



XKR[®]
GEOMEMBRANES
By Seaman Corporation

PRODUCT SAMPLES

PROVEN IN THE WORLD'S MOST DEMANDING ENVIRONMENTS

Recognized globally for engineering XR® Geomembranes, Seaman Corporation has been providing high-performance containment solutions for over 35 years.

Using a proprietary, vertically integrated process, which allows control over the manufacturing of our products from beginning to end, XR geomembranes are constructed around a high-strength base fabric employing a proprietary EIA-based coating formulation. This approach results in a geomembrane that is both stronger and more flexible than other geomembranes, and provides the industry's high standards of geomembrane versatility, durability and performance.

Performance Advantages:

- Superior UV Resistance
- Low Thermal Expansion / Contraction
- Extreme Chemical Resistance
- Superior Tensile Strength
- High Puncture Resistance
- Dynamic/Repeated Flexing
- High/Low Temperatures



XR-5®

For over 35 years, XR-5® has been used by engineers who needed the strongest geomembrane for use in the world's harshest conditions. XR-5 is the highest-strength and most chemically resistant fabric on the market. XR-5 was developed to contain and protect against acids, oils and methane. Across the world, XR-5 provides superior protection for a wide variety of applications such as lagoon liners, secondary containment, floating covers, wastewater baffles and spill berms.



8130 / 8138

Property	Test Method	Result
Base Fabric Type	ASTM D 751	Polyester
Base Fabric Weight		6.5 oz/yd ² nominal (220 g/m ² nominal)
Thickness	ASTM D 751	8130: 30.0 mils nominal (0.76 mm min.)
		8138: 40.0 mils nominal (1 mm min.)
Weight	ASTM D 751	8130: 30.0 ± 2.0 oz/yd ² (1017 ± 2 g/sq. m)
		8138: 38.0 ± 2.0 oz/yd ² (1288 ± 2 g/sq. m)
Tear Strength	ASTM D 751 - Trap Tear	40/55 lb. min. (175/245 N min.)
Breaking Yield Strength	ASTM D 751 - Grab Tensile	550/550 lb. min. (2,448/2,448 N min.)
Low Temperature Resistance	ASTM D 2136 - 4hrs-1/8in Mandrel	Pass @ -30° F (Pass @ -34° C)
Dimensional Stability	ASTM D 1204 - 212° F / 100° C-1 hr.	0.5% max. each direction
Hydrostatic Resistance	ASTM D 751 - Method A	800 psi min. (5.51 MPa min.)
Blocking Resistance	ASTM D 751 - 180° F / 82° C	#2 Rating max.
Adhesion-Ply	ASTM D 413 -Type A	15 lb./in. min. or film tearing bond (13 daN/5 cm min. or FTB)
Adhesion-Heat Welded Seam	ASTM D 751 - Dielectric Weld	40 lb./2in. min. (17.5 daN/5 cm min.)
Dead Load Seam Strength	ASTM D 751 - 4-Hour Test	Pass 240 lb./in. @ 70° F (Pass 1,068 N/2.54 cm @ 21° C) Pass 120 lb./in. @ 160° F (Pass 534 N/2.54 cm @ 70° C)
Bonded Seam Strength	ASTM D 751 - Procedure A, Grab Test Method	550 lb. min. (2,450 N min.)
Abrasion Resistance	ASTM D 3389 - H-18 Wheel 1 kg Load	2,000 cycles min. before fabric exposure, 50 mg/100 cycles max. weight loss
Weathering Resistance	ASTM G 153	8,000 hours min. with no appreciable change or stiffening or cracking of coating
Water Absorption	ASTM 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	1/8in max. (0.3 cm max.)
Bursting Strength	ASTM D 751 Ball Tip	750 lb. min. (3,330 N min.)
Puncture Resistance	ASTM D 4833	275 lb. min. (1,200 N min.)
	FTMS 101C Method 2031	350 lb. approx. (1550N approx.)
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.)
Environmental/Chemical Resistance Properties	ASTM D 741 - 7-day Total Immersion with Exposed Edges	See Chemical Resistance Table

XR-3®

Recognizing the need for a lighter duty geomembrane, Seaman Corporation developed XR-3® for applications that required moderate chemical resistance and strength. XR-3 uses the same base technology found in XR-5. This versatile and economical geomembrane can commonly be found in municipal wastewater and storm water runoff applications.



