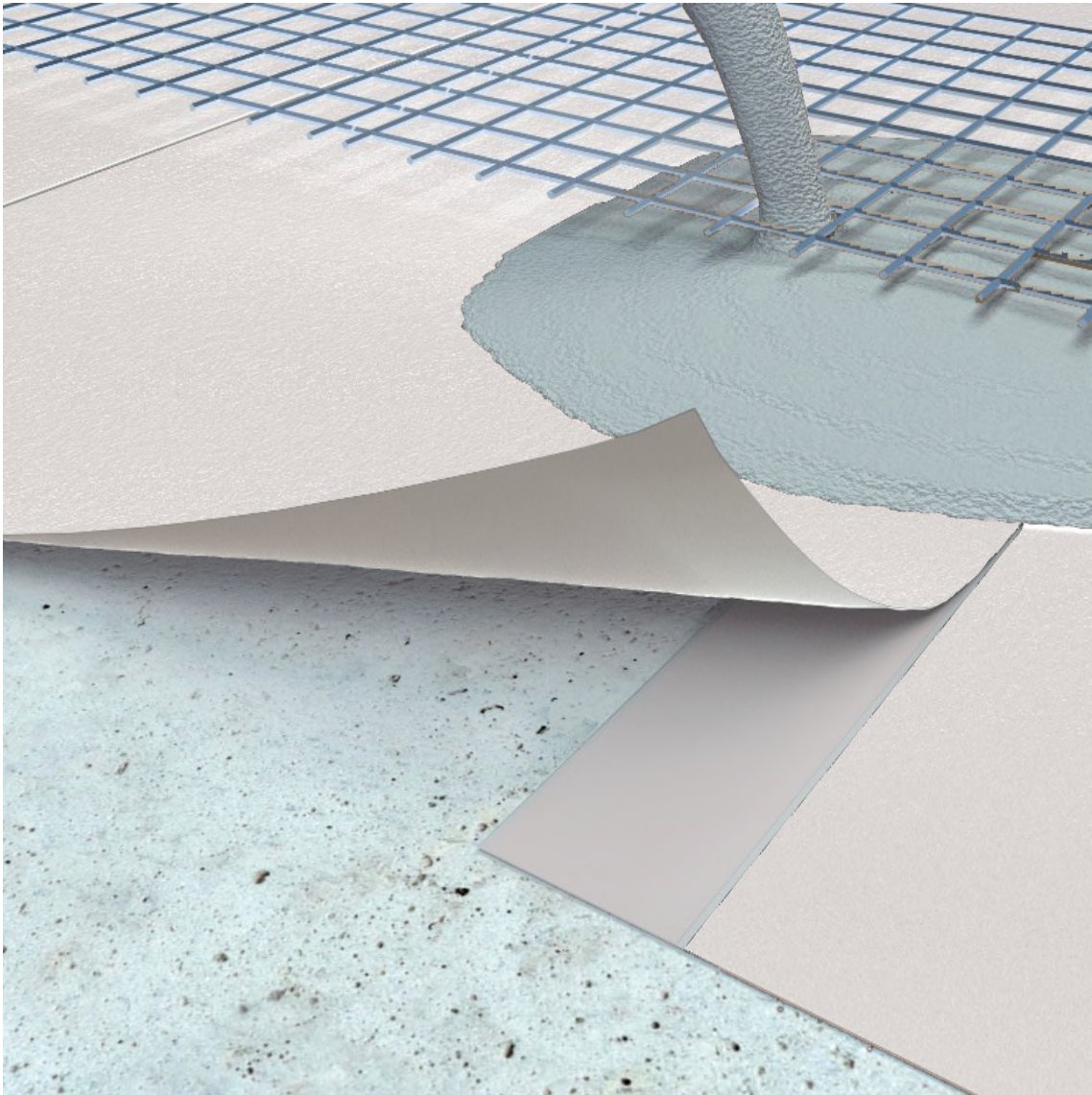


GENERAL METHOD STATEMENT

MasterSeal 730 UVS System



1 Scope

This document outlines the method for application and processing of pre-applied, fully bonded, waterproofing membrane, **MasterSeal 730 UVS System**, for below ground concrete structures.





