## LEAK LOCATION

## TEXTURED HDPE GEOMEMBRANE



Titan HDL Leak Location Textured is a co-extruded double-sided textured, spark-testable high-density polyethylene (HDPE) geomembrane that contains an integrated specially formulated conductive layer on the bottom surface of the geomembrane. A textured surface is available on one or both sides for applications that require increased friction. This liner can easily be 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<br>ENGLISH (METRIC)                           | MINIMUM AVERAGE ROLL VALUES ENGLISH (METRIC) |                                  |                                   |                                   |
|---|--|------------------------|--|--|----------------------------------|-----------------------------------|-----------------------------------|
|   |  |                        |  | Titan 40SST<br>Titan 40DST                   | Titan 60SST<br>Titan 60DST       | Titan 80SST<br>Titan 80DST        | Titan 100SST<br>Titan 100DST      |
| Thickness<br>Lowest individual reading  | ASTM D 5994  | every roll             | mil (mm)   | 40 (1.00)<br>36 (0.90)                       | 60 (1.50)<br>54 (1.35)           | 80 (2.00)<br>72 (1.80)            | 100 (2.50)<br>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<br>Dumbell, 2 ipm<br>G.L. 2.0in (50mm)<br>G.L. 1.3in (33mm) | 20,000 lb (9,000 kg)   | lb/in-width (N/mm)<br>lb/in-width (N/mm)<br>%<br>% | 60 (10)<br>84 (15)<br>100<br>12              | 90 (16)<br>126 (22)<br>100<br>12 | 120 (21)<br>168 (29)<br>100<br>12 | 150 (26)<br>210 (37)<br>100<br>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)   | 60 (267)                                     | 90 (400)                         | 120 (534)                         | 150 (667)                         |
| 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>               |
| Asperity Height   | ASTM D 7466  | second roll            | mil (mm)   | 18 (0.45)                                    | 18 (0.45)                        | 18 (0.45)                         | 18 (0.45)                         |
| Notched Constant Tensile Load <sup>(3)</sup>  | 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>(4)</sup>  | Double-  | Sided Textured         | ft (m)   | 700 (213)                                    | 520 (158)                        | 400 (122)                         | 330 (101)                         |
|   | Single-S   | ided                   |  | 780 (238)                                    | 540 (165)                        | 410 (125)                         | 330 (101)                         |
| Roll Width <sup>(4)</sup>   |  |                        | ft (m)   | 22.5 (6.86)                                  | 22.5 (6.86)                      | 22.5 (6.86)                       | 22.5 (6.86)                       |
| Roll Area Double-Sided Textured Single-Sided  |  |                        | ft² (m²)   | 15,750 (1,461)<br>17,550 (1,633)             | 11,700 (1,084)<br>12,150 (1,132) | 9,000 (837)<br>9,225 (858)        | 7,425 (693)<br>7,425 (693)        |

## NOTES:

- (1) Leak Location Smooth may have an overall ash content of 3.0% due to the conductive layer. These values apply to the non-conductive black layer only.
- (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) NCTL for Leak Location textured is conducted on representative smooth membrane samples.
- (4) Roll lengths and widths have a tolerance of ±1%.
- HDPE Leak Location Smooth is available in rolls weighting approximately 4,000 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.</li>
- \*modified

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