

BENTOMAT® DNW40-AU/GP2

GEOSYNTHETIC CLAY LINER (GCL)

CETCO® BENTOMAT® DNW40-AU/GP2 is a reinforced GCL for the Australian market consisting of a layer of sodium bentonite between a scrim-reinforced nonwoven and a nonwoven geotextile, which are needle-punched together to provide internal reinforcement. Scrim-reinforced double nonwoven GCLs provide better dimensional stability, reduced panel shrinking, and higher strength as compared to ordinary double nonwoven GCLs while maintaining the advantage of higher interface friction performance.¹

TECHNICAL DATA			
MATERIAL PROPERTY	TEST METHOD	CERTIFIED VALUE	TEST FREQUENCY
GCL			
Index Flux ²	ASTM D5887	9.0 x 10 ⁻⁹ (m ³ /m ²)/s max.	25000 m ²
Permeability ²	ASTM D5887	5,0 x 10 ⁻¹¹ m/s max.	25000 m ²
Total Mass/Unit Area ³	ASTM D5993	4400 g/m ² min.	4000 m ²
Bentonite Mass/Unit Area ³	ASTM D5993	4000 g/m ² min.	4000 m ²
Moisture Content	ASTM D5993	35% max.	4000 m ²
Tensile Strength MD	ASTM D6768	4,0 kN/m min.	20000 m ²
Peel Strength	ASTM D6496	600 N/m min.	4000 m ²
Typical Roll Length x Width ⁴	—	40,0 m x 5,0 m	Continuous
BENTONITE			
Swell Index ⁵	ASTM D5890	24 ml/2 g min.	50 tonnes
Fluid Loss ⁵	ASTM D5891	18 ml max.	50 tonnes
Montmorillonite Content ⁵	XRD	>70%	1/batch
Bentonite Durability ^{7,9}	GRI-GCL3 §5.6.1	1 x 10 ⁻⁷ (m ³ /m ²)/s max. @ 35 kPa	Yearly
GEOTEXTILES			
Non-Woven Cap Mass/Unit Area ⁶	ASTM D5261	200 g/m ² min.	20000 m ²
Scrim Non-Woven Base Mass/Unit Area ⁶	ASTM D5261	200 g/m ² min.	20000 m ²
Base and Cap Geotextile Durability ^{6,8,9}	GRI-GCL3 §5.6.2	65% retained min.	Yearly

Notes:

¹ Installation in accordance with CETCO® recommendations and ASTM Standard Guide D6102.

² Index flux and hydraulic conductivity testing with deaired distilled/deionized water at 550 kPa cell pressure, 530 kPa headwater pressure and 515 kPa tailwater pressure.

³ Reported at 0% moisture content.

⁴ Project specific roll dimensions should be confirmed with a Technical Sales Manager.

⁵ Bentonite property tests performed before the bentonite is incorporated into the finished GCL product.

⁶ Geotextile property tests performed on the geotextile components before they are incorporated into the finished GCL product.

⁷ Testing performed yearly for GCL manufactured with woven and nonwoven geotextiles and bentonite mass per unit area min. 3700 g/m² at 0% moisture content. The GCL test specimen is hydrated with distilled, deionized water prior to testing with a 0,05M CaCl₂ solution at 35 kPa normal pressure via ASTM D6766 in accordance with paragraph 5.6.1 of GRI-GCL3, rev. 5, dated November 21, 2019.

⁸ Base and cap geotextile test specimens are oven-aged for 50 days at 60 °C prior to testing for tensile strength in accordance with paragraph 5.6.2 of GRI-GCL3, rev. 5, dated November 21, 2019.

⁹ Yearly testing results can be provided upon request.