

Titan HDL Leak Location liner is a smooth, spark-testable high-density polyethylene (HDPE) geomembrane that contains an integrated, specially formulated conductive layer on the bottom surface of the geomembrane. This liner can be easily tested for post-installation damage using equipment capable of performing spark testing in the field per ASTM D 7240. This product is used in applications that require post-installation testing on the liner system to increase the quality of the project. This product specification meets GRI-GM13.

TESTED PROPERTY	TEST METHOD	FREQUENCY	UNIT ENGLISH (METRIC)	MINIMUM AVERAGE ROLL VALUE ENGLISH (METRIC)			
				Titan 40HDL	Titan 60HDL	Titan 80HDL	Titan100HDL
Thickness Lowest individual reading	ASTM D 5199	every roll	mil (mm)	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
Tensile Properties (Each Direction) Strength at Break Strength at Yield Elongation at Break Elongation at Yield	ASTM D 6693, Type IV Dumbell, 2 ipm G.L. 2.0in (50mm) G.L. 1.3in (33mm)	20,000 lb (9,000 kg)	lb/in-width (N/mm) lb/in-width (N/mm) % %	152 (27) 84 (15) 700 12	228 (40) 126 (22) 700 12	304 (53) 168 (29) 700 12	380 (67) 210 (37) 700 12
Tear Resistance	ASTM D 1004	45,000 lb (20,000 kg)	lb (N)	28 (125)	42 (187)	56 (249)	70 (311)
Puncture Resistance	ASTM D 4833	45,000 lb (20,000 kg)	lb (N)	72 (320)	108 (480)	144 (640)	180 (800)
Carbon Black Content <sup>(1)</sup>	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
Carbon Black Dispersion	ASTM D 5596	45,000 lb (20,000 kg)		Note <sup>(2)</sup>	Note <sup>(2)</sup>	Note <sup>(2)</sup>	Note <sup>(2)</sup>
Notched Constant Tensile Load	ASTM D 5397, Appendix	200,000 lb (90,000 kg)	hr	500	500	500	500
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
TYPICAL ROLL DIMENSIONS							
Roll Length <sup>(3)</sup>			ft (m)	870 (265)	560 (171)	430 (131)	340 (104)
Roll Width <sup>(3)</sup>			ft (m)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)
Roll Area			ft <sup>2</sup> (m <sup>2</sup> )	19,575 (1,819)	12,600 (1,171)	9,675 (899)	7,650 (711)

NOTES: \*modified

(1) Leak Location Smooth may have an overall ash content of 3.0%. These values apply to the non-conductive black layers.

(2) Dispersion applies to near spherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.

(3) Roll lengths and widths have a tolerance of ±1%.

Leak Location Smooth is available in rolls weighting approximately 3,900 lb (1,800 kg)

• All geomembranes have a dimensional stability of ±2% when tested according to ASTM D 1204 and LTB of <-77°C when tested according to ASTM D 746.

This data is provided for informational purposes only. Titan makes no warranties as to the suitability or the fitness for a specific use or merchantability of the products referred to, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability from resulting loss or damage. This information is subject to change without notice, please check with us for current updates.

## TITAN ENVIRONMENTAL CONTAINMENT

Toll Free: 1-866-327-1957 | Email: info@titanenviro.com | Web: www.titanenviro.com