## Geomembrane – High Density Polyethylene

## Technical Comparison Sheet

## Penteco HDPE Textured Surface

- Containment
- Erosion Control
- Leak Detection
- Water Proofing
- Protection

HDPE geomembranes have a high dense cell structure making them an ideal choice for containment applications. Its low cost, high chemical resistance, and excellent weathering properties, furthermore, ranks it to be the world's most popular geomembrane.

HDPE geomembranes are produced in various thicknesses, textures, and performance standards. Penteco's HDPE series meets or exceeds GRI's GM-13 specifications. With any geomembrane, it is crucial to narrow down the design parameters in order to match it with the best suited product.

| HDPE Textured Geomembrane             |                        |                            |              | Product Series                                   |           |           |           |
|---------------------------------------|------------------------|----------------------------|--------------|--|-----------|-----------|-----------|
| Property                              | Test Method            | Frequency                  | Unit         | HD-T30   | HD-T40    | HD-T60    | HD-T80    |
| Thickness (nominal)                   | - ASTM D-5994          | Per Roll                   | mil (mm)     | 30 (0.75)  | 40 (1.0)  | 60 (1.5)  | 80 (2.0)  |
| Thickness (min. average)              |                        |                            | mil (mm)     | 29 (0.71)  | 38 (1.43) | 57 (1.43) | 76 (1.9)  |
| Lowest ind. for 8 out of 10 values    |                        |                            | mil (mm)     | 27 (0.68)  | 36 (0.90) | 54 (1.35) | 72 (1.8)  |
| Lowest ind. for any of 10 values      |                        |                            | mil (mm)     | 26 (0.64)  | 34 (0.85) | 51 (1.28) | 68 (1.7)  |
| Asperity Height                       | ASTM D-7466            | Every 2 <sup>nd</sup> Roll | mil (mm)     | 16 (0.4)   | 16 (0.4)  | 16 (0.4)  | 16 (0.4)  |
| Density                               | ASTM D-1505            | 200,000 lbs<br>(90,000 kg) | g/cm³        | 0.94   | 0.94      | 0.94      | 0.94      |
| Tensile Properties                    |                        | 20,000 lbs<br>(9,000 kg)   |              |  |           |           |           |
| Yield Strength                        | ASTM D-6693<br>Type IV |                            | lb/in (KN/m) | 63 (11)  | 84 (15)   | 126 (22)  | 168 (29)  |
| Break Strength                        |                        |                            | lb/in (KN/m) | 45 (8)   | 60 (10)   | 90 (16)   | 120 (21)  |
| Yield Elongation                      |                        |                            | %            | 12   | 12        | 12        | 12        |
| Beak Elongation                       |                        |                            | %            | 100  | 100       | 100       | 100       |
| Tear Resistance                       | ASTM D-1004            | 45,000 lbs<br>(20,000 kg)  | lb (N)       | 21 (93)  | 28 (125)  | 42 (187)  | 56 (249)  |
| Puncture Resistance                   | ASTM D-4833            | 45,000 lbs<br>(20,000 kg)  | lb (N)       | 45 (200)   | 60 (267)  | 90 (400)  | 120 (534) |
| Stress Crack Resistance               | ASTM D-5397            | 200,000 lbs<br>(90,000 kg) | hr           | 500  | 500       | 500       | 500       |
| Carbon Black Content                  | ASTM D-4218            | 20,000 lbs<br>(9,000 kg)   | %            | 2.0 - 3.0  | 2.0 - 3.0 | 2.0 - 3.0 | 2.0 - 3.0 |
| Carbon Black Dispersion               | ASTM D-5596            | 45,000 lbs<br>(20,000 kg)  | category     | Only near spherical agglomerates as per GRI-GM13 |           |           |           |
| Oxidative Induction Time              | ASTM D-8117            | 200,000 lbs<br>(90,000 kg) | min          | 100  | 100       | 100       | 100       |
| Oven Aging - % retained after 90 days | ASTM D-8117            | 200,000 lbs<br>(90,000 kg) | %            | 80   | 80        | 80        | 80        |
| UV Res % retained after 1600 hrs      | ASTM D-5885            | 200,000 lbs<br>(90,000 kg) | %            | 50   | 50        | 50        | 50        |

## Notes:

- (1) Roll Widths/ Lengths vary based on manufacturer.
- (2) All roll widths/lengths have a tolerance of ±1 %.
- (3) Custom roll lengths can be ordered. Transportation cost might be affected.
- (4) Penteco is a distributor for this product with manufacturing partners based out of Canada & USA.
- (5) Manufacturer's data sheet provided at time of purchase.
- (6) Product specifications meets or exceeds GRI's GM 13.

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