

mastaTEX[®] Concrete Installation Manual



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SUBGRADE PREPARATION

mastaTEX® Concrete will fit the underlying surface shape, therefore any sharp rock, organic matter and other objects shall be removed. The trench should have an even profile for ease of future preservation.

Installation and positioning

mastaTEX® Concrete should be placed on the prepared subgrade without wrinkles or folds. Unroll the concrete liner into the dike profile. mastaTEX® Concrete shall be arrayed with geomembrane facing down. Start on the lowest point of the trench and overlap against the slope of the channel (like roof tiles).



For easier handling and positioning it is recommended to provide a lifting device which allows to lift the rolls with a front end loader. The iron core may serve as a device for unloading as well as for installation of the liner. The orientation of panels on slopes shall be parallel to the slope. The panels should be anchored to the trench at the top of the slope. When setting subsequent layers ensure there is at least a 10 cm overlap between layers in the direction of water flow.



Watering Overlaps

Water the area under the overlapped mastaTEX® Concrete sections. Once sprayed, the material remains flexible for few hours.



Joining

Stick screws or steel bars approx. 5 cm from the edge of the connection. Ensure they have enough sharp point to penetrate the concrete liner. Nails length and spacing is dependable on soil conditions and application type. They should be applied at connections where possible to secure adjacent layers together.





Hydrating

After fixing and connecting, spray mastaTEX® Concrete with water. To ensure sufficient hydration mastaTEX® Concrete should be re-sprayed after 1 hour from first hydration.

- The minimum water-to-mass ratio of mastaTEX® Concrete is 1:2, more water will not negatively affect the liner performance.
- The best results are obtained by using the spraying method.
- The use of a strong water jet on mastaTEX® Concrete may result in damaging the internal structure of the liner.
- The proper hydration should take place by using water that conforms to the mortar water standard. We recommend using water compliant with harmonized standard PN-EN 1008: 2004 what ensures good concrete binding. However, water from any other source, also sea water, can be used after testing.
- mastaTEX® Concrete should not be moved once the curing process has begun.
- Do not walk on the hydrated mastaTEX® Concrete until it is hard enough.
- Any physical interference with mastaTEX® Concrete after hydration may result in deterioration of its properties.
- The setting start of mastaTEX® Concrete is 90 minutes after hydration.
- The setting time will be reduced in hot climate.
- mastaTEX® Concrete hardens within 24 hours but reaches its full potential in 28 days.
- If mastaTEX® Concrete is not hydrated properly, the watering process should be repeated.
- The hydration of mastaTEX® Concrete depends on the weather conditions on site. For example, in hot weather, mastaTEX® Concrete should be irrigated more often and with more water in order to optimize the curing process.

Settings

Depending on outside temperature and quantity of water used for hydration, mastaTEX® Concrete needs minimum 24 hours to get hard and be ready for use.

