

BENTONITE WATERPROOFING MEMBRANES

BGC HDPE

BENTONITE WATERPROOFING MEMBRANE WITH HDPE LOWER LAYER BENTONITE WATERPROOFING MEMBRANE WITH HDPE LOWER LAYER

BGC HDPE is a waterproofing membrane made of natural sodium bentonite trapped between two non-woven geotextiles and coupled on the lower side with a continuous HDPE layer. It is designed for waterproofing horizontal and vertical surfaces buried in civil and infrastructural works.

KEY ADVANTAGES



HDPE LOWER LAYER

Waterproof barrier and mechanical protection
HDPE lower layer
Waterproof barrier and mechanical protection



NATURAL SODIUM BENTONITE

High self-healing capacity
Natural sodium bentonite
High self-healing capacity



HIGH PUNCTURE RESISTANCE

Suitable for demanding ground conditions and safe installation
High puncture resistance

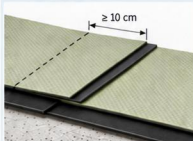


SIMPLE OVERLAPPED JOINTS

Easily achievable overlaps and details
Simple overlapped joints
Easy and reliable detailing



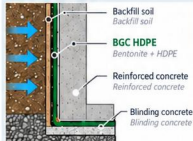
1. SHEET OVERLAP SHEET OVERLAP



2. WALL-TO-SLAB CONTINUITY WALL-TO-SLAB CONTINUITY



3. TYPICAL SECTION TYPICAL SECTION



PROBAR CE MARKING

Harmonised standard: EN 13491:2004 / A1:2006
Certificate/CPR: 1982-CPR-538
Notified Body no. 1982 – ABICert S.a.s.

Bentonite

≥ 4300 g/m²

GCL Mass

≥ 5000 g/m²

MD Tensile Strength

≥ 11 kN/m

Hydraulic Conductivity

≤ 5 × 10⁻¹¹ m/s

BGC HDPE

STRUCTURE AND TECHNICAL DATA

SYSTEM CONFIGURATION

HDPE laminated layer - lower side
Non-woven PP geotextile $\geq 200 \text{ g/m}^2$
Sodium bentonite $\geq 4300 \text{ g/m}^2$
Woven PP geotextile 120 g/m^2

The GCL is needle-punched and has a polymeric lamination on the lower side to increase waterproofing performance.

FIELDS OF APPLICATION

Waterproofing of horizontal and vertical surfaces in civil and infrastructure works, with a bentonite barrier coupled to a lower HDPE layer.

KEY FEATURES

Natural sodium bentonite, needle-punched geotextiles, lower layer in HDPE, high puncture resistance and very low permeability declared by the geocomposite manufacturer.

TECHNICAL DATA

Non-woven PP protection geotextile	$\geq 200 \text{ g/m}^2$	EN ISO 9864 / ASTM D5261
Woven PP carrier geotextile	120 g/m^2	EN ISO 9864 / ASTM D5261
Sodium bentonite (0% moisture)	$\geq 4300 \text{ g/m}^2$	ASTM D5993
Moisture content	$\leq 13 \%$	ASTM D5993
Montmorillonite	$\geq 70 \%$	XRD
Swelling index	$\geq 24 \text{ ml/2g}$	ASTM D5890
GCL areal mass	$\geq 5000 \text{ g/m}^2$	ASTM D5261
Tensile strength MD	$\geq 11 \text{ kN/m}$	ASTM D6768

BGC HDPE

SUPPLEMENTARY PERFORMANCE CHARACTERISTICS

Peel strength fabric/non-woven	≥ 60 N/cm	ASTM D6496
Static puncture resistance	≥ 2000 N	EN ISO 12236
Permeability	≤ 1,0 x 10 ⁻¹⁴ m/s	ASTM D5084
Geotextile durability - retained strength	≥ 65 %	EN ISO 13438
Hydraulic conductivity	≤ 5 x 10 ⁻¹¹ m/s	ASTM D5887
Flux index q10 (GCL only)	≤ 1 x 10 ⁻⁹ (m ³ /m ²)/s	ASTM D5887

INSTALLATION METHOD

- 1 Prepare a flat and even surface, free of large protrusions or voids. The support may be damp but must be free of standing water.
- 2 For horizontal installation, where necessary create a uniform subgrade; spread out the rolls and overlap the joints.
- 3 Overlap the external edges by at least 10 cm. In horizontal applications, fix approximately every 50 cm; on vertical surfaces use nails with washers approximately every 30 cm.
- 4 Treat joints, overlaps and discontinuities, maintaining the continuity of the waterproofing layer and protecting the membrane from damage before backfilling.

FORMATS, STORAGE AND VALIDITY OF DATA

Formats indicated on the Probar label: 2,5 x 20 m and 1,2 x 5 m. Store in a covered and dry place, in the original packaging, protecting the material from atmospheric agents.

The technical values reported are derived from the data sheet of the GCL-OF geocomposite provided by the manufacturer. The bentonite mass is declared as MARV value; the manufacturer also indicates a bentonite moisture content below 12%.

SPECIFICATION CLAUSE - SUMMARY

Supply and installation of BGC HDPE type waterproofing membrane by PROBAR ITALIA Srl, consisting of natural sodium bentonite bonded between needle-punched geotextiles and coupled with an HDPE layer, for horizontal and vertical below-ground waterproofing applications. Installation with overlapped joints, minimum 10 cm, and mechanical fasteners suitable for the support.

WARNINGS

Product for professional use. Check the suitability of the system with respect to the support, the containment conditions and the expected loads. Refer to the latest technical documentation and safety data sheet before use.

