

Geosynthetic Clay Liner

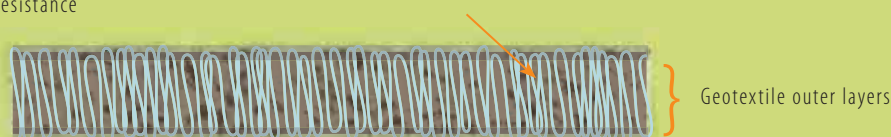


- Manufactured to ISO 9001
- Self Healing with consistent thickness throughout provides a higher degree of confidence
- Fast and easy to install
- Low thickness
- High shear strength due to the bentonite being captured within the needle-punched fibres
- Uniform distribution of bentonite within the GCL is maintained throughout

Syntex® GCL is designed as a superior replacement to Compacted Clay Liners (CCL's). Syntex® GCL is a fully needle-punched composite which contains highest quality sodium bentonite between two layers of geotextile.

The purpose of the GCL is for the bentonite to swell when hydrated and form a natural hydraulic barrier equivalent to approximately 700 mm of compacted clay.

Sodium bentonite is trapped within geotextile fibres, greatly increasing shear resistance



Schematic cross section of a needle-punched GCL

Applications:

- ▶ Landfill Base Lining
- ▶ Landfill Caps and Closures
- ▶ Liquid Containment
- ▶ Irrigation Canals and Lagoons
- ▶ Secondary Containment
- ▶ Tunnels

Installation (brief guide):

A spreader bar which suspends the roll above ground is the easiest way to install. From the top of the berm the material is placed into the anchor trench and the material is then pulled back without any machinery crossing over the product itself. Overlaps are indicated by a marker line on each roll for ease of alignment.

To cut Syntex® all that is needed is a retractable knife.

The panels are overlapped in accordance with specification and the ends sealed with bentonite paste.

- Full installation Guidelines are available from Permathene.

Properties	Test	Unit	Syntex 5000
Mass per unit area, total	EN965	g/ m ²	5000
Mass per unit area, cover nonwoven (1)	EN965	g/ m ²	220
Mass per unit area, bentonite layer (2)	EN965	g/ m ²	4500
Mass per unit area, carrier woven (3)	EN965	g/ m ²	110
Tensile strength (MD/ CMD)	ASTM D 4595	kN/ m	12/ 12
Elongation (MD/ CMD)	ASTM D 4595	%	15/ 18
Peel Strength	EN ISO 10319	N/ 10 cm	90
Index Flux	ASTM D 5887	m/ s	3.23 x 10 ⁻⁹
Permeability/ hydraulic conductivity	ASTM D 5887	m/s	3 x 10 ⁻¹¹
Bentonite Properties			
Fluid index	ASTM D 5891	ml	18
Swell index	ASTM D 5890	ml/ 2g	25
Moisture content	DIN 18121	%	11

1. White polypropylene, filled with bentonite in the 50 cm overlapping area
2. Sodium bentonite
3. Black polypropylene, slit film, woven geotextile

Technical values are average values over the roll width and are subject to change without notice.

Disclaimer

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate.

While every effort has been made to provide accurate and reliable information, it is up to the user of this brochure to verify all information, including designs it might be based upon, with an independent source. Application of this data must be made on the basis of responsible professional judgement.

Except when agreed to in working conditions of use, no warranty expressed or implied is made regarding the performance of any product, since the manner of use and handling is beyond our control.