

METHOD STATEMENT: MasterSeal 725HC - Roofing and Podium Application

1 SCOPE

This document covers the installation of **MasterSeal 725HC**, SBS modified self-adhesive bituminous waterproofing membrane for roofing and/or podium 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 725HC	SBS modified self-adhesive bituminous membrane for hot climate applications
MasterSeal P 700	Solvent based bitumen primer
MasterSeal 621	High-build bitumen / rubber latex emulsion
MasterSeal GG 470	Polysulfide sealant
MasterSeal 957	Polypropylene geotextile 370 gsm

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
8	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 725HC

3.3.1 Horizontal Membrane Application – 1st Layer

- **MasterSeal 725HC** 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.
- For application on low temperatures, it is advisable to warm the substrate up to 40°C using a flame torch prior to sticking of **MasterSeal 725HC** for better adhesion.

3.3.2 Membrane Application on Skirting – 1st Layer

- Provide a 300 mm wide reinforcing strip of **MasterSeal 725HC** over all the skirting area which is exposed above the finished layer of the roof.
- All the internal corners should be provided with cement sand angle fillet.
- Install the membrane in vertical direction preferably till 300 mm on all the skirting area so that unnecessary joints are avoided which tend to be the weak spots for water leakage.

3.3.3 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 725HC** shall be applied after applying the primer **MasterSeal P 700**.
- The joint of the membrane with the pipe shall be sealed with **MasterSeal 621**.
- The end of pipe dressing shall be clamped in place using jubilee clips.
- The pipe dressing shall be protected with a 350gsm geotextile.

3.3.4 Membrane Application – 2nd Layer

- A second layer of membrane, **MasterSeal 725HC** shall be installed, both horizontally and vertically covering the same area of application on the previous layer.
- The second layer must be laid in staggered joint position from the previous layer and should not be installed perpendicularly.
- The membrane shall be terminated on a groove, sealed with bitumen filling.
- The termination shall be covered and protected with an aluminum flashing, minimum 1mm thick, 50mm wide, having 10mm upper-tip bent at 45 degrees to receive the sealant.
- Use **MasterSeal GG 470** polysulfide sealant with the aluminum flashing.

3.4 Membrane Repair

- 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 **MasterSeal P 700** and allowed to dry before carrying out patching works.

3.5 Subsequent Layers for MasterSeal 725HC

3.5.1 Application of Separation Layer

- Lay the 500gsm polyethylene sheet or 150gsm polypropylene geotextile separation layer covering all installed waterproofing membrane, overlapped at minimum 50mm.

3.5.2 Thermal Insulation Board Application

- Lay the thermal insulation board over the separation layer.
- Boards shall be installed with joints in staggered position.

3.5.3 Application of Separation / Protection Layer

- Lay the geotextile **MasterSeal 957** over the thermal insulation boards with 100mm overlap.
- The overlaps shall be lightly welded with hot air blower to keep the layer in place.

3.5.4 Ballast / Protection Screed

- Sand Cement concrete tiles can be laid loose or with bedding. Alternatively, round gravel bed ballast can be laid provided that there are no sharp edges.
- For landscaping application, a minimum thickness of 50mm sand / cement screed shall be placed and a 500gsm polyethylene sheet or 150gsm polypropylene geotextile can be used as a separation layer.

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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