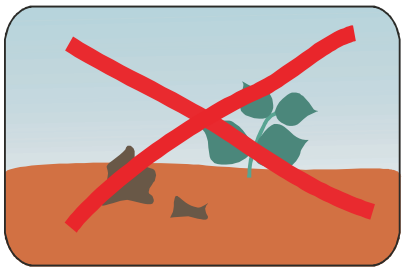
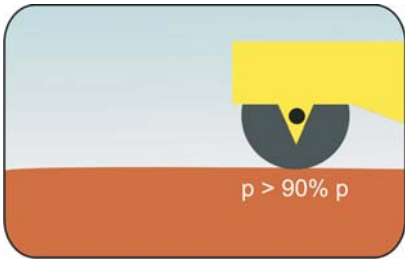
Installation Guidelines



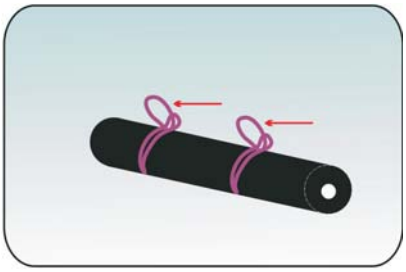
1. Preparing the subgrade



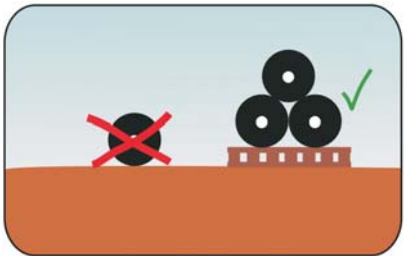
Surface, on which you plan to install the Eurobent must be free of sharp rock, organic matter and other objects also larger that 50 mm. The subgrade should be compacted at least 90% of it's proctor density. While compacting with a smooth-wheeled or rubber-tired roller, try to keep the surface free of water.

2. Delivery and storage

Eurobent is in rolls with a width of 5m and a length of 40m. Average roll diameter is 60-70cm, and the weight is approximately 1000kg. Eurobent GCL are wound on tubes with an inner diameter of 10 cm. Every roll is packed in a plastic sleeve UV resistant. All rolls are marked with a label containing the dimensions, lot and roll number.

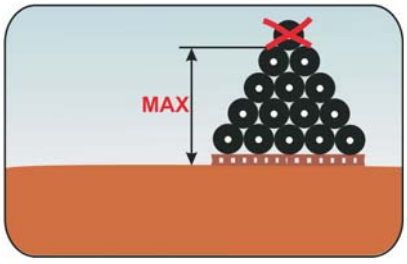


We supply a 25kg bag of bentonite powder for each roll of Eurobent. The bag is ment for application in the overlapping areas.



Each roll is equipped into a set of two belts. It is recommended while unloading from the truck to put a steal pipe inside to prevent bending of the roll.

While storing Eurobent do not place the rolls directly on the ground but provide for pallets or similar constructions underneath.



Rolls should not be stacked more than 4 rolls high.

Eurobent should not be directly exposed to the elements during the storage. Cover all rolls with a plastic sheet or a tarpaulin. Do not remove the plastic sleeves prior to installation.

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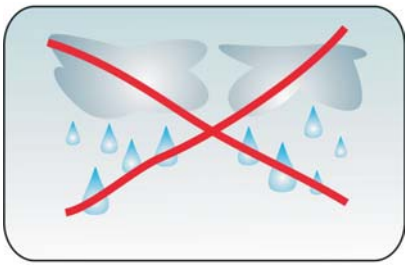
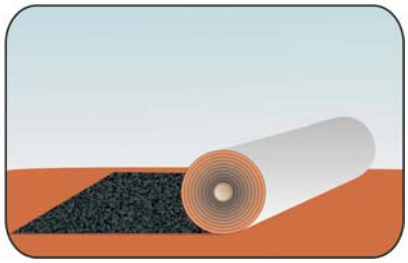
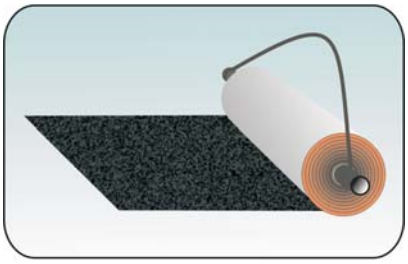
3. Installation of Eurobent



The installation can only proceed during dry weather conditions. Never place the liner on top of standing water.