2 Materials

The table below describes the system built-up material from Master Builders Solutions Construction Chemicals LLC and shall be supplied by the applicator and must be in accordance with the material approvals

Item	Description of Material
MasterSeal 730 UVS	Pre-applied HDPE waterproofing membrane
MasterSeal 936 UVS	Double sided sticky tape
MasterSeal 937 UVS	Single sided sticky tape
MasterSeal M 262	Single component PU coating
MasterSeal 910	Hydrophilic water bar
MasterSeal 914	Epoxy grout
MasterFlow 980	High-strength micro concrete for pile head re-profiling
MasterSeal 725HC*	SBS modified self-adhesive bituminous membrane
MasterSeal P 700*	Solvent-based bitumen primer
MasterSeal 720PB*	Asphaltic protection board

**These products are used as a post applied waterproofing system on open excavations where double side shutters are used.*

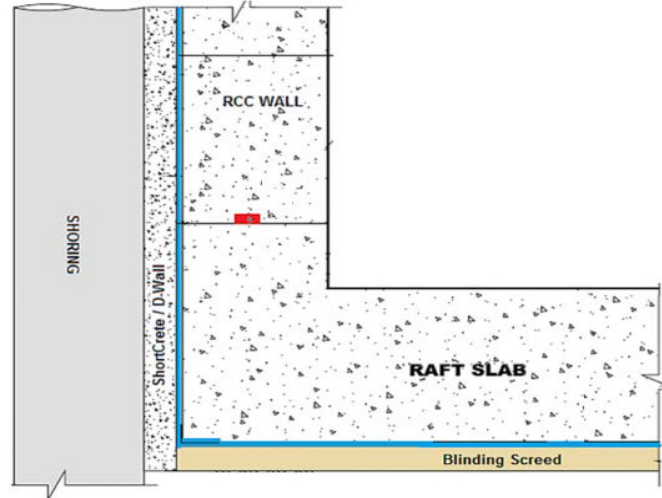
3 Tools

Item	Equipment Description	Photo
1	Measuring tape	
2	Utility knife	
3	Lap roller	
4	Steel pipe 2"	

3 MasterSeal 730 UVS System Overview

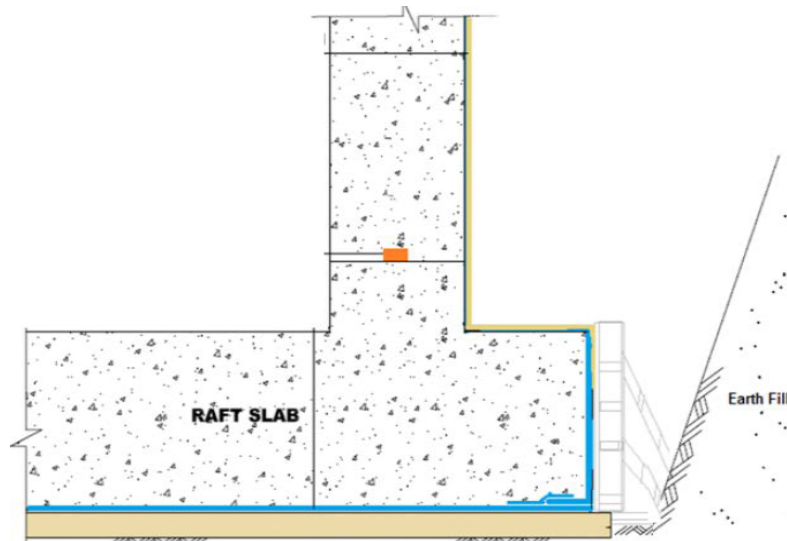
3.1 Standalone System

In a standalone system, **MasterSeal 730 UVS** membrane is solely used as a waterproofing membrane both on raft and wall section since the construction method allows the pre-installation of membrane without obstruction. This system is normally used when membrane is applied directly from the boundary line and excavation line, where casting process of concrete requires only a one-sided formwork.



3.2 Composite System

Composite system is a combination of pre-applied waterproofing membrane using **MasterSeal 730 UVS** and post-applied waterproofing membrane **MasterSeal 725HC**. Composite system is used when pre-application of waterproofing membrane is not possible for some locations such as open excavations where double-sided shutters are required for casting of retaining walls. Double-sided shutter mostly utilizes tie rod supports which obstructs the installation of a loose-laid membrane, thus post-applied waterproofing is an ideal option.



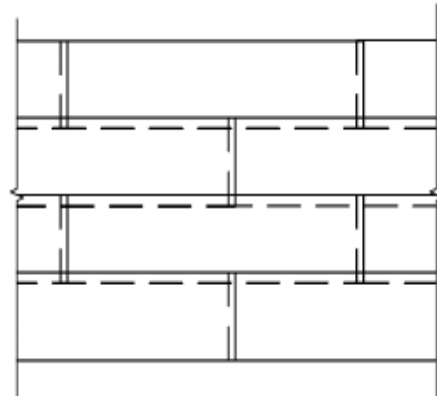
4 MasterSeal 730 UVS Pre-applied System – General Application

