

BENTOMAT CL5000

GEOSYNTHETIC CLAY BARRIER (GBR-C)

BENTOMAT CL5000 is a reinforced GBR-C consisting of a layer of sodium bentonite between a woven and a nonwoven geotextile, which are needlepunched together and laminated to a flexible membrane liner. This GBR-C provides excellent hydraulic performance and has puncture and tensile strength beyond conventional plastic membranes. These characteristic make this GBR-C applicable for use in landfill covers, ponds and liquid containment projects.

TECHNICAL DATA			
MATERIAL PROPERTY	TEST METHOD	TYPICAL VALUE	TEST FREQUENCY
GBR-C			
Hydraulic Conductivity ⁽¹⁾	ASTM D 5084	No measured flow	Periodic
Total Mass/Unit Area ⁽²⁾	EN 14196	5,50 kg/m ²	5000 m ²
Bentonite Mass/Unit Area ⁽²⁾	EN 14196	5,00 kg/m ²	5000 m ²
Tensile Strength MD/CMD ⁽³⁾	EN ISO 10319	11,0/11,0 kN/m	5000 m ²
Elongation at Break MD/CMD ⁽⁴⁾	EN ISO 10319	15%/10%	5000 m ²
Puncture Resistance (CBR) ⁽⁵⁾	EN ISO 12236	1,8 kN	5000 m ²
Peel Strength ⁽⁶⁾	ASTM D 6496	650 N/m	5000 m ²
Thickness	EN ISO 9863-1	8,0 mm	5000 m ²
Roll Length	—	40,0 m	Continuous
Roll Width	—	5,0 m	Continuous
BENTONITE			
Free Swell	ASTM D 5890	25 ml/2 g	5000 m ²
Fluid Loss	ASTM D 5891	max 18 ml	5000 m ²
Montmorillonite content ⁽⁷⁾	XRD	80%	Certified by supplier
GEOTEXTILES (PP)/GEOMEMBRANE (PE)			
Non-Woven Mass/Unit Area	EN ISO 9864	200 g/m ²	Certified by supplier
Woven Mass/Unit Area	EN ISO 9864	100 g/m ²	Certified by supplier
Geomembrane Thickness	EN ISO 9863-1	0,2 mm	Certified by supplier

Notes:

¹ Hydraulic conductivity testing with deaired distilled/deionized water at 550 kPa cell pressure, 530 kPa headwater pressure and 515 kPa tailwater pressure,

ASTM D 5084 testing is performed only on a periodic basis because the membrane is essentially impermeable

² Bentonite mass/unit area reported at 12% moisture content

³ Tensile Strength with tolerance -2,0 kN/m

⁴ Elongation at break is average value based on statistical data for this type of geotextiles. It may vary from above data.

⁵ Puncture Resistance (CBR) with tolerance -0,2 kN

⁶ Peel Strength testing is performed in machine direction

⁷ Montmorillonite content with tolerance ±10%