

METHOD STATEMENT

1 SCOPE

This document covers the installation of **MasterSeal 725SA** SBS modified self-adhesive bituminous waterproofing membrane for below grade application. All materials and method involved in the execution of the waterproofing work is described.

2 RESOURCES

2.1 Materials

Item	Description Of Material
MasterSeal 725SA	SBS modified self-adhesive bituminous membrane
MasterSeal P 700	Solvent based bitumen primer
MasterSeal 720PB or MasterSeal 721PB	Asphaltic protection board or SBS modified self-adhesive protection membrane
MasterSeal 621	High-build bitumen / rubber latex emulsion
MasterSeal 915	Epoxy grout

2.2 Tools and Equipment

Item	Equipment Description
1	Slow speed drill machine with less than 500 rpm and a suitable spiral mixer for stirring the primer (MasterSeal P 700)
2	Wooden press and lap rollers
3	Brush / roller
4	Steel scraper
5	Measuring tape
6	Cutting knife and scissors
7	Rugs and cleaning solvents

3 PROJECT EXECUTION / SEQUENCE OF WORKS

3.1 Substrate Preparation

- All surface to be treated shall be sound, should have clean surface free from laitance, oil, grease, mould release agent, residual curing compound, dust or other contaminants that could impair adhesion.
- Substrates must be regular and smooth, free of loose aggregate and sharp protrusions.
- All sharp edges to be chamfered (min 20mm) and internal corners to be filled with sand cement fillet, 50mm by 50mm.

3.2 Primer Application – MasterSeal P 700

- All concrete surfaces shall be primed by solvent based bitumen primer, **MasterSeal P 700**.
- Mix the contents of the pail/drum prior to the application to remove any sediment.
- Apply the primer @ 1 to 3 m²/liters depending on the porosity of the concrete by a brush, roller or an airless spray.
- Allow the primer to dry prior to the application of the waterproof membrane.
- If membrane application gets delayed for more than 24 hours after the primer has been applied on the concrete surface, then apply a fresh coat of the primer again.

3.3 Membrane Application – MasterSeal 725SA

3.3.1 Horizontal Membrane Application - 1st Layer

- **MasterSeal 725SA** membranes shall be installed from the low point or drains, so the flow of water is over or parallel to the plies, but never against the laps. All overlaps at the membrane seams shall be installed so as to have "up" slope laps over "down" slope laps.
- Unroll only the required length of the membrane and cut the pieces to the desired length and shape.
- Place the membrane pieces on the area to be covered and check whether the pieces match with the profile of the marked substrate.
- Re-roll the membrane for about half the length without changing its orientation. Then slowly unroll the membrane, peel off the release film and carefully place the membrane on the surface. Smoothen out any entrapped air by pressing from the center to the sides by the wooden press.
- Furthermore, an iron roller shall be used for rolling on top of the applied membrane to ensure a proper and strong adhesion of the bitumen compound with base surface.
- The subsequent rolls shall be laid to have a 50mm overlap on the selvages and end overlaps of 100mm.

3.3.2 Vertical Membrane Application - 1st Layer

- Reinforcing strips of 200mm width cut out from the **MasterSeal 725SA** membrane shall be applied on all the corner joints.
- Dimension of the area, which needs to be waterproofed, shall be taken and the membrane is aligned accordingly.
- The membranes are then re-rolled and then un-rolled slowly and stuck to the surface by peeling off the silicone release film and exposing the self-adhesive side.
- Entrapped air shall be smoothed out from the center to the sides by a wooden press followed by rolling with an iron roller to ensure a proper and strong adhesion of the bitumen compound with base surface.
- The membrane will be finished on the top by tucking into a groove cut in the concrete and sealed with a suitable mastic sealant.

3.3.3 Membrane Application - 2nd Layer

- Apply the second layer of **MasterSeal 725SA** with 50% staggered overlaps on the first layer. Same method should be followed for application of 2nd layer as the 1st layer.
- Reinforcing strips are not required on the second layer.

3.3.4 Membrane Application on Pipes

- A cement sand/mastic sealant angle fillet shall be provided all around the pipe joint.
- A 400 mm wide reinforcing strip of **MasterSeal 725SA** shall be applied after applying the primer **MasterSeal P 700**.
- The joint of the membrane with the pipe shall be sealed with **MasterSeal 621**.

3.4 Protection Layer Application

3.4.1 Protection Screed for Horizontal Membrane

- A 50 mm cement sand protective screed shall be provided on top of the applied membrane applied on the horizontal surface in order to protect it from damage from reinforcements and sharp aggregates present in the concrete.
- Aggregate size of protection screed shall not exceed 10mm.

3.4.2 Protection Board, **MasterSeal 720PB** / **721PB** for Vertical Membrane

- The membranes applied on the vertical surface shall be protected immediately from the ongoing site activities or from sharp aggregates during backfilling with a tough, weather, warp and rot proof asphaltic protection board, **MasterSeal 720PB**, of suitable thickness.
- Alternatively, **MasterSeal 721PB** self-adhesive protection membrane can be used where **MasterSeal 720PB** is difficult to install.

3.5 Membrane Repair

- Minor pinhole of diameters less than 0.5mm will not affect the waterproofing properties of the system, since the highly elastic SBS compound has a self-healing property and will tend to cover and extend over the puncture and seal it.
- Larger damages shall be patched repaired with a piece of the same membrane which extends at least 100mm from all the sides of the puncture. The area to be repaired shall be primed with the bitumen primer and allowed to dry before carrying out patching works.

4 STORING AND PROTECTION OF MATERIAL

- All materials whether loose or on pallets have to be stored in a covered area and protected from UV and sunlight. Damage to the membrane may be caused due to improper storage and at high temperatures.
- Application of membranes should be avoided in case of extreme weather conditions like sand storm or rain. The ambient temperature during application should be between 5°C and 45°C.

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