DRAINAGE

PROTECTION

REINFORCEMENT

GEOSYNTHETIC CLAY LINER 4500

GCL 4500 is a woven fabric-like material, primarily used as a fluid barrier for use in construction of liquid waste disposal sites. The granular bentonite clay is sandwiched between a woven and nonwoven geotextile, resulting in a very strong robust product.

KEY ATTRIBUTES

- ✓ Solid waste and hazardous waste landfill areas
- ✓ SUDS Ponds and pools
- ✓ Dams
- ✓ Irrigation channels and water transfer lines
- ✓ Landslide repairs and similar ground reinforcement applications
- ✓ Base insulations in flood controls

PROPERTIES OF GEOTEXTILE				
TEST METHOD		**VALUES**	**UNIT**	**TEST FREQUENCY**
Non-Woven Mass/Unit Area	EN ISO 9864 (EN965)	≥ 200	g/m²	Certified by supplier (11)
Woven Mass/Unit Area	EN ISO 9864 (EN965)	≥ 100	g/m²	Certified by supplier (11)

PROPERTIES OF BENTONITE				
Free Swell	ASTM D 5890	≥ 25	ml/2g	5000m²
Fluid Loss	ASTM D 5891	≤ 18	ml	5000m²
Smectite (Di)/Montmorillonite content (10)	XRD	80	%	Certified by supplier (11)

GEOWORKS
GEOSYNTHETICS BY WREKIN

Tel. 01543 440 480
Email. info@geoworks.eco
www.geoworks.eco

SPECIFICATION

GEOSYNTHETIC CLAY LINER SPECIFICATIONS				
TEST METHOD		**VALUES**	**UNIT**	**TEST FREQUENCY**
Index Flux q10 (1)	ASTM D 5887/EN 16416	5.0×10^{-09}	$(m^3/m^2)/s$	Production Week (2)
Hydraulic Conductivity k10	ASTM D 5887/EN 16416	$\leq 2.5 \times 10^{-11}$	m/s	Production Week (2)
Total Mass/Unit Area (3)	EN 14196	≥ 4.80	kg/m^2	5000m^2
Bentonite Mass/Unit Area (3)	EN 14196	≥ 4.50	kg/m^2	5000m^2
Tensile Strength MD/CMD (4)	EN ISO 10319	11.0/11.0	kN/m	5000m^2
Elongation at Break MD/CMD (5)	EN ISO 10319	approx 15/10	%	5000m^2
Puncture Resistance (CBR) (6)	EN ISO 12236	1.8	kN	5000m^2
Average Bonding Peel Strength (7)	ASTM D 6496	≥ 400	N/m	5000m^2
Thickness (8)	EN ISO 9863-1	approx 7.0	mm	5000m^2
Typical Roll Length x Width (9)	-	40.0 x 5.0	m	Continuous

Bentonite powder is impregnated into overlap area 50cm from both sides.

Notes:

1. Index Flux with tolerance $+0{,}5 \times 10^{-09}$ $(m^3/m^2)/s$
2. Production week = average 75 000 m^2 of one type of Bentomat
3. Bentonite mass/unit area reported at 12% moisture content
4. Tensile Strength with tolerance –2,0 kN/m
5. Elongation at break is average value based on statistical data for this type of geotextiles. It may vary from above data.
6. Puncture Resistance (CBR) with tolerance –0,2 kN
7. Bonding Peel Strength testing is performed in machine direction
8. Thickness measured under 2kPa at the time of manufacturing. It may change during loading, transportation, storage, and handling.
9. Project specific roll dimensions should be confirmed with a Technical Sales Manager
10. Smectite (Di)/Montmorillonite content with tolerance ±10%
11. Property measured for raw component before incorporation into final GBR-C product

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1. Geoworks is continually seeking to improve our products and therefore reserves the right to alter product specifications without prior notice.
2. It is the responsibility of all users to satisfy themselves the above data is current.
3. Installation details are available on request.
4. All Wrekin products are supplied subject to our Terms and Conditions of Sale, which can be found at geoworks.eco/policies/standard-terms-and-conditions-sale