Flash pt. 240° C)	A	Mineral Spirits	A
ASTM Oil #3	A	Naphtha	A
Benzene	X	Nitric Acid (5%)	B
Calcium Chloride Solutions	T	Nitric Acid (50%)	C
Calcium Hydroxide	T	Perchloroethylene	C
20% Chlorine Solution	A	Phenol	X
Clorox	A	Phenol Formaldehyde	B
Conc. Ammonium Hydroxide	A	Phosphoric Acid (50%)	A
Corn Oil	A	Phosphoric Acid (100%)	C
Crude Oil	A	Phthalate Plasticizer	C
Diesel Fuel	A	Potassium Chloride	T
Ethanol	A	Potassium Sulphate	T
Ethyl Acetate	C	Raw Linseed Oil	A
Ethyl Alcohol	A	SAE-30 Oil	A
Fertilizer Solution	A	Salt Water (25%)	B
#2 Fuel Oil	A	Sea Water	A
#6 Fuel Oil	A	Sodium Acetate Solutions	T
Furfural	X	Sodium Bisulfite Solution	T
Gasoline	B	Sodium Hydroxide (60%)	A
Glycerin	A	Sodium Phosphate	T
Hydraulic Fluid- Petroleum Based	A	Sulphuric Acid (50%)	A
Hydraulic Fluid- Phosphate		Tanic Acid (50%)	A
Ester Based	C	Toluene	C
Hydrocarbon Type II (40% Aromatic)	C	Transformer Oil	A
Hydrochloric Acid (50%)	A	Turpentine	A
Hydrofluoric Acid (5%)	A	Urea Formaldehyde	A
Hydrofluoric Acid (50%)	A	UAN	A
Hydrofluosilicic Acid (30%)	A	Vegetable Oil	A
Isoprophyl Alcohol	T	Water (200°F)	A
Ivory Soap	A	Xylene	X
Jet A	A	Zinc Chloride	T

Ratings are based on visual and physical examination of samples after removal from the test chemical after the samples Black XR-5 were immersed for 28 days at room temperature. Results represent ability of material to retain its performance properties when in contact with the indicated chemical.

Rating Key:

A – Fluid has little or no effect	T – No data – likely to be acceptable
B – Fluid has minor to moderate effect	X – No data – not likely to be acceptable
C – Fluid has severe effect	