4.1 Substrate Preparation

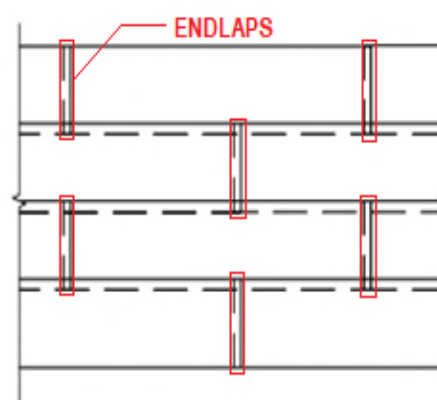
- Substrates must be regular and smooth, free of loose aggregate and sharp protrusions.
- All sharp corners / edges to be chamfered with minimum 30mm
- Surface should be sufficiently dry, standing water must be removed.
- Horizontal substrate requirement is a minimum of 100mm blinding poured over compacted ground or mass concrete layers.
- Vertical substrate should be either evenly smooth surface of shotcrete, reinforced concrete, or concrete blocks.
- Piles should be re-profiled with **MasterFlow 980**.

4.2 Membrane Installation

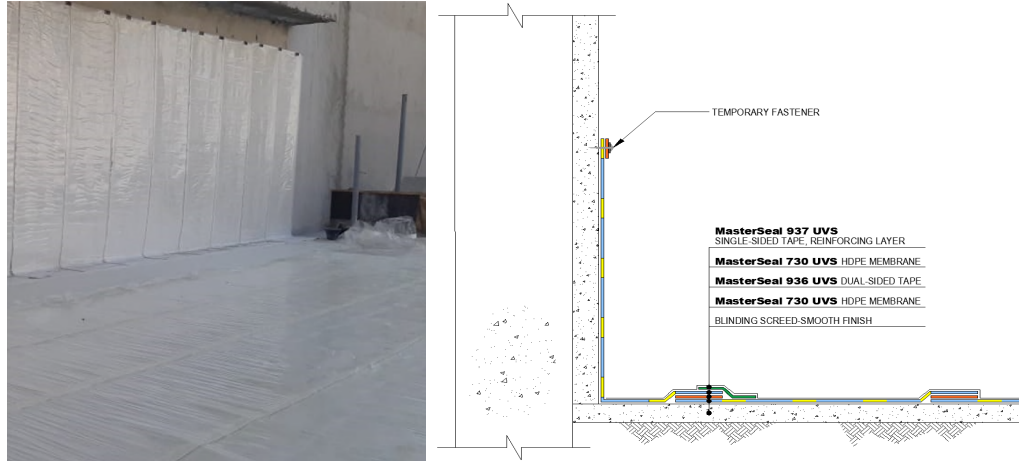
- Install the membrane with the adhesive side facing the expected pouring of concrete and shall be laid out with staggered joints.



- Overlap for succeeding membrane should be at least 100mm. Membrane sheets are pre-stripped with a line on one side having an adhesive. Overlaps without the pre-stripped adhesives shall be adhered using **MasterSeal 936 UVS** double sided sticky tape. This includes end lap of membranes.



- Install the vertical membrane extending at least 300mm longer than starter reinforcing bars. Reinforce overlaps with **MasterSeal 937 UVS** single-sided tape on critical locations such as horizontal-vertical interface installations, to avoid the laps from opening especially on high-temperature.



Note:

Removal of formworks having **MasterSeal 730 UVS** should be done at least 7 days after pouring to ensure adequate curing of concrete that is essential to the adhesion of membrane. If cannot be avoided due to time constraint, the formworks should be carefully removed, ensuring all temporary mechanical fixation or adhesive used for the membrane, that may cause the membrane to peel away from concrete, are initially removed.

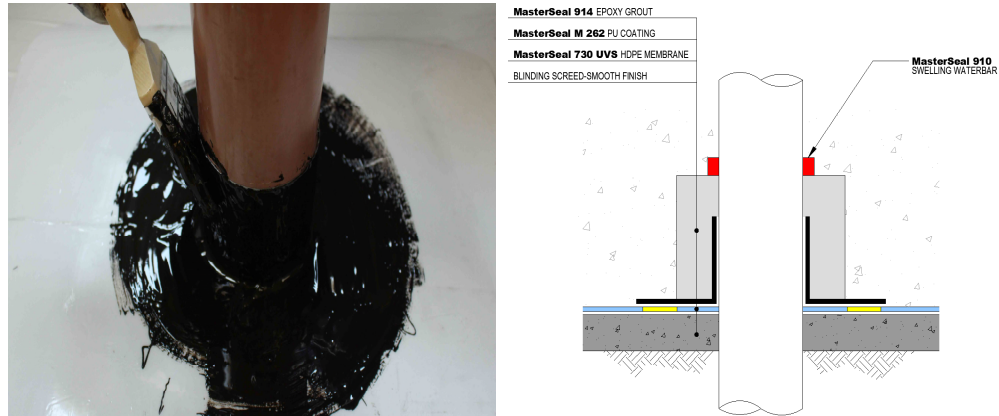
4.3 Pile Head Treatment

- Cut a hole on the membrane slightly smaller than the pile. Insert the pile through and fit snugly to the opening. Coat the pile with **MasterSeal M 262** extending at least 100mm from the base and sides of the reinforcements and encapsulate with **MasterSeal 914** epoxy mortar.



