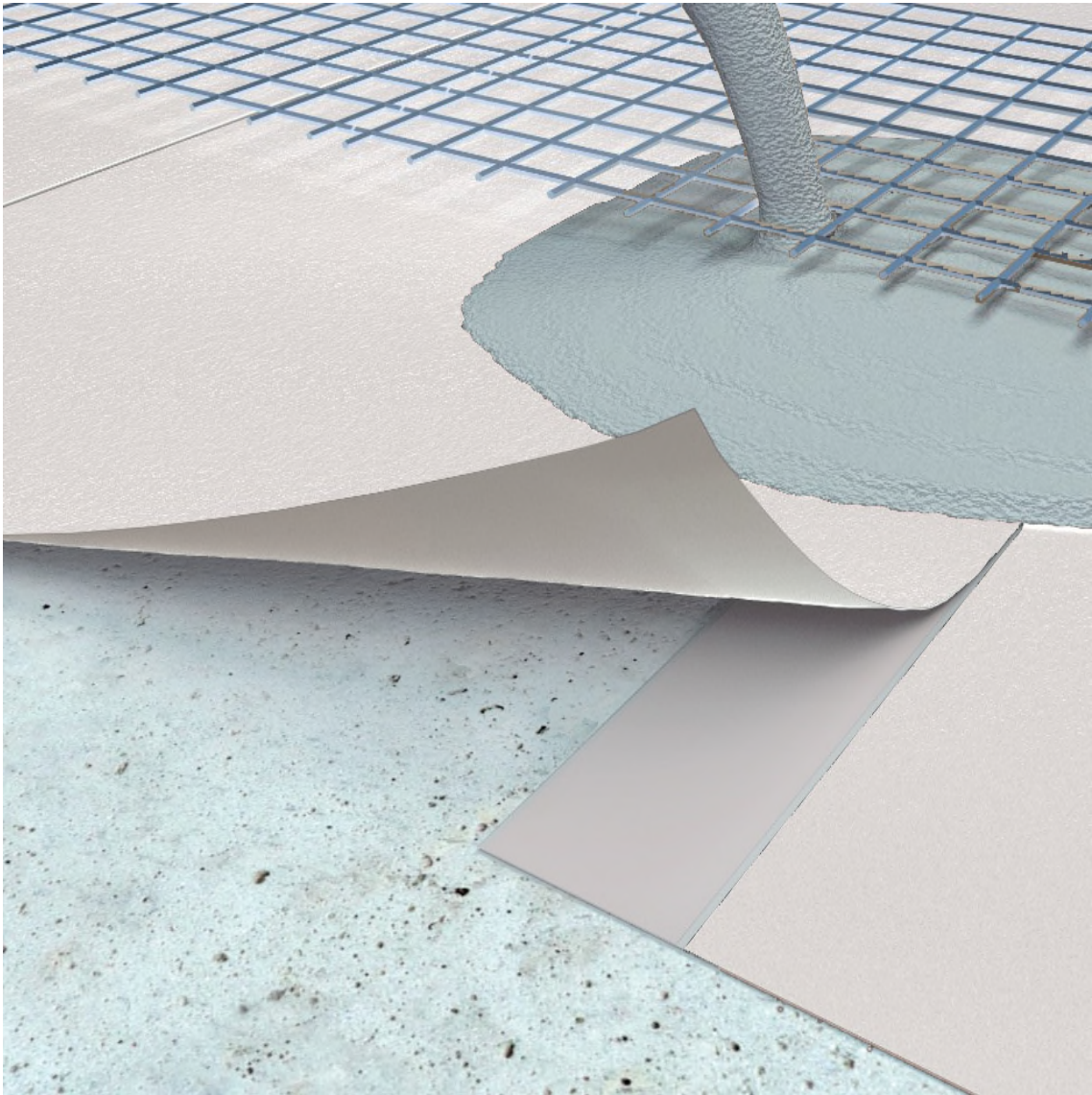


GENERAL METHOD STATEMENT

MasterSeal 730PA System



1 Scope

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





2 Materials

The following table describes the products / material from Master Builders Solutions Construction Chemicals LLC which shall be supplied by the applicator in accordance with the material approvals.

Item	Description of Material
MasterSeal 730PA	Pre-applied HDPE waterproofing membrane with Dual Lap Seal
MasterSeal 936	Double sided sticky tape
MasterSeal 937	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.*

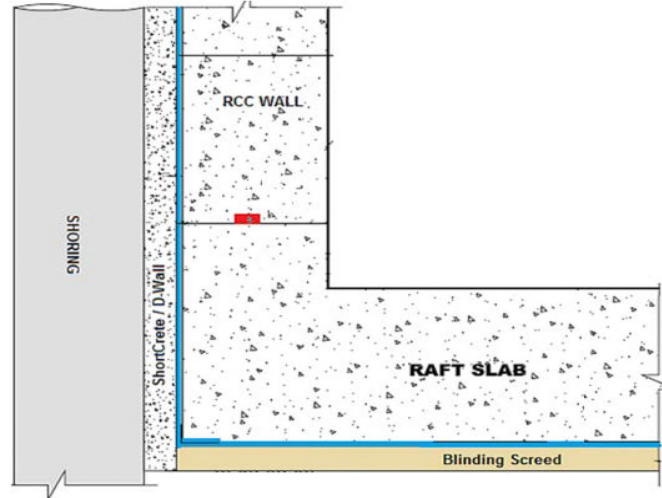
3 Tools

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

3 MasterSeal 730PA System Overview

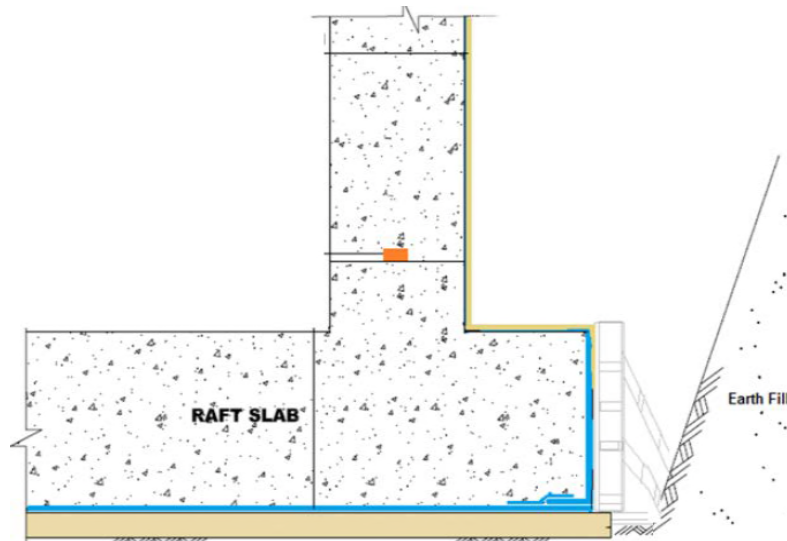
3.1 Standalone System

In a standalone system, **MasterSeal 730PA** 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 the 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 730PA** 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.



