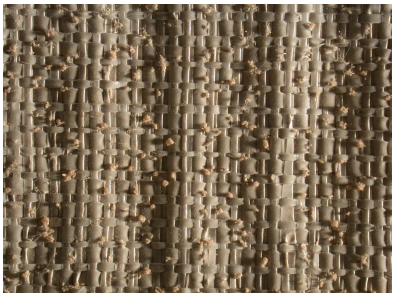
TECNOCLAY GEO GRIP/TEX

BENTONITE WATERPROOFING

Description TECNOCLAY GEO GRIP/TEX is a bentonite based waterproofing system composed by a 3 layers non-woven sandwich, containing natural sodium bentonite, with total weight of 5330 gr/m².



SIDE of Metal Strap in virgin PLP

SIDE in non-woven

This is the only bentonite waterproofing system with double function. **The self anchoring to concrete function during the pre-casting phase**: horizontal surfaces (slabs); **after-casting**: for all the vertical surfaces (supporting walls, sheet piles, diaphragms, micro-piles and the normal foundation walls.

Advantages / characteristics

- TECNOCLAY GEO GRIP/TEX bonds to concrete when cured.
- TECNOCLAY GEO GRIP/TEX can be applied at every temperature.
- TECNOCLAY GEO GRIP/TEX can be perforated or cut, is easy to apply, it can be stapled on the overlapped parts and fixed with nails.
- The natural sodium bentonite contained in TECNOCLAY GEO GRIP/TEX guarantees the performances in time, even in variable water conditions.

The natural sodium bentonite contained in the geo-composite, in contact with water, starts to become “gel”. The natural activation of the system waterproofs the structure.

Indicated use TECNOCLAY GEO GRIP/TEX is particularly indicated for the waterproofing of underground reinforced concrete structures, with constant or variable groundwater.

Method of use

SLAB – PRE-CASTING:

Place the TECNOCLAY GEO GRIP/TEX, with the Metal strap PLP side on the surface of the lean concrete casting of the slab. Staple on the overlapped at least for 10 cm and fix to lean concrete with steel nails each 3 m.

Apply an overlap the geo-composite on the formwork for 90% height of the slab thickness. This allows a proper connection when overlapping with geo-composites coming from the foundation walls. If required, a protective concrete coat of 5 cm thickness can be realized: its characteristics will be the same of the following slab.

The installation of a layer of concrete of the same quality of this of the deck is recommended, in order to protect the bentonite surface: such protection may be omitted after assessment of the Project Manager.

Next cast the confinement concrete in accordance with the instructions from the UNI-EN 206 on the exposure classes and respecting the "Guideline for installation of concrete - February 2008".

All construction joints will be sealed with the butylbentonite joint **WAM 101** or **WAM 101 red.**

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MASONRY - AFTER CASTING:
Realizing the wall with the same concrete as that of the UNI-EN 206 on the exposure classes and respecting the *"Guideline for installation of concrete - February 2008".* All construction joints will be sealed with curb butilbentonitico **WAM 101** or **WAM 101 red**. Make at the basis of the wall a strip of 5 cm made with bentonite **GELJOINT** grout. All gravel will be completely removed, and the thickness of the concrete restored with cement based mortar **FLASH TIXO**, or **FLASH 10** a colare (for casting).
The metal blades of wooden formworks will have to be removed demolishing up to a depth of at least 3 cm, to be repaired with mortar **FLASH TIXO**.
The holes of the metal panels will be closed with the tap, and shall be sealed with **FLEX TAPE 400 + TECNOEPO 400 TIXO.**
Position at the inside the TECNOCLAY GEO GRIP/TEX with the non-woven side, overlapping the geo-composites at least for 10 cm, stapling them and fixing by steel nail each 1 m.

Alternatively: depending on the characteristics of the jobsite it can be possible to waterproof the vertical walls also with elastoplastic cementitious coating ELASPLAST ROL 10.
For assistance and information on the jointing of different types of waterproofing, contact our U.A.P.P.(Project Promotion and Assistance Office).

MASONRY – PRE-CASTING:
For diaphragms, micro-piles, sheet piles, etc. : please require our Specifications to our U.A.P.P. Office (Project Promotion Assistance Office).

Remarks

1. For installations in contaminated or littoral areas, or where there are or could be groundwater with high concentrations of salts or organic contaminating substances (i.e. : sea-water or hydrocarbons), which could have influence on the expansion properties of the bentonite. In these cases, consult the TECNOCHEM ITALIANA laboratory to confirm the suitability of the system.
2. The structures in concrete must be suited to resist the maximum water pressure. The water pressure on the structure is explained where the waterproofing layer is present.
3. Any bentonite based waterproofing system performs properly only if properly confined. For this reason, the backfill must be done in layers of 50 cm, properly compacted, using fine material, loose, free from stones or putrescible material. Avoid putting anything which might have draining capabilities.

Packaging Rolls of 37,5 m² (2,50 x 15,00 m)
Rolls of 6,25 m^2 (1,25 x 5,00 m).

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Technical characteristics (typical values)

Natural sodium bentonite	
• Specific weight	2,65 ÷ 2,75 kg/l
• Montmorillonite content	about 85%
• Expansion with distilled water to gel condition	≥ 16 times than original volume
• pH (2 % dispersion in water)	9÷10
• Limit of liquidity	> 500%
TECNOCLAY GEO GRIP/TEX	
• Surface of one roll	37,5 m² - 6,25 m²
• Dimensions	2,50 x 15 m. – 1,25 x 5 m
• Thickness	≥ 5,5 mm.
• Weight per roll	≥ 193 Kg ≥ 32 Kg
• Permeability coefficient (Darcy)	K = 2E-11 m/sec.
• Bentonite per m²	≥ 5 kg.
• Humidity of the bentonite	≤ 15%
• Radial permeability	No transmission
• Abrasion strength between geotextiles	≥ 30 N/10 cm.
• Bentonite free swelling (ASTM D 5890)	25 ml/2g
• Tensile strength (UNI EN ISO 10319) Longitudinal direction Transversal direction	 15,64 KN/m 16,46 KN/m
• Static punching (UNI EN ISO 12236)	3,09 KN
• Adhesion strength to concrete of geo-composite (peeling method ASTM D 903)	4,99 N/mm
• Permeability coefficient with total confinement (ASTM D 5084) at 50 KPa at 100 KPa at 200 KPa	 1,02 x 10^{-11} m/s 6,62 x 10^{-12} m/s 5,91 x 10^{-12} m/s
• Permeability coefficient after swelling (ASTM D 5084) at 50 KPa at 100 KPa at 200 KPa	 1,13 x 10^{-11} m/s 1,18 x 10^{-11} m/s 9,62 x 10^{-12} m/s

Safety indications Read carefully the safety indications on the packaging, or consult the relevant Material Safety Datasheet of this product.

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