

RESISTEX® 100DN9

GEOSYNTHETIC CLAY LINER

DESCRIPTION

RESISTEX® Geosynthetic Clay Liners (GCL) are engineered to provide the highest level of chemical compatibility in extremely aggressive leachate environments, such as coal combustion product storage facilities, mining operations, and industrial waste storage facilities. Site-specific compatibility testing is strongly recommended.⁷

CERTIFIED PROPERTIES

| PHYSICAL PROPERTIES | | | |
|---|-------------|--|---|
| MATERIAL PROPERTY | TEST METHOD | TEST FREQUENCY | CERTIFIED VALUES |
| Nonwoven Base Geotextile Mass/Area ¹ | ASTM D5261 | 200,000 ft ² (20,000m ²) | 6.0 oz/yd ² (203 g/m ²) min. |
| Nonwoven Cap Geotextile Mass/Area ¹ | ASTM D5261 | 200,000 ft ² (20,000m ²) | 9.0 oz/yd ² (305 g/m ²) min. |
| Bentonite Moisture Content ² | ASTM D2216 | 1 per 50 tonnes | 12% max. |
| Bentonite Swell Index ² | ASTM D5890 | 1 per 50 tonnes | 24 mL/2g min. |
| Bentonite Fluid Loss ² | ASTM D5891 | 1 per 50 tonnes | 18 mL max. |
| Bentonite Mass/Area ³ | ASTM D5993 | 40,000 ft ² (4,000m ²) | 0.75 lb/ft ² (3.7 kg/m ²) min. |
| Total Mass/Area ³ | ASTM D5993 | 40,000 ft ² (4,000m ²) | 0.83 lb/ft ² (4.1 kg/m ²) min. |
| GCL Moisture Content | ASTM D5993 | 40,000 ft ² (4,000m ²) | 35% max. |
| GCL Grab Strength ⁴ | ASTM D6768 | 200,000 ft ² (20,000m ²) | 50 lbs/in (8.8 kN/m) min. |
| GCL Peel Strength | ASTM D6496 | 40,000 ft ² (4,000m ²) | 3.5 lbs/in (610 N/m) min. |
| GCL Hydraulic Conductivity ⁵ | ASTM D5887 | 250,000 ft ² (25,000m ²) | 3 x 10 ⁻¹¹ m/s max. |
| GCL Hydrated Internal Shear Strength ⁶ | ASTM D6243 | 1,000,000 ft ² (100,000m ²) | 500 psf (24 kPa) typ. @ 200 psf (9.6 kPa) |

¹ Geotextile property tests performed on the geotextile components before they are incorporated into the finished GCL product.

² Bentonite property tests performed before the bentonite is incorporated into the finished GCL product.

³ Reported at 0% moisture content.

⁴ All tensile strength testing is performed in the machine direction using ASTM D6768.

⁵ Index flux and hydraulic conductivity testing with deaired distilled/deionized water at 80 psi (550 kPa) cell pressure, 77 psi (530 kPa) headwater pressure and 75 psi (515 kPa) tailwater pressure.

⁶ Peak values measured at 200 psf (9.6 kPa) normal stress for a specimen for a specimen hydrated for 48 hours. Site-specific materials, GCL products, and test conditions must be used to verify internal and interface strength of the proposed design.

⁷ Compatibility testing via ASTM D6766 recommended using site-specific leachate as the permeate fluid. Pre-hydration requirements for the GCL sample and other testing parameters such as confining stress to be prescribed by the design professional.

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