8228

Property	Test Method	Result
Base Fabric Type	ASTM D 751	Polyester
Base Fabric Weight		3.0 oz/yd ² nominal (102 g/m ² nominal)
Thickness	ASTM D 751	30.0 mils nominal (0.76 mm min.)
Weight	ASTM D 751	28.0 ± 2.0 oz/yd ² (950 ± 70 g/sq. m)
Tear Strength	ASTM D 751 - Trap Tear	30/30 lb. min. (133/133 N min.)
Breaking Yield Strength	ASTM D 751 - Grab Tensile	250/200 lb. min. (1,110/890 N min.)
Low Temperature Resistance	ASTM D 2136 - 4hrs-1/8in Mandrel	Pass @ -25° F (Pass @ -32° C)
Dimensional Stability	ASTM D 1204 - 212° F / 100° C-1 hr.	5% max. each direction
Hydrostatic Resistance	ASTM D 751 - Method A	300 psi min. (2.07 MPa min.)
Blocking Resistance	ASTM D 751 - 180° F / 82° C	#2 Rating max.
Adhesion-Ply	ASTM D 413 -Type A	15 lb./in. min. or film tearing bond (13 daN/5 cm min. or FTB)
Adhesion-Heat Welded Seam	ASTM D 751 - Dielectric Weld	10 lb./in. min. (9.0 daN/5 cm min.)
Dead Load Seam Strength	ASTM D 751 - 4-Hour Test	Pass 100 lb./in. @ 70° F (Pass 445 N/2.54 cm @ 21° C) Pass 50 lb./in. @ 160° F (Pass 220 N/2.54 cm @ 70° C)
Bonded Seam Strength	ASTM D 751 - Procedure A, Grab Test Method	550 lb. min. (2,450 N min.)
Abrasion Resistance	ASTM D 3389 - H-18 Wheel 1 kg Load	2,000 cycles min. before fabric exposure, 50 mg/100 cycles max. weight loss
Weathering Resistance	ASTM G 153	8,000 hours min. with no appreciable change or stiffening or cracking of coating
Water Absorption	ASTM 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	1/8in max. (0.3 cm max.)
Bursting Strength	ASTM D 751 Ball Tip	350 lb. min. (1,557 N min.)
Puncture Resistance	ASTM D 4833	50 lb. min. (225 N min.)
	FTMS 101C Method 2031	205 lb. approx.
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.)
Environmental/Chemical Resistance Properties	ASTM D 741 - 7-day Total Immersion with Exposed Edges	Crude oil 5% max. weight gain Diesel fuel 5% max. weight gain

XR POTABLE WATER

XR Potable Water geomembranes are preferred by more engineers and utility owners for the containment of potable water. This high-strength, flexible geomembrane provides superior puncture, tear and UV resistance. It is the only geomembrane with NSF 61 approval for potable water contact. The versatility of XR-PW geomembranes allows it to be used for many unique applications, including finished water baffles, raw water ponds and floating covers. XR-5 PW is specifically engineered for floating cover applications.



XR5PW 8142 / XR3PW 8130

Property	Test Method	Result
Base Fabric Type	ASTM D 751	XR-3 PW: Polyester 3.0 oz/yd ² nominal (102 g/m ² nominal)
Base Fabric Weight	ASTM D 751	XR-5 PW: Polyester 6.5 oz/yd ² nominal (220 g/m ² nominal)
Thickness	ASTM D 751	XR-3 PW: 30.0 mils nominal (0.76 mm min.) XR-5 PW: 45 mils nominal (1.13 mm min.)
Weight	ASTM D 751	XR-3 PW: 30.0 +/- 2 oz./sq. yd. (1017 +/- 70 g/sq. m) XR-5 PW: 42.0 +/- 2.0 oz/yd ² (1424 +/- 70 g/sq. m)
Tear Strength	ASTM D 751 - Trap Tear	40/55 lbs. min. (175/245 N min.)
Breaking Yield Strength	ASTM D 751 - Grab Tensile	550/550 lb. min. (2,447/2,447 N min.)
Low Temperature Resistance	ASTM D 2136 - 4hrs-1/8in Mandrel	Pass @ -30° F (Pass @ -35° C)
Dimensional Stability	ASTM D 1204 - 212° F / 100° C-1 hr.	0.5% max. each direction
Hydrostatic Resistance	ASTM D 751 - Method A	800 psi min. (5.51 MPa min.)
Blocking Resistance	ASTM D 751 - 180° F / 82° C	#2 Rating max.
Adhesion-Ply	ASTM D 413 -Type A	15 lb./in. min. or film tearing bond (13 daN/5 cm min. or FTB)
Adhesion-Heat Welded Seam	ASTM D 751 - Dielectric Weld	40 lb./2 in. min. (17.5 daN/5 cm min.)
Dead Load Seam Strength	ASTM D 751 - 4-Hour Test	Pass 240 lb./in. @ 70° F (Pass 1,068 N/2.54 cm @ 21° C) Pass 120 lb./in. @ 160° F (Pass 534 N/2.54 cm @ 70° C)
Bonded Seam Strength	ASTM D 751 - Procedure A, Grab Test Method	550 lb. min. (2,450 N min.)
Abrasion Resistance	ASTM D 3389 - H-18 Wheel 1 kg Load	2,000 cycles min. before fabric exposure, 50 mg/100 cycles max. weight loss
Weathering Resistance	ASTM G 153	8,000 hours min. with no appreciable change or stiffening or cracking of coating
Water Absorption	ASTM 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.)
Bursting Strength	ASTM D 751 Ball Tip	750 lb. min. (3,330 N min.)
Puncture Resistance	ASTM D 4833 FTMS 101C Method 2031	275 lb. min. (1,200 N min.) 350 lbs. (approx.)
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.)
Certifications		NSF 61 approved for potable water



XR5 8130

- Applications Include:**
- Lagoon liners
 - Secondary containment
 - Floating covers
 - Wastewater baffles

XR5 8138

- Applications Include:**
- Lagoon liners
 - Secondary containment
 - Floating covers
 - Wastewater baffles

XR3 8228

- Applications Include:**
- Municipal wastewater ponds
 - Storm water runoff impoundments

XR5PW 8142

- Applications Include:**
- Potable water floating covers

XR3PW 8130

- Applications Include:**
- Potable water pond liners
 - Potable water diversion curtains
 - Potable water tank liners

XR-5®

XR-3®

XR-5®PW

XR-3®PW

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