

MasterSeal[®] 726

Self-adhesive, polymer-modified bituminous waterproofing membrane

METHOD STATEMENT

Masterseal 726 (SBS Modified Self Adhesive Bituminous Waterproofing Membrane), Below Grade Application

GENERAL INSTRUCTIONS

1. 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.
2. 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.

The following Equipment are required during application: Protective clothing:
Gloves, face mask, overalls, and safety goggles

Application equipment's:

1. Slow speed drill machine with less than 500 rpm with a suitable spiral mixer for stirring the primer
2. Wooden press & lap rollers.
3. Brush /roller.
4. Steel scrapper.
5. Cotton waste.
6. Solvent cleaner.
7. Measuring tape.
8. Cutting knife, scissors

APPLICATION INSTRUCTIONS

Surface Preparation:

1. The concrete surface shall be cleaned thoroughly of all contaminants like dust, traces of curing compound, oil, grease. All surface imperfections and protrusions are to be removed and repaired. Structurally unsound and friable concrete must be removed and repaired with a suitable concrete repair mortar. All nail heads and protrusions that are likely to puncture the membranes must be removed.
2. Provide a 45 degree cement sand angle fillet on all internal corners and a 20 mm chamfer on all external corners.

Priming:

1. All concrete surfaces shall be primed by solvent based bitumen primer as per ASTM D 41 /BS 3416. 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

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or an airless spray. Allow the primer to dry prior to the application of the waterproof membrane.

2. 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.

Application- 1st layer Horizontal Surfaces:

1. **Masterseal 726** 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.
2. Unroll only the required length of the membrane and cut the pieces to the desired length and shape.
3. Place the membrane pieces on the area to be covered and check whether the pieces match with the profile of the marked substrate.
4. 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.
5. 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.
6. The subsequent rolls shall be laid to have a 50mm overlap on the selvages and end overlaps of 100mm.

Application-1st Vertical Surfaces:

1. Reinforcing strips of 200mm width cut out from the **Masterseal 726** membrane shall be applied on all the corner joints.
2. 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 centre 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.
3. The membrane will be finished on the top by tucking into a groove cut in the concrete and sealed with a suitable mastic sealant.

Application-2nd layer:

Apply the second with 50% staggered overlaps on the first layer. Same method should be followed for application of 2nd layer as the 1st layer.

There will not be any reinforcing strip between the two layers.

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Protection of waterproofing membrane:

1. A 50 mm cement sand protective screed (with 10mm down aggregate size) 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.
2. 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 726**) of suitable thickness.

Fixing of Protection Board:

MasterSeal protection board can be fixed in place by the following methods:

1. Fixing by Double sided adhesive tape : Peel off the anti stick PE film from the underside of the protection board. Cut out 100mm-150mm lengths of the tape from the roll and peel off the release film from one side of the tape. Stick these to the edges and centre of the protection board at intervals. Peel off the release paper from the other side and fix the board on the membrane. Provide supports/props to keep the boards in place till the adhesive is strong enough to hold the board.
2. Fixing by Synthetic bituminous rubber mastic or Adhesive Peel off the anti stick PE film from the underside of the protection board. Apply the adhesive on various spots on the protection board. Press the board immediately onto the substrate. Provide supports/props to keep the boards in place till the adhesive is strong enough to hold the board.

Note: A point to be noted is that due to the absorption of heat in the concrete, the water present will try to come out in the form of vapor, thus creating an up ward pressure on the membrane. This leads to the formation of bubbles. In order to minimize the formation of these bubbles it is always recommended to cover up the membranes immediately after application (within 24 hours) with a protection board or cement screed.

Bubble formation will not in any way affect the water proofing property of the membrane unless it is physically damaged. However, it has to be ensured that the lap joints are properly sealed and does not open up, as these will be the weak points for water penetration.

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Membrane around Pipes:

A cement sand/mastic sealant angle fillet shall be provided all around the pipe joint. A 400 mm wide reinforcing strip shall be applied after applying the primer. The joint of the membrane with the pipe shall be sealed with a bitumen rubber mastic.

Membrane Repair:

In case of the **Masterseal 726** membrane getting punctured due to the ongoing site activities, the following repair procedures shall be followed.

1. 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

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