

# SMOOTH HDPE GEOMEMBRANE

## HIGH DENSITY POLYETHYLENE



Titan HD is a smooth high-density polyethylene (HDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembranes. This product is used in applications that require excellent chemical resistance and endurance properties. This product specification meets GRI-GM13.

TESTED PROPERTY	TEST METHOD	FREQUENCY	UNIT ENGLISH (METRIC)	MINIMUM AVERAGE ROLL VALUE ENGLISH (METRIC)				
				TITAN 30HD	TITAN 40HD	TITAN 60HD	TITAN 80HD	TITAN 100HD
Thickness Lowest individual reading	ASTM D 5199	every roll	mil (mm)	30 (0.750) 27 (0.675)	40 (1.00) 36 (0.90)	60 (1.50) 54 (1.35)	80 (2.00) 72 (1.80)	100 (2.50) 90 (2.25)
Density	ASTM D 1505	200,000 lb (90,000 kg)	g/cm <sup>3</sup>	0.940	0.940	0.940	0.940	0.940
Tensile Properties (Each Direction)	ASTM D 6693, Type IV Dumbbell, 2 ipm	20,000 lb (9,000 kg)	lb/in-width (N/mm)	114 (20)	152 (27)	228 (40)	304 (53)	380 (67)
Strength at Break	G.L. 2.0in (50mm) G.L. 1.3in (33mm)		lb/in-width (N/mm)	63 (11)	84 (15)	126 (22)	168 (29)	210 (37)
Strength at Yield			%	700	700	700	700	700
Elongation at Break			%	12	12	12	12	12
Elongation at Yield								
Tear Resistance	ASTM D 1004	45,000 lb (20,000 kg)	lb (N)	21 (93)	28 (125)	42 (187)	56 (249)	70 (311)
Puncture Resistance	ASTM D 4833	45,000 lb (20,000 kg)	lb (N)	54 (240)	72 (320)	108 (480)	144 (640)	180 (800)
Carbon Black Content	ASTM D 1603*/4218	20,000 lb (9,000 kg)	% (range)	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion	ASTM D 5596	45,000 lb (20,000 kg)		Note <sup>(1)</sup>	Note <sup>(1)</sup>	Note <sup>(1)</sup>	Note <sup>(1)</sup>	Note <sup>(1)</sup>
Notched Constant Tensile Load	ASTM D 5397, Appendix	200,000 lb (90,000 kg)	hr	300	300	300	300	300
Oxidative Induction Time	ASTM D 3895, 200°C; O <sub>2</sub> , 1 atm	200,000 lb (90,000 kg)	mins	>100	>100	>100	>100	>100
<b>TYPICAL ROLL DIMENSIONS</b>								
Roll Length <sup>(2)</sup>			ft (m)	1,120 (341)	870 (265)	560 (171)	430 (131)	340 (104)
Roll Width <sup>(2)</sup>			ft (m)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)
Roll Area <sup>(2)</sup>			ft <sup>2</sup> (m <sup>2</sup> )	25,200 (2,341)	19,575 (1,819)	12,600 (1,171)	9,675 (899)	7,650 (711)

**NOTES:**

- (1) Dispersion only applies to near spherical agglomerates. 9 of 10 views shall be 1 or 2. No more than 1 view from Category 3.
- (2) Roll lengths and widths have a tolerance of ±1%.
  - o HDPE Smooth is available in rolls weighting approximately 4,000 lb (1,800kg).
  - o All geomembranes have dimensional stability of ±2% when tested according to ASTM F 1204 and LTB of <-77°C when tested according to ASTM D 746.
  - o \*Modified

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### TITAN ENVIRONMENTAL CONTAINMENT

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(Rev. April, 2018)

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