

## Yuan Da Construction Grade GCL with PE Bonded Liner

### Description

Yuan Da is the leading producer of geosynthetics in China. Its production facilities are ISO9001 accredited and Yuan Da geosynthetics are produced in strict accordance with international standards including: strength, modulus, weather resistance, corrosion resistance and creep performance. Its geotextiles have been tested by international experts under a wide range of environmental conditions and approved for use in the EU.



Yuan Da GCL is supplied on strong cardboard or PVC cores according to the customer's requirements. Each roll is packed in a strong waterproof liner to prevent water absorption and loss of rigidity during transportation. Lifting slings can be fitted on request.

Benotnite paste and granular bentonite are also available.

Yuan Da GCL can be shipped directly to any port in Australia, thus saving freight costs. It is available in rolls up to 5.8 m wide with a clearly marked overlap-line along the edge of each roll. All products are fully guaranteed.





Yuan Da Construction Grade GCL with a PE liner consists of a layer of sodium bentonite between two geotextiles, which are needle punched together and then bonded to a polyethylene liner. The non woven geotextile fibres form a strong mechanical bond when concrete is poured against them. This construction grade GCL has a coefficient of permeability similar to HDPE liners. When confined under pressure the bentonite swells to form a waterproof membrane. The swelling action self-seals small concrete cracks caused by ground movement or concrete shrinkage.

**Applications:**

This GCL is recommended for:

1. Pond and dam applications exposed to high hydraulic heads.
2. Applications where the GCL is exposed to wetting and drying cycles.
3. Construction sites under structural reinforced concrete slabs 150mm or greater, for waterproofing below ground vertical and horizontal foundation surfaces.

**Technical Data**

Property		YD4600	YD5000	Test Method
Non woven geotextile cover layer (g/m <sup>2</sup> )		≥210	≥210	ASTM D5261
Bentonite layer (g/m <sup>2</sup> )		4600	5000	ASTM D-5993
Woven geotextile layer (g/m <sup>2</sup> )		≥110	≥110	ASTM D5261
PE Membrane thickness, (mm)		≥0.10	≥0.20	
Total weight with PE (g/m <sup>2</sup> )		≥4950	≥5350	ASTM D5261
Bentonite expansion coefficient, (ml/2g)		≥24	≥24	ASTM D5890
Thickness mm		6	6.5	ASTM D 5199
Grab Strength (N)		600	600	ASTM D4632
Peel Strength, (N/m)	Non-woven and woven fabric	≥60	≥60	ASTM D4632
	PE membrane and non-woven	≥40	≥40	ASTM D4632
CBR Burst Strength (N)		≥1600	≥1800	ASTM
Hydrated Internal Shear Strength (kPa)		≥35	≥50	ASTM 5321
Permeability, (m/s)		≤4.5×10 <sup>-12</sup>	≤3.5 ×10 <sup>-12</sup>	ASTM D5887
Water Fluid loss (ml)		≥18	≥18	ASTM 5891
GCL Rupture Intensity Strength (kN/m)		≥7	≥7	ASTM D-6768

Bonding Process: Needle Punched

Roll size: 5.8mx30m; 5.0mx30m; 2.5mx20m

Production testing: Fluid loss, swell index, bentonite mass, grab strength, peel strength, hydraulic conductivity, hydrated internal shear strength.

Overlap treatment: Depending on the customer’s requirements 300mm to 600mm along one longitudinal edge is manufactured without the PE layer to ensure an effective seal along overlapping edges. Panels should also be overlapped 600 mm at the end joints. It is important to ensure that overlaps are not contaminated with loose soil. Bentonite granules (0.4kg/m) or a premix paste is used on all overlaps. Seams at the end of panels should be shingled in the direction of the grade to prevent water from entering the overlap zone.