Fibre-reinforced Geosynthetic Clay Liner (GBR-C)

CE
0799-CPR-20

Bentofix® NSP 4300

New Zealand

Bentofix® NSP 4300 is a shear strength transmitting geosynthetic clay barrier (GBR-C), continuously needle-punched through all components. A GBR-C is also known as geosynthetic clay liner (GCL) or bentonite mat. Additional bentonite powder is impregnated into a 500 mm overlapping area on both longitudinal sides of the cover layer. The 300 mm length longitudinal overlapping areas are marked on the carrier layer.The geotextile layers meet the requirements according to ISO/TS 13434 of at least 100-year service lives.

Property	Test method*	Unit	Value
Geotextile layers:			
Cover layer (polypropylene nonvowen):			
Mass per unit area	ASTM D5261	g/m²	≥ 200
Carrier layer (polypropylene woven):			
Mass per unit area	ASTM D5261	g/m²	≥ 100
Bentonite layer (sodium bentonite powder):			
Mass per unit area	ASTM D5993 ($\rho_{CLAY,\ 0\%}$)	g/m²	≥ 3,200
Swell index	ASTM D5890	ml/2g	≥ 24
Fluid Loss	ASTM D5891	ml	≤ 18
Moisture content	ISO 11465 (5hrs, 105 °C)	%	≤ 15
Carbonate content	XRD	% wt	1-2
Particle size, passing a 75µm sieve	Dry screen	%	> 80
Cation exchange capacity	Methylene blue method	meq/100 g	≥ 70
Montmorillonite content	VDP69 (Methylene blue)	mg/g	≥ 300
Geosynthetic Clay Liner:			
Mass per unit area	ASTM D5993 ($\rho_{GBR-C,\ 0\%}$)	g/m²	≥ 3,500
Thickness	ASTM D 5199	mm	≥ 5.4
Tensile strength, md/cmd**	EN ISO 10319 / ASTM D6768	kN/m	≥ 11.7 / ≥ 11.7
Elongation at max. strength, md/cmd**	EN ISO 10319 / ASTM D6768	%	≥ 9.0 / ≥ 5.4
Peel strength	ASTM D6496	N/m	≥ 360
Static puncture (CBR), strength	ASTM D6241	N	≥ 1,980
Hydrated internal shear strength (maximum peak @10 kPa normal stress)	ASTM D6243	kPa	≥ 35
Hydrated internal shear strength (maximum peak @ 30 kPa normal stress)	ASTM D6243	kPa	≥ 50
Hydraulic Conductivity (k_{10})	EN 16416 / ASTM D5887	m/s	≤ 3.0×10^{-11}
Index Flux (q_{10})	EN 16416 / ASTM D5887	(m³/m²)/s	≤ 6.0×10^{-9}
Roll dimensions:			
width x length, / diameter (approx.)	-	m x m / m	5.00 x 50 / 0.60

** = based on; **md = machine direction, cmd = cross machine direction*

The listed technical values are either minimum values (≥) or maximum values (≤), achieved in our laboratories and/or independent testing institutes. Our products are subject to changes without prior notice.