1306303

BENTOTELO

Bentonite geo-synthetic waterproofing barrier

Bentonite geo-compound, self-attaching and self-sealing to concrete, made of a non-woven layer, a natural sodic bentonite layer and a polypropylene sheet. These layers are connected with a dense felter that guarantees to the bentonite a self-confinement with controlled expansion. With this system it is possible to avoid slippage and the accumulation of bentonite as a consequence of cuts, tears, vertical application and movements. Bentotelo is suitable to waterproof any vertical or horizontal underground concrete structures.

BENEFITS

- Easy and quick application
- Self-attaching and self-sealing
- It waterproofs and protects underground concrete structure
- It adapts itself to the structure shape
- Easy to fix in case of accidental damages during application
- Resistant to thermal shocks, sun and wind
- High tear and traction resistance
- Excellent durability
- Solvent free and non-toxic

APPLICATION FIELDS

The product is suitable to waterproof:

- any underground concrete structures, vertical and horizontal;
- concrete foundation slab to formwork or against diaphragm, pile walls;
- elevator shaft, box, silos, underground passage;
- concrete tanks for the containment of water, fireproof and rain;
- containment works where an excellent waterproofing capacity, stability over time, easy application and self-sealing overlaps are required.

STORAGE

The product must be stored in its original containers, in shaded, clean and dry premises, aways from sunlight, water and ice, at temperatures between +5°C and +35°C. Avoid the direct contact of *Bentotelo* with the ground, using wooden pallets and taking care of a uniform contact between the roll and the support. In case a covered premise is not available for storage, it is necessary to cover the rolls with a polyethylene sheet.

COLOUR

Hazel.

PACKAGING

Thickness 5,00 mm;
dimensions 1,20 x 5,00 m;
single roll area 6,00 m^2;
single roll weight 29,00 kg.
Pallet: 30 rolls (180 m^2 - 870 kg).

Thickness 7,60 mm;
dimensions 2,55 x 15,00 m;
single roll area 38,25 m^2;
single roll weight 202,73 kg;
single roll.

Thickness 5,00 mm;
dimensions 3,60 x 20,00 m;
single roll area 72,00 m^2;
single roll weight 346,00 kg;
single roll.

For application video, product page, safety data sheet and other information.

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Technical Data

Features		Unit
Aspect	geocomposite	-
Colour	hazel	-
Thickness	from 5,0 to 7,6	mm
Upper layer	polypropylene texture 100 g/m^2	g/m^2
Central layer	natural sodic bentonite 5000 g/m^2	g/m^2
Bottom layer	polypropylene non woven 200 g/m^2	g/m^2
Weight	5300	g/m^2
Montmorillonite content	≥ 90%	-
Application temperature	+5 /+35	°C
Working temperature	-15 /+40	°C
Storage	24 months in original containers and dry places	months
Packaging	Dimension 1,20 x 5,00 m; single roll area 6,00 m^2; Pallet: 30 rolls (180 m^2 - 870 kg). Dimension 2,55 x 15,00 m; single roll area 38,25 m^2. Dimension 3,60 x 20,00 m; single roll area 72,00 m^2.	m – m^2 - kg

Final performances		Unit	Regulation	Result
Swelling index	> 30 ml / 2 g	ml/g	ASTM D 5890	-
Water absorption capacity	> 550%	-	DIN 18132	-
Humidity content	max 12%	-	-	-
Permeability	≤ 1,2 x 10^{-11}	m/s	-	-
Traction resistance longitudinal transversal	 ≥ 10,4 ≥ 10,4	kN/m	EN ISO 10319	-
Adhesion to concrete	2,5	kN/m	ASTM D 903	-
Punching resistance	> 2,5	kN	EN ISO 12236	-

* The above data, even if carried out according to regulated tests are indicative and they may be change when specific site conditions vary.

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PREPARATION OF SUPPORT

• The support must be completely hardened, dry and resistant.
• The surface must be thoroughly clean, well consolidated, without debris or detaching parts.
• The surface temperature must be between +5°C and +35°C.
• The application of *Aquabond* on painted surfaces is possible only if the successive coat is a painting and not a thickness coating.
• In presence of new realised cement substrate, this must be sufficiently dry and cured.

Foundation concrete bed

For the horizontal laying, it is necessary to have a concrete layer (lean concrete as cleaning) to realize a uniform base where to lay *Bentotelo*. Thickness must not be lower than 10 cm on the whole surface.

Vertical application

To waterproof vertical foundation wall (post concrete casting waterproofing), it is necessary to remove all the roughness. Eliminate any hollows by smoothing the surface with fibre-reinforced anti-shrinkage mortar.

Diaphragm wall

To waterproof vertical concrete partition wall (pre concrete casting waterproofing), it is necessary to remove all the roughness. Eliminate any hollows by smoothing the surface with fibre-reinforced anti-shrinkage mortar.

APPLICATION OF THE BARRIER

Horizontal laying

1. Lay the non-woven polypropylene geo-fabric downward, toward the lean concrete.
2. Polypropylene fabric must be upward and thus visible.
3. Sheets must be laid “spreading” them to the lean concrete, avoiding to create traction stress due to a high speed in laying the sheets. Likewise it is necessary to avoid folds caused by a wrong spreading of the barrier.
4. On the joint with the foundation wall, *Bentotelo* must be spread until the wall and then covered with a non woven panel.

Vertical laying

1. Lay the rolls from up to down.
2. Place the non woven polypropylene in contact with the vertical structure to protect (foundation wall).
3. The polypropylene fabric must be faced outward and thus visible. During the filling up, this last layer will be in contact with the ground.
4. Sheets must be laid “spreading” them to the lean concrete, avoiding to create traction stress due to a high speed in laying the sheets. Likewise it is necessary to avoid folds caused by a wrong spreading of the barrier.

OVERLAPS SETTING

The application of Bentotelo must be done to guarantee the following minimum overlapping between contiguous sheets:
• minimum of 10 cm for longitudinal overlaps (realized in the same direction of rolls unfolding);
• minimum 10 cm for transversal overlaps (by the short side of the roll)
In the horizontal application, transversal overlaps (short side) must be staggered of a minimum 50 cm in the same direction of rolls unfolding.

SUGGESTIONS

• Do not apply at temperatures lower than +5°C or higher than +35°C.
• During summer season apply the product during the cooler hours of the day, away from sun.
• Do not apply in case of imminent threat of rainwater, in presence of fog and relative humidity level higher than 70%.

CLEANING

Wash tools with water before product hardening.

SAFETY

For the handling, see product safety sheet.

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