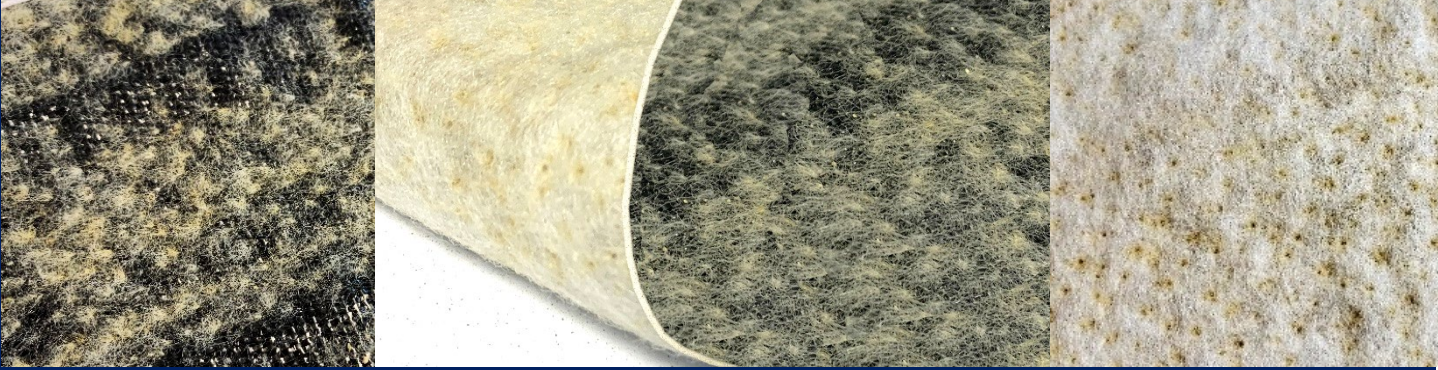




Rev 0
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BENTOTEK PAN L

Geocomposed bentonitic waterproofing panel



DESCRIPTION

BENTOTEK PAN L is a multilayer waterproofing membrane composed of:

- Polypropylene geofabric with high mechanical characteristics of tensile strength, tearing and punching.
- Non-woven polypropylene and PET fabric with flexibility and adherence to concrete, able to stably encapsulate granular bentonite inside it.
- Pure natural sodium bentonite of high content, in granules.
- Transverse micro punching (needle-punching) to hold the first three layers of the membrane firmly together, while ensuring high adhesion to the concrete and that no horizontal bentonite migrations occur.

WORKING PRINCIPLES

In BENTOTEK PAN L membranes, the active element and natural mineral sodium bentonite, with exceptional hydro-expansive properties. This can absorb water and expand its dry volume several times, forming a colloidal compound similar to a gel. When the BENTOTEK PAN L membrane is properly confined between two layers of filling, the contact with the water swells the bentonite which, unable to expand, swells, filling all possible cracks, deformations or high escape routes. This generates a perfect and impenetrable barrier to liquids, with exclusive self-healing properties, high resistance to mechanical stress of cutting, tearing and punching, self-clinging to concrete and with good weather resistance.

BENTOTEK PAN L membranes are made of highly durable materials, designed to have a longer service life than the building to be waterproofed.

Their properties are not altered even after thousands of hydration/drying cycles.

FIELDS OF APPLICATION

BENTOTEK PAN L membranes are used in civil engineering for the waterproofing of underground structures of works such as bridges, roads, foundations, underground parking floors and in all cases where maximum protection against water infiltration is required.

BENTOTEK PAN L offers the best of itself in non-critical conditions of use and when the cost factor can make the difference.

ADVANTAGES

Thanks to the swelling capacity of bentonite, even after laying the cloth remains active and ready to fill the spaces generated by perforations, tears, and the most common structural damage.

