

METHOD STATEMENT

MasterSeal 751TPEF - Fully Adhered

1 SCOPE

This document covers the installation of **MasterSeal 751TPEF**, fleeced-back, TPO membrane, fully adhered system. All materials and method involved in the execution of the waterproofing work is described.

2 RESOURCES

2.1 Materials

Item	Description of Material
MasterSeal 751TPEF	Fleeced-back TPO membrane
MasterSeal 752TDE	Unreinforced TPO membrane for detailing
MasterSeal 913	Adhesive for fleeced-back membranes
MasterSeal NP 472	Polyurethane sealant
MasterSeal 912	Swelling gasket in paste form

2.2 Tools and Equipment

Item	Equipment Description
1	Automatic, single seam welder (Leister, Varimat)
2	Manual seam welder (Leister, Triac)
3	TPO roller - 20mm, Brass roller - 5mm
4	Paint roller for adhesive
5	Chamfer tool / Horse shoe cutter
6	Wire brush
7	Cutting knife and scissors
8	Cotton rugs
9	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, mold release agent, residual curing compound, dust or other contaminants that could impair adhesion.
- Substrates must be regular and smooth, free of loose particles and sharp protrusions.
- All sharp edges to be chamfered (min 20mm) and internal corners to be filled with fillet, 50mm by 50mm.
- Dry substrate must be lightly sprayed with water prior to application of adhesive, **MasterSeal 913**.
- Substrates shall be fully supported, or self-weight should be sufficient to resist wind uplift.

3.2 Insulation Layer (If required)

- Insulation layer shall be specified as per project requirement and specifications.
- Pre-manufactured insulation boards, placed under the waterproofing membrane, shall be supported and mechanically fixed to the main substrate.
- Pre-manufactured boards, placed over the waterproofing membrane, must be ballasted and shall have a minimum 150gsm geotextile above the insulation layer, prior to ballast layer.

3.3 Membrane Application – MasterSeal 751TPEF

3.3.1 Horizontal Membrane Application

- Mark the specific area for application and pre-install the membrane down the area to align the overlaps.
- Unroll **MasterSeal 751TPEF** membrane and align the side laps. Overlaps should be minimum of 100mm.
- Laying of membrane should start from the bottom of slope towards the highest point to ensure that the overlaps does not go against the direction of water.
- Succeeding membrane should be laid in staggered manner to avoid multiple layering of membrane.

3.3.2 Adhesive Application – MasterSeal 913

- Re-roll the membrane halfway to expose the substrate and stand on the unrolled portion to prevent shifting.
- Pour the adhesive on the exposed substrate then spread and level the adhesive uniformly by brush or roller at a coverage rate of 150 -250 g/m², depending on the substrate porosity.
- Depending on the environmental conditions, wait for 5 to 15 minutes for the product to react and starts foaming prior to laying of membrane.
- Unroll the membrane and press it down using a broom or soft squeegee to improve adhesion.
- Re-roll the other half of membrane and apply the adhesive by repeating the procedure.
- Continue the procedure until all laid membrane is adhered.

3.3.3 Membrane Application on Skirting

- All membrane on skirting should extend at least 150mm from finishing level.
- Membrane shall be fully adhered, following Section 3.2.2 adhesive application.
- The membrane shall be terminated with a sealant-tipped aluminum flashing, using **MasterSeal NP 472**.
- All corners, cut-edges and detailing must be patched using **MasterSeal 752TDE**, un-reinforced membrane.

3.3.4 Welding of Overlaps

- Weld the overlap using an appropriate automatic, single seam welding machine (i.e. Leister Varimat)
- Corners, patches and other detailing can be welded using a manual, hot air welding gun (i.e. Leister Triac) with TPO rollers and Brass rollers for difficult areas.
- All welding intersections must be chamfered and patched with **MasterSeal 752TDE**, unreinforced membrane.
- All overlaps welded manually, due to unavailability of automatic machine, must be patched with a 100m wide strip of membrane, centrally placed over the joint.

3.3.5 Membrane Application on Pipes

- During installation of membrane, cut an opening on the sheet and let the pipe go through.
- With the aid of a caulking gun, squeeze a 10mm bead of **MasterSeal 912** around the pipe, 60mm away from the base.
- Once the hydro swelling paste has cured (24 hrs), create a minimum 150mm length sleeve of **MasterSeal 752TDE** membrane, rolled and welded to produce a sleeve diameter 10mm bigger than the pipe.
- Weld the bottom of the sleeves carefully to the main waterproofing membrane. Heating and carefully stretching the bottom of the sleeve will aid in fitting and welding.
- Patch the base of the pipe by welding an additional piece of **MasterSeal 752TDE** membrane extending 100mm away from the pipe.
- Clamp the sleeves tight using jubilee clips. Place two jubilee clips around the sleeves, keeping the hydro swelling paste **MasterSeal 912** tightly in between. This will restrain the expansion of the swelling paste when in contact with water, thus creating a water tight seal due to pressure.
- Seal the edges of the sleeves using a sealant, **MasterSeal NP 472**.

3.4 Membrane Repair

- Damaged membrane should be patch welded with a piece of **MasterSeal 752TDE** extending at least 50mm around the damage.
- Clean membrane with damp cloth prior to repair. If contaminants do not go off, clean the membrane with suitable cleaning solvents.

4 STORING AND PROTECTION OF MATERIAL

- Membranes shall be stored on shaded area.
- Membranes on pallets should never be stacked together vertically.
- Adhesive and sealants shall be stored on A/C room.

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