

# TechGeo PRO HDPE SMOOTH 3.00 mm – GM13

**TechGeo PRO HDPE SMOOTH** Geomembrane series is manufactured by a Blown Film process which uses resins produced under world class quality controls and international standards. The formulation of this geomembrane is composed of high molecular weight virgin resins and stabilized with the best additives on the market. As a result, it guarantees high durability and excellent mechanical properties and chemical compatibility.

**TechGeo PRO HDPE SMOOTH** also follows international manufacturing guidelines established by GRI GM-13, recommendation developed by the Geosynthetic Research Institute (GRI).

### Available sizes

| Width (m) | Length (m) |
|-----------|------------|
| 7.00      | 50         |

| PROPERTIES  | TEST METHOD                            | UNITY             | 3.00 mm<br>120 mils | TESTING FREQUENCY    |
|---|--|-------------------|---------------------|----------------------|
| Thickness (min.ave.)<br>Lowest individual of 10 values                              | ASTM D5199                             | mm                | -10%                | Per roll             |
| Formulated Density (min.)   | ASTM D1505/D792                        | g/cm <sup>3</sup> | 0.94                | 90,000 kg            |
| Tensile Properties - Yield Strength (min.ave.)                                      | ASTM D6693 Type IV                     | kN/m              | 44                  | 9,000 kg             |
| Tensile Properties – Yield elongation (min.ave.)                                    | ASTM D6693 Type IV                     | %                 | 12                  |                      |
| Tensile Properties – Break strength (min.ave.)                                      | ASTM D6693 Type IV                     | kN/m              | 80                  |                      |
| Tensile Properties – Break elongation (min.ave.)                                    | ASTM D6693 Type IV                     | %                 | 700                 |                      |
| Tear resistance (min.ave.)  | ASTM D1004                             | N                 | 374                 | 20,000 kg            |
| Puncture resistance (min.ave.)  | ASTM D4833                             | N                 | 960                 | 20,000 kg            |
| Stress Crack Resistance (min.)  | ASTM D5397                             | h                 | 500                 | GM 10 (GRI)          |
| Carbon Black Content  | ASTM D1603                             | %                 | 2 – 3               | 9,000 kg             |
| Carbon Black Dispersion   | ASTM D5596                             | -                 | Note (1)            | 20,000 kg            |
| Oxidative Induction Time<br>Standard OIT (min.ave.)<br>High Pressure OIT (min.ave.) | ASTM D3895<br>ASTM D5885               | min               | 100<br>400          | 90,000kg             |
| Oven Aging *<br>Standard OIT (min.ave.)<br>High Pressure OIT (min.ave.)             | ASTM D5721<br>ASTM D3895<br>ASTM D5885 | %                 | 55<br>80            | PER EACH FORMULATION |
| UV Resistance **<br>Standard OIT (min.ave.)<br>High Pressure OIT (min.ave.)         | ASTM D7238<br>ASTM D3895<br>ASTM D5885 | %                 | Note (2)<br>50      | PER EACH FORMULATION |

(1) Carbon black dispersion for 10 different views: 9 in categories 1 and 2; 1 in category 3

(2) Not recommended since the high temperature of the Standard OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples

Obs: roll tolerable variation in width and length: ±2%

\* (Retained after 90 days)

\*\* (Retained after 1.600hrs)