

# TECHNICAL REFERENCE 401-BM600CL

## BENTOMAT® 600 CL CERTIFIED PROPERTIES

Distributed by:



www.cascadegeos.com  
971-339-1020

MATERIAL PROPERTY	TEST METHOD	TEST FREQUENCY	REQUIRED VALUES
Bentonite Swell Index <sup>1</sup>	ASTM D 5890	1 per 50 tonnes	24 mL/2g min.
Bentonite Fluid Loss <sup>1</sup>	ASTM D 5891	1 per 50 tonnes	18 mL max.
Bentonite Mass/Area <sup>2</sup>	ASTM D 5993	40,000 ft <sup>2</sup> (4,000 m <sup>2</sup> )	0.75 lb/ft <sup>2</sup> (3.6 kg/m <sup>2</sup> ) min.
GCL Tensile Strength <sup>3</sup>	ASTM D 6768	200,000 ft <sup>2</sup> (20,000 m <sup>2</sup> )	30 lbs/in (53 N/cm) MARV
GCL Peel Strength <sup>3</sup>	ASTM D 6496	40,000 ft <sup>2</sup> (4,000 m <sup>2</sup> )	1 lb/in (1.75 N/cm) min.
GCL Index Flux <sup>4</sup>	ASTM D 5887	Periodic	1 X 10 <sup>-9</sup> m <sup>3</sup> /m <sup>2</sup> /sec max.
GCL Hydraulic Conductivity <sup>4</sup>	ASTM D 5887	Periodic	5 X 10 <sup>-10</sup> cm/sec max.
GCL Hydrated Internal Shear Strength <sup>5</sup>	ASTM D 5321 ASTM D 6243	Periodic	150 psf (7.2 kPa) typical

**Bentomat 600CL is a needle-punched GCL consisting of a layer of sodium bentonite between woven and nonwoven geotextiles, which are needlepunched together and laminated to a thin flexible membrane liner.**

### Notes

- 1 Bentonite property tests performed at a bentonite processing facility before shipment to CETCO's GCL production facilities.
- 2 Bentonite mass/area reported at 0 percent moisture content.
- 3 All tensile strength testing is performed in the machine direction using ASTM D 6768. All peel strength testing is performed using ASTM D 6496. Upon request, tensile and peel results can be reported per modified ASTM D 4632 using 4 inch grips.
- 4 Index flux and permeability testing with deaired distilled/deionized water at 80 psi (551kPa) cell pressure, 77 psi (531 kPa) headwater pressure and 75 psi (517 kPa) tailwater pressure. Actual flux values vary with field condition pressures.
- 5 Peak value measured at 200 psf (10 kPa) normal stress 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.

### LAST UPDATED JULY 2009

*IMPORTANT: The information contained herein supersedes all previous printed versions, and is believed to be accurate and reliable. For the most up-to-date information, please visit [www.CETCO.com](http://www.CETCO.com). CETCO accepts no responsibility for the results obtained through application of this product. CETCO reserves the right to update information without notice.*



[www.CETCO.com](http://www.CETCO.com)

2870 Forbs Avenue Hoffman Estates, IL 60192  
847.851.1800 | 800.527.9948

Distributed by: Cascade Geosynthetics  
3610 N. Suttle Road, Bldg B Portland, OR 97217  
Phone: (971) 339-1020, [www.cascadegeos.com](http://www.cascadegeos.com)