



Waterproofing of Treatment of Exterior Retaining Wall

Mixing of Material

The pail of Waterblok Multi-Purpose must be stirred well until totally smooth and all solids dissolved. It must resemble a smooth chocolate-like paste. Water is already added to the pail in the factory so there is no need to add any water. However, should the compound be too solid a small quantity of water (not exceeding 1 liter) can be added but this is rarely necessary.

Geotextile to be Used

An 105gsm (grams per square meter) non-woven polyester needle punched geotextile is used for the sealing of cracks, construction and other joins and for all other detail work.

If the wall is if Concrete Hollow Blocks, a “tissue” geotextile is used for embedding over the entire area.

An 105gsm (minimum) non-woven polyester needle punched geotextile is used for the drainage system.

Surface Preparation

1. Ensure that all cavities, exposed pipes, exposed Concrete Hollow Blocks (CHB) or other masonry with gaps in the wall be filled and smoothly plastered to ensure proper installation.
2. Chip off all plaster, irregularities and loose sections from the wall. If any of this will come loose at a later stage the waterproofing will come loose with it and create a breach which could lead to leaks.
3. Check the wall for structural and/or other defects such as “honeycombs”. Best method is through light chipping and pounding with a hammer. If such defects are found, it must be repaired.
4. Check concrete slab for cracks. All cracks wider than 2mm should be filled with Waterblok Crack Sealer, a grout, bituminous putty or water base structural epoxy.
5. Thoroughly clean the area to be waterproofed and ensure that all dirt, moss, dust and all other foreign matter are removed and the area is totally clean. It is sometimes a good idea to wash the area with water (no detergents added) after cleaning leaving the substrate moist prior to application of primer. If there is any dirt or dust on the substrate, the waterproofing will adhere to the dust or dirt and not penetrate the substrate to ensure proper adhesion. This could lead to waterproofing failure at a later stage.

Detail Work

1. Cracks in concrete surface

Embed 100mm width strips of geotextile extending 50mm longer than the crack on each side over the crack following the methodology outlined above.

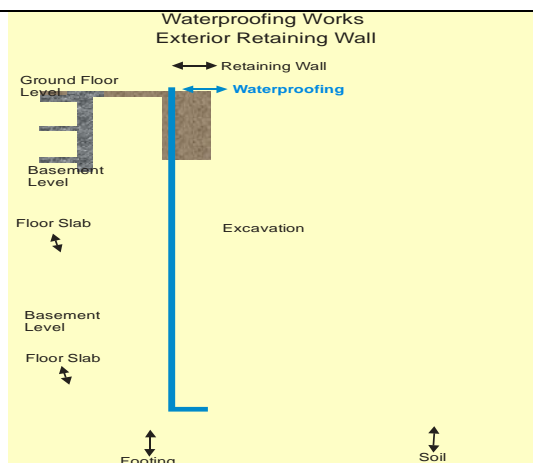
2. Construction Joins

If there are any construction joins a geotextile (0.5m each side of the join – total strip width 1 meter) must be embedded in Waterblok Viaseal over the entire length of the join following the methodology outlined above.

Priming the entire area

Prime the area (ensure that it is 100% clean) with a 50/50 mix of Waterblok Multi-Purpose and clean water. Allow the primer to dry for 2 to 4 hours (longer if needed until it turns totally black)

Full Waterproofing Application



Please note:

**USE BRUSHES THROUGHOUT THE APPLICATION AND DO NOT USE ROLLERS
ENSURE THAT NO AREAS ARE LEFT UNCOVERED AND THAT THE APPLICATION IS SMOOTH.**

Reinforced Concrete Retaining Wall (RC)

Apply 3 thick coats of undiluted Waterblok Viaseal over the entire area **(INCLUDING THE FLASHING AREA [EXTENDING 2 INCHES HIGHER] AND DETAIL WORK TO DRAINS, PIPES, ETC.)** using **BRUSHES (DO NOT USE ROLLERS)** allowing drying of 4 hours between coats. **ENSURE THAT NO AREAS ARE LEFT UNCOVERED AND THAT THE APPLICATION IS SMOOTH.**

Concrete Hollow Block Retaining Wall (CHB)

1. Apply a thick coat of undiluted pure Waterblok Multi-Purpose extending 50mm more each side than the width of the tissue geotextile and not more than 0.5m of the length at a time and immediately embed the tissue geotextile in the wet Waterblok Multi-Purpose by pushing down hard with the hands and brushing hard with the hands to ensure that there are no creases and ensuring that the Waterblok Viaseal fully penetrates the geotextile (no white spots must be seen). Immediately apply a further but lighter (thinner) application of Waterblok Multi-Purpose. Repeat until tissue geotextile is embedded over the entire area. Allow to dry for 6 hours (overnight will be better).
2. Apply further 2 thick coats of undiluted Waterblok Multi-Purpose over the entire area and allow to dry for 4 hours between coats.

Application Rate

The specified total application rate is 1.75 liters per square meter if applied to RC Wall and 2 liters per square meter if applied to CHB Wall.

Curing

Allow waterproofing to cure for a minimum of 72 hours. **ENSURE THAT NO ONE HAS ACCESS TO THE WATERPROOFED AREA AND THAT NO DAMAGE OCCURS.**

GEOTEXTILE DRAINAGE SYSTEM

<p>After completion of the waterproofing application a non-woven needle punched geotextile (110gsm minimum) is affixed to the retaining wall and at the foot of the wall at foundation level wrapped around a perforated drainage pipe. The perforated drainage pipe runs along the base of the retaining wall footing and slopes towards a drainage outlet at the furthest end of the retaining wall. The geotextile will protect the waterproofing against the backfill, act as a drainage conduit conveying ground water to the perforated pipe and will prevent the perforated pipe from becoming clogged as it will keep the soil out whilst allowing the water to freely enter. Ground water will then be conducted in the perforated pipe towards a drainage catchment area.</p>	<p>Backfilling is carried out by first backfilling with sand, then with chipped stone and then with a solid backfill. The sand and chipped stone will further enhance the drainage of ground water. This system will ensure proper and effective drainage of ground water. The use of geotextile in this application holds the following advantages:</p> <ul style="list-style-type: none"> • It protects the waterproofing against damage during the backfill; • It acts as a drainage system being an excellent conduit of water; • It acts as a soil separator as it will not allow soil particles to pass through it; and • It acts as a soil stabilizer.
<p>Cross Section</p> <p>Cross section of Perforated pipe</p>	<p>Perforated pipe wrapped in geotextile</p>