

# ProLiner® LLDPE SMOOTH GEOMEMBRANE

## LINING SYSTEMS

### DESCRIPTION

LLDPE geomembranes have a generalised use as fundamental waterproofing materials for leachate pads, channels, dams & containment structures. LLDPE is a polymer with very short & uniform branches which make its melt temperature, tensile strength & cracking resistance superior to LDPE. ProLiner LLDPE is a non polar, semicrystalline thermoplastic with good mechanical properties, high chemical stability & electrical insulation. ProLiner LLDPE does not absorb humidity, is odourless & is physically inert. ProLiner geomembranes are manufactured with resins which are specially formulated & certified.

LLDPE geomembranes have a density from 0.928 - 0.939 g/cm<sup>3</sup>. ProLiner LLDPE geomembranes have low permeability, high stress resistance & flexibility, high break elongation & good chemical & UV resistance (2-3% carbon black).

Available in rolls of up to 170m long x 8m wide for 1mm thick product. All product is available in 8m width and roll length decreases with thickness increase.

| PROPERTIES   | UNIT              | TEST METHOD                | STANDARD 1.00MM | STANDARD 1.50MM | STANDARD 2.00MM | STANDARD 2.50MM |
|--|-------------------|----------------------------|-----------------|-----------------|-----------------|-----------------|
| Thickness Average (nom.)                               | mm                | ASTM D 5199                | 1.00            | 1.50            | 2.00            | 2.50            |
| Thickness Minimum (-10%)                               | mm                | ASTM D 5199                | 0.90            | 1.35            | 1.80            | 2.25            |
| Density (max)  | g/cm <sup>3</sup> | ASTM D 792                 | 0.939           | 0.939           | 0.939           | 0.939           |
| Tensile Properties:                                    |                   |                            |                 |                 |                 |                 |
| <i>Break Strength</i>                                  | kN/m              | ASTM D 6693 (Type IV)      | 27              | 40              | 53              | 66              |
| <i>Break Elongation</i>                                | %                 |                            | 800             | 800             | 800             | 800             |
| 2% Modulus (max)                                       | N/mm              | ASTM D 5323                | 420             | 630             | 840             | 1050            |
| Tear Resistance  | N                 | ASTM D 1004                | 100             | 153             | 204             | 255             |
| Puncture Resistance                                    | N                 | ASTM D 4833                | 275             | 407             | 550             | 682             |
| Axi-Symmetric Break Resistance Strain (min)            | %                 | ASTM D 5617                | 30              | 30              | 30              | 30              |
| Carbon Black Content                                   | %                 | ASTM D 1603                | 2.0-3.0         | 2.0-3.0         | 2.0-3.0         | 2.0-3.0         |
| Carbon Black Dispersion                                | Cat               | ASTM D 5596                | 1-2             | 1-2             | 1-2             | 1-2             |
| Oxidative Induction Time (OIT)                         | min               | ASTM D 3895                | 100             | 100             | 100             | 100             |
| Oven Ageing at 85°C<br><i>Standard OIT (90 days)</i>   | %                 | ASTM D 5721<br>ASTM D 3895 | 35              | 35              | 35              | 35              |
| UV Resistance<br><i>High Pressure OIT (1600 hours)</i> | %                 | GM 11<br>ASTM D 5885       | 35              | 35              | 35              | 35              |



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- Lining Systems**



**Global Synthetics**  
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ProLiner is a registered trademark of Global Synthetics Pty Ltd.  
ProLiner is manufactured to ISO9001, quality assurance procedure. Properties of ProLiner are minimum typical roll values unless otherwise noted. (GM) refers to the Geosynthetic Research Institute GRI-USA.

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