

## Greenfix Geosynthetic Clay Liner GCL-430

### Application and Benefits

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 needle punched 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.

### Product Characteristics

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

Notes:

Index Flux with tolerance +0.5 x 10<sup>-90</sup> (m<sup>3</sup>/m<sup>2</sup>)/s  
 Production week = average 75,000m<sup>2</sup> of one type of GCL  
 GCL mass/unit area reported at 12% moisture content  
 Tensile strength with tolerance -2.0k N/m  
 Puncture resistance (CBR) with tolerance -2.0k N/m  
 Peel strength testing is performed in machine direction  
 Montmorillonite content with tolerance +/- 10%