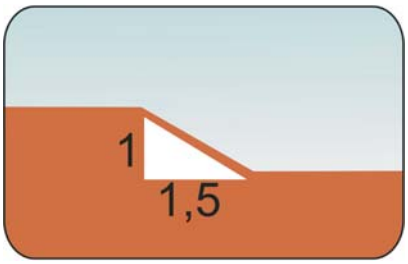
Eurobent should be placed on the prepared subgrade without wrinkles or folds. Position the Eurobent GCL with the woven down and the nonwoven facing up. When you use Eurobent Combi remember also to put the PE coating facing up. Unroll the Eurobent roll like a carpet.



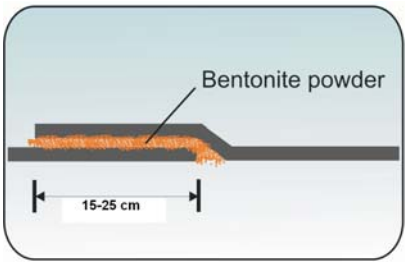
For easier handling and positioning of Eurobent it is recommended to provide a lifting device which allows to lift the rolls with a bulldozer or front end loader. The iron pipe may serve as such a device for unloading as well as for installation of the liner.

On slopes the orientation of panels shall be parallel to the slope. The panels should be secured in an anchor trench at the top of the slope. The requirement as well as dimensioning should be based on a stability calculation.

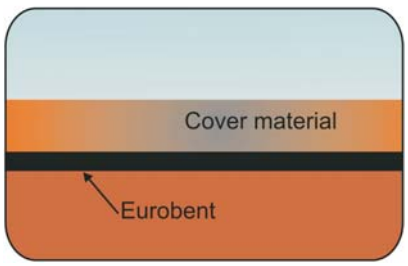
4. Panel overlaps



Each panel is marked with two lines, the first located 15 cm from the edge, and the second one is 7 cm farther. It is recommended to make the overlapping between these two lines, which are for assist purpose. If mayor settlements are to be expected the overlapping area is to be increased. When making the overlapping use the bags which are supplied together with the rolls.



Cover material should be placed on the bentonite liner immediately after installation. The thickness of the cover material should be min. 20 - 25 cm after compaction. The cover material should be free of stones larger than 50mm and should be composed of well graded material.



Apply the cover over head and do not allow construction vehicles to move directly on top of the GCL.

5. Damage repair

Even if installation is out with utmost care the liner may have suffered some damage in the process. Due to the swelling properties of the bentonite minor defects will heal and seal themselves.
More serious defects should be marked immediately and be repaired by cutting a patch of bentonite liner large enough to allow an overlap of at least 30cm on all edges. Then place bentonite powder on the area to be repaired and cover the damaged area with the patch.

6. Attachment to concrete structures and pipe penetrations

6.1.Pipe penetrations

Before installing the bentonite liner clear an area 15 - 20 cm deep and 30 cm around the pipe from surrounding soil.
Pack this area up to half its total depth with bentonite powder or paste and place the bentonite liner that is to be cut in star shape to fit around the pipe on top. Then fill the rest of the excavated area with bentonite powder and place another bentonite liner cut in star shape on top of it. To hold the second bentonite liner firmly in place it is recommended to attach it with a pipe shell.

6.2. Attachment to concrete structures

Generally speaking attachments to concrete structure should end above ground water level. In the attachment area dig a small trench along the structure to be sealed. Pack it with bentonite powder or paste up to half of its total depth. Then trim the bentonite liner to fit against the wall of the structure and fill the remaining trench with bentonite powder. For additional anchorage it is recommended to affix a plastic or metal strip along the edge and cover this area with a piece of bentonite liner or a piece of fabric.