

Greenfix GCL-430 Geosynthetic Clay Barrier

Greenfix GCL-430 is a reinforced geosynthetic clay barrier consisting of a layer of sodium bentonite between a woven and a non-woven geotextile which are needlepunched together to provide internal reinforcement. The internal reinforcement minimises clay shifting, thus allowing the barrier to maintain consistent low permeability and maximum performance under a wide variety of field conditions.

Material Property	Test Method	Typical Value	Test Frequency
Index Flux	EN16416	6.0×10^{-09} (m ³ /m ²)/s	Production week
Hydraulic Conductivity	EN16416	3.0×10^{-11} m/s	Production week
Total Mass / Unit Area	EN14196	4.30kg/m ²	5000m ²
Bentonite Mass / Unit Area	EN14196	4.00kg/m ²	5000m ²
Tensile Strength MD /CMD	EN ISO 10319	11.0/ 11.0k N/m	5000m ²
Elongation at Break MD/CMD	EN ISO 10319	20%	5000m ²
Puncture Resistance (CBR)	EN ISO 12236	1.8 k N	5000m ²
Peel Strength	ASTM D 6496	400N /m	5000m ²
Thickness	EN ISO 9863-1	6.5mm	5000m ²
Roll Length	-	40,0m	Continuous
Roll Width	-	5,0m	Continuous
Bentonite			
Free Swell	ASTM D 5890	25 ml/2g	5000m ²
Fluid Loss	ASTM D 5891	Max 18 ml	5000m ²
Montmorillonite Content	XRD	80%	Certified by supplier
Geotextiles (PP)			
Nonwoven Mass / Unit Area	EN ISO 9864	200g/m ²	Certified by supplier
Woven Mass / Unit Area	EN ISO 9864	100g/m ²	Certified by supplier

Notes:

Index Flux with tolerance $+0.5 \times 10^{-09}$ (m³/m²)/s
 Production week = average 75,000 m² of one type of Bentonmat
 Bentonmat mass/unit area reported at 12% moisture content
 Tensile Strength with tolerance -2,0 k N/m
 Puncture Resistance (CBR) with tolerance -2,0 k N/m
 Peel Strength testing is performed in machine direction
 Montmorillonite content with tolerance +/- 10%