- The product has a high resistance to bad weather, improving its flexibility of use and storage on site.
- Laying is possible in all weather conditions; except with snow, hail or heavy and direct rain.
- Easy and safe, no chemicals, the use of flame or adhesives are required.

TECHNICAL DATA SHEET



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- The membrane retains its waterproofing characteristics even after thousands of hydration and drying cycles.
- Even in the most demanding conditions, BENTOTEK PAN L is designed to have a service life that exceeds that of the building.

METHOD OF APPLICATION

If necessary, lay out a layer of low-content concrete or a concrete grout, with the function of leveling the surface from holes and roughness.

- Arrange the sheets on the substrate, so as to totally cover the surface to be treated.
- The joints between the sheets must be surmounted by at least 15 cm.
- If necessary, impregnate the surmounts with hydrated micronized bentonite.
- Attach the sheets to the surface of the substrate every 50 cm at least.
- Completely cover all the special elements (pipes, holes, wells, etc.) by properly shaping portions of the membrane and seal with hydrated micronized bentonite.

TECHNICAL FEATURES

TEST	STANDARD DI RIFERIMENTO	FREQUENZA DI MISURAZIONE	VALORE MISURA	VALORE SOGLIA
Bentonite swelling index, mg/2g	ASTM D 5890-95	Every 75 T	24	≥ 24
Moved per unit of geotextile, g/m ²	UNE EN 14196	Every 5.000 m ²	4900	≥ 4800
Resistance to stripping, N/m	GB/ T 2791	Every 12.000 m ²	747	≥ 600
CBR, N	EN ISO 12236	Every 30.000 m ²	1150	≥ 1000
Tensile strength, kN/m (wide)	ISO 10319	Every 30.000 m ²	10,5	≥ 8
Tensile strength, kN/m (across)	ISO 10319	Every 30.000 m ²	5,11	≥ 5
Stretching, % (wide)	ISO 10319	Every 30.000 m ²	11,37	≥ 10
Stretching, % (across)	ISO 10319	Every 30.000 m ²	7,51	≥ 6
Permeability	ASTM D 5887-95	Every 30.000 m ²	4,5*10 ⁻¹¹ m/s	$\leq 5*10^{-11}$ m/s

WARNINGS

- Do not lay the product in case of snow, hail or heavy and direct rain.
- Do not lay the product on flooded surfaces or in anticipation of imminent flooding.
- The smoking ban must be observed by all personnel with access to the storage or laying area of the product.

Also avoid any type of activity that could damage the cloth already laid and still exposed. In general, no construction machinery can operate on exposed sheets that are not yet confined by concrete.

In general, once laid the cloth should be covered with concrete within a few hours. When this is not possible, in case of strong wind, it is advisable to further protect the surmounts between the sheets with bags of earth or other heavy elements. Alternatively, consider the option of covering the sheets with a low-content cement mixture (without static function), min. 150 kg/ m².

- Before casting, carefully check that there are no open surmounts, holes, breaks, etc., and if necessary repair them promptly.

HEALTH WARNINGS

The product is 100% environmentally friendly and non-toxic. Bentonite can absorb water and moisture. In case of prolonged contact, to avoid dehydration of the hands, it is strongly recommended to use work gloves when handling it.

In case of contact with eyes, wash thoroughly with water and consult a doctor.

Do not inhale.



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DOSAGE

As a general rule, an amount between 115% and 120% of the total area to be waterproofed is recommended.

This allows you to have an extra product margin to make the surmounts and special shapes for elements such as through pipes, wells and other discontinuities in the concrete structure.

PACKAGING

1,2 x 5 mt rolls

2,3 x 5 mt rolls

Each roll is individually packaged, and is wrapped in a sheet of high-density polyethylene (HDPE), durable and waterproof.

LEGAL NOTICES

The information contained in this technical data sheet, while representing the most advanced stage of knowledge, does not exempt the user from carrying out accurate preliminary tests in their own conditions of use and operation. We therefore decline any responsibility for improper use of the product.