4.4 Pipe Penetrations

- Cut a hole on the membrane slightly smaller than the pipe. Insert the pipe through and fit snugly to the opening. Coat the pipe with **MasterSeal M 262** extending at least 100mm from the base and sides of the pipe and encapsulate with **MasterSeal 914** epoxy mortar. Install **MasterSeal 910** swelling water bar above the epoxy mortar encapsulation.



5 MasterSeal 725HC Post-applied System – General Application

5.1 Substrate Preparation

- Substrates must be regular and smooth, free of loose aggregate and sharp protrusions.
- All sharp corners / edges to be chamfered with minimum 30mm
- Surface should be sufficiently dry, standing water must be removed.

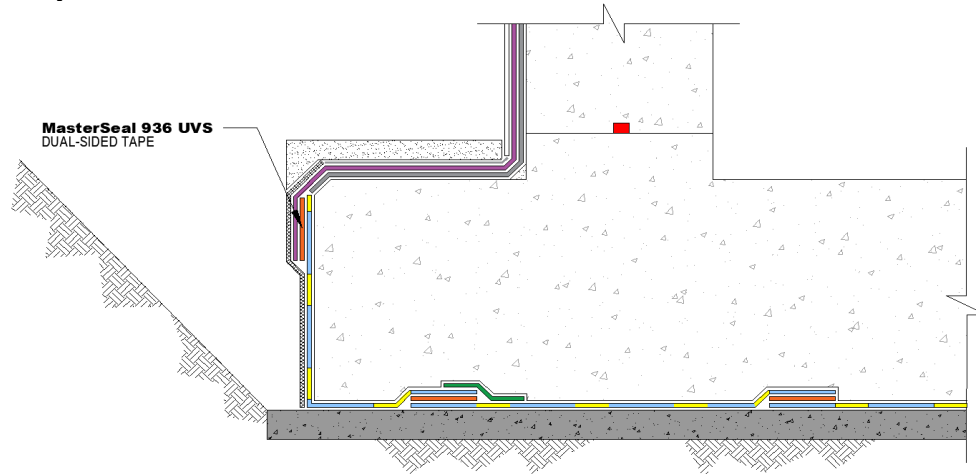
5.2 Primer Application – MasterSeal P 700

- 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 or roller.
- 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.

5.3 Composite Membrane Connection

- **MasterSeal 730 UVS** would normally terminate at the upper end of the raft concrete. This termination should later be exposed after casting of concrete for overlapping and continuation with the self-adhesive membrane **MasterSeal 725HC**.
- Clean the overlapping area, removing dirt, concrete laitance, or any residues or contamination that may impair adhesion.

- Apply **MasterSeal 936 UVS** double-sided sticky tape on the edge of **MasterSeal 730 UVS** to improve adhesion on overlap.
- Do not remove the outer foil of **MasterSeal 936 UVS** until **MasterSeal 725HC** is ready for adhesion.



5.4 Membrane Installation

- Lay **MasterSeal 725HC** membrane according to the area of application and align the overlap of the sheets.
- The membranes are then re-rolled and then un-rolled slowly and stuck to the surface by peeling off the release film and exposing the self-adhesive side.
- Entrapped air shall be smoothened out from the center to the sides by a wooden press followed by rolling with an iron roller to ensure 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.
- Protect the installed **MasterSeal 725HC**, using **MasterSeal 720PB** asphaltic protection board.

6 Visual Inspection and Quality Control

6.1 Before waterproofing installation

- Check suitability of substrate prior to installation.
- Rectify substrate defects if required.

6.2 After waterproofing installation

- Check overlaps if properly adhered. Critical areas must be reinforced with single-sided tape.
- Check if pipe penetrations and pile head are properly treated.
- Check for possible damages on membrane.

6.3 After steel reinforcement installation

- Check for possible damages on membrane during steel reinforcement installation.
- Rectify damages on waterproofing membrane if any.

6.4 Repair works

- Damages on **MasterSeal 730 UVS** membrane can be repaired by patching it with a piece of **MasterSeal 730 UVS** extending at least 100mm on all direction, adhered using **MasterSeal 936 UVS** and reinforced with **MasterSeal 937 UVS** tapes on the sides.
- **MasterSeal 725HC** can be repaired easily using a patch piece of the same material extending 100mm on all directions. Apply **MasterSeal P 700** primer prior to patch application.

7 Material Storage

- Store all materials under dry and shaded conditions. Do not expose materials to direct sunlight.

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