



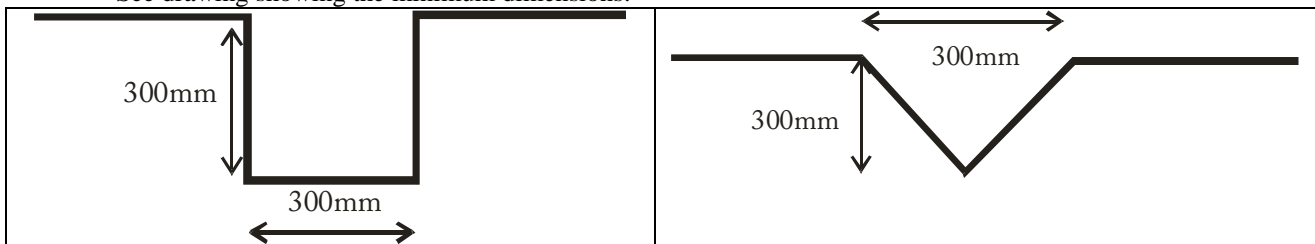
GUIDELINES FOR INSTALLATION OF LINER FOR WATER IMPOUNDING APPLICATIONS

CONSTRUCTION

- Lining consisting of non-woven needle punched polyester geotextile of a weight of 150 g/m² impregnated with WATERBLOK rubberized waterproofing compound.

When excavating earth the following important points should be borne in mind:

- **DEPTH:** The depth of the dam should preferably not exceed 7 meters. The WATERBLOK system has however been thoroughly tested and has been successfully installed to a 15 meter head.
- **WATER TABLE:** The floor of the dam should be above the surrounding water table.
- **ORGANIC WASTE:** Organic material such as reeds and grass must be removed to prevent the decomposition of these materials that could lead to the formation of gas bubbles beneath the membrane.
- **SHARP OBJECTS, ROCKS & STONES:** All sharp objects, rocks & stones must be removed from the surface. If this cannot be achieved, soft soil can be sprayed over the area to cover these objects.
- **EMBANKMENT:** The recommended slope of the embankment should be 1:2.5 to enable suitable preparation and compaction of the slopes.
- **COMPACTION AND FINISH:** The floor and embankment should be compacted to optimum conditions taking special care to obtain as smooth a finish after rolling as possible.
- **WATER INLETS AND OVERFLOW:** Water inlets and dam overflows should be protected to prevent damage to lining and erosion of the embankment at overflow.
- **SUB-SURFACE DRAIN:** In areas which have a high water table a sub-surface drainage network could be installed on the dam floor, sloping towards the lowest point of the dam floor.
- **ANCHOR TRENCHES:** Anchor trenches of approximately 300 mm x 300 mm for the geotextile should be constructed on the perimeter of the dam walls. These anchor trenches can be either rectangular or V-shaped. See drawing showing the minimum dimensions:



LINING METHOD

- Inspect the compacted earth surface to ensure that it is smooth and that no stones or foreign bodies are protruding through the surface which could rupture the lining.
- Place the end of the geotextile roll **furry side down**, in the anchor trench at approximately midpoint of the embankment. Unroll the geotextile down the embankment, across the floor, up the opposite embankment and cut off in the opposite anchor trench. Unroll another width of geotextile, overlapping the previous lane by at least 150 mm down one edge for joint seal.
- Pull out any creases in liner before proceeding with joint. Turn back the upper overlap, apply a heavy coat of WATERBLOK on the lower overlap and immediately fold back the upper overlap pressing it down firmly. Immediately apply a heavy coat of WATERBLOK over the joint.
- Impregnate geotextile with WATERBLOK, diluted 1:1 with water, at a rate of 1.6 liters per square meter using soft brooms. Leave 150 mm overlaps uncoated to allow for joining. Allow to dry for 4 hours.
- Continue with process until the entire surface is lined with geotextile and impregnated with a 1:1 diluted coat of WATERBLOK and water.
- Apply one coat of undiluted WATERBLOK to the entire surface at the rate of 1 liter per square meter and allow to dry for 4 hours.
- Apply a final coat of undiluted WATERBLOK to the entire surface at the rate of 1 liter per square meter and allow to cure for a minimum of 72 hours before filling with water.