Waterproofing and water tightness products and technologies for civil engineering and hydraulics, foundations, tunnels, subway stations and underground parking, subways, underground tanks, filled with earth flat roofs,roof gardens, ponds.

OVERVIEW

G&P INTECH has introduced in the market since 1989 several advanced technologies to solve problems of below -grade waterproofing foundations with long life expectation over 100 years.

The solutions adopted are active barrier systems, instead of passive barrier systems, able to interact with the fluid and prevent any infiltration at any time during the life of the building.

The system include products like geomembrane BENTOSIL, geosynthetic clay barrier marked , hydroswelling sealing joints WATERSTOP BZ 100, WATERSTOP BZ 200, IDROSWELL, IMPERGEN R-FLEX, IMPERGEN FLEX TUBE IFT.

The Company production line include osmotic materials for concrete waterproofing like CEMESEAL (water pressure resistant coating) , RAPID PLUG (fast setting hydraulic compound), MACLIM (two-component flexible coating).

The main applications are on below-grade civil engineering constructions, foundations, tunnels, subways, metro stations, underground parkings.

PRODUCTS

Geomembrane BENTOSIL marked CE

BENTOSIL is a needle-punched geosynthetic clay barrier consisting of a layer of low permeability sodium bentonite supported by two sheets of woven and no-woven polypropylene geotextile. The swelling material is a natural sodium bentonite which has a high grade for swelling (> 26 ml/2g) and a liquid limit value higher than 520%. The connection between the cover and carrier geotextile is achieved by a specific reinforcement system which anable the two geotextiles to be joined by thousands of fibres through the bentonite layer. This gives the barrier a perfect pre-confinement and increases the capability to remain exposed before the final confinement is reached. At the same time the size of bentonite's particle allows a full saturation of geotextile under hydration and increases the self-seaming of geomembrane on the overlapping area.

The main technical characteristics of Bentosil marked CE according with EN 13491:2006 are the followings:

Non woven PP geotextile 220 g/m²

Woven PP geotextile 120 g/m²

Swelling grade bentonite ASTM D 5890-95 >26 ml/2g

Thickness geomembrane EN ISO 9863-1 6 mm

Bentonite mass per unit area EN 14196 5 kg/m²

Index Flux (liquid tightness) ASTM D 5887 5E-9 m³/m²/s

Tensile strength EN 10139 12,5 kN/m

Static puncture resistance EN ISO 12236 2 kN

Durability EN 13438 > 25 years

Packaging BENTOSIL is available in rolls:

roll 2,5×30 m

Installation

The high swelling capability of the natural sodium bentonite, combined with mechanical characteristics of geotextile, turn BENTOSIL a reliable product for below-grade waterproofing, even where boundary environmental conditions change (swelling/drying and freezing/thawing cycles) or where there are interacting polluted fluids (remark: for application in contact with high salinity waters please contact Company technical dept.). The installation is simple and fast due to the extreme adaptability of the roll. The system can be applied both in pre-casting and post-casting applications. Overlapping of geomembrane do not require any welding or mechanical intervention.

In vertical applications and where need, BENTOSIL is installed by nail with wide heads and LDPE washers in the overlapping.

Horizontal applications: lay a poor concrete as subbase before applying the roll. In case concrete will not be laid , compact the soil at 85% Modified Proctor, avoid cutting stone and fill holes on the surface. The surfaces have to be free, regular, clean and without standing water. Overlapping will be 15 cm approx. according with work and size of roll.

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Vertical applications: preparation of surface as above. BENTOSIL has to fixed in the overlapping by nail with wide heads and LDPE washers, approx. 40 cm distance each.

HYDROSWELLING SEALING JOINTS G&P INTECH has developed several hydroswelling joints used in below grade constructions for the sealing of the vertical and horizontal joints, cracks and fissures.

The products are different according with the use and the technical characteristics required. For any additional information please contact Company technical dept. www.english.gpintech.com

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