

BentoLiner® NWL-35 Geosynthetic Clay Liner

Metric

BentoLiner® “NWL-35” is a needlepunched reinforced composite geosynthetic clay liner (GCL) comprised of a uniform layer of granular sodium bentonite encapsulated between a nonwoven and a scrim-nonwoven geotextile for dimensional stability. The product is intended for moderate to steep slopes and moderate to high load applications where increased internal shear strength is required.

PRODUCT SPECIFICATIONS

TESTED PROPERTY	TEST METHOD	FREQUENCY	VALUE
GEOTEXTILE PROPERTY			
Cap Nonwoven, Mass/Unit Area	ASTM D 5261	1/20,000 m ²	200 g/m ² MARV ⁽¹⁾
Carrier Scrom Nonwoven, Mass/Unit Area	ASTM D 5261	1/20,000 m ²	200 g/m ² MARV
BENTONITE PROPERTY			
Swell Index	ASTM D 5890	1/50,000 kg	24 ml/2 g min
Moisture Content	ASTM D 4643	1/50,000 kg	12% max
Fluid Loss	ASTM D 5891	1/50,000 kg	18 ml max
FINISHED GCL PROPERTY			
Bentonite, Mass/Unit Area ⁽²⁾	ASTM D 5993	1/4,000 m ²	3.66 kg/m ² MARV
Tensile Properties Tensile Strength ⁽³⁾	ASTM D 6768	1/4,000 m ²	7.8 kN/m MARV
Peel Strength ⁽³⁾	ASTM D 6496 ASTM D 4632 ⁽⁴⁾	1/4,000 m ²	928 N/m MARV 155 N MARV
Hydraulic Conductivity ⁽⁵⁾	ASTM D 5887	1/Week	5 x 10 ⁻⁹ cm/sec max
Index Flux ⁽⁵⁾	ASTM D 5887	1/Week	1 x 10 ⁻⁸ m ³ /m ² /sec max
Internal Shear Strength ⁽⁶⁾	ASTM D 6243	Periodically	24 kPa Typical
TYPICAL ROLL DIMENSIONS			
Width x Length ⁽⁷⁾	Typical	Every roll	4.7 m x 45.7 m
Area per Roll	Typical	Every roll	216 m ²
Packaged Weight	Typical	Every roll	1,179 kg

NOTES:

- ⁽¹⁾ Minimum Average Roll Value.
- ⁽²⁾ At 0% moisture content.
- ⁽³⁾ Tested in machine direction.
- ⁽⁴⁾ Modified ASTM D 4632 to use a 100 mm wide grip. The maximum peak of five specimens averaged in machine direction.
- ⁽⁵⁾ Deaired, deionized water @ 34.5 kPa maximum effective confining stress and 13.8 kPa head pressure.
- ⁽⁶⁾ Typical peak value for specimen hydrated for 24 hours and sheared under a 9.6 kPa normal stress.
- ⁽⁷⁾ Roll widths and lengths have a tolerance of ±1%.

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