

# TERANAP® 431 4M

## Commercial Product Data Sheet



**USES:  
BITUMINOUS GEOMEMBRANE**

|                                 |  |                                     |
|---------------------------------|--|-------------------------------------|
| Roll Lengths                    | 262.47 ft<br>(80 m)                      | 295.28 ft<br>(90 m)                 |
| Roll Width                      | Avg: 13.12 ft<br>(4.0 m)                 |                                     |
| Coverage                        | 3441 sq ft<br>(320 m <sup>2</sup> )      | 3875 sq ft<br>(360 m <sup>2</sup> ) |
| Coverage Weight per Square Foot | Min: 1.09 lb<br>(5.3 kg/m <sup>2</sup> ) |                                     |
| Selvage Surfacing               | Removable Kraft Paper                    |                                     |
| Top Surfacing                   | Silica Parting Agent                     |                                     |
| Back Surfacing                  | Polyester Film                           |                                     |

### PRODUCT INFORMATION

#### Application

Refer to the applicable Siplast Technical Guide for detailed application information and slope limitations. Teranap 431 4M is lapped 8 inches (202 mm) side and end.

#### Storage and Handling

All Siplast 4 meter geomembrane products should be stored on end on a clean, flat surface. Rolls should not be dropped on ends or edges. Deformation resulting from these actions will make proper installation difficult. All products should be stored in a dry place out of direct exposure to the elements. Rolls are supplied with metal mandrels 15.7 ft (4.8 M) long with an internal diameter of 6.3 in ± 0.02 in (159 ± 0.5mm).

See product packaging and the Safety Data Sheet for specific information on the safe handling of this product.

#### Packaging

Rolls Per Container: 9  
 Shipping Weight Per Roll:  
 80m Roll: 3748 lb (1700 kg)  
 90m Roll: 4217 lb (1913 kg)

**TEST STANDARDS**

| Property (as Manufactured)                    | Values / Units                              | Test Method           |
|---|---|-----------------------|
| Thickness (minimum)                           | 154 mils (3.9 mm)                           | ASTM D5147 Section 6  |
| Thickness (average)                           | 161 mils (4.1 mm)                           | ASTM D5147 Section 6  |
| *Peak Load @ 73°F (23°C) (average)            | 90 lbf/in (15.8 kN/m)                       | ASTM D5147 Section 7  |
| *Elongation @ Peak Load 73°F (23°C) (average) | 45%   | ASTM D5147 Section 7  |
| *Ultimate Elongation (average)                | 100%  | ASTM D5147 Section 7  |
| Elongation at Break % (nominal)               | 55% x 60%                                   | ASTM D7275            |
| Tensile Strength at Break (nominal)           | 29 x 21 kN/m                                | ASTM D7275            |
| Static Puncture Resistance (nominal)          | 550 N                                       | ASTM D4833            |
| Tensile Tear Resistance (nominal)             | 940 x 720 N                                 | ASTM D4073            |
| Tearing Strength Resistance (nominal)         | 130 x 105 N                                 | ASTM D5884            |
| *Tear Strength (average)                      | 100 lbf (0.45 kN)                           | ASTM D5147 Section 8  |
| Water Absorption (maximum)                    | 1%  | ASTM D5147 Section 10 |
| Dimensional Stability (maximum)               | 1%  | ASTM D5147 Section 11 |
| Low Temperature Flexibility (maximum)         | -15°F (-26°C)                               | ASTM D5147 Section 12 |
| Compound Stability (minimum)                  | 225°F (107°C)                               | ASTM D5147 Section 16 |
| Gas Tightness                                 | 27.6E-6 M <sup>3</sup> /(M <sup>2</sup> .j) | ASTM D1434            |
| Water Permeability                            | > 2.10 <sup>-14</sup> m/s                   | ASTM E96              |

\*The value reported is the lower of either MD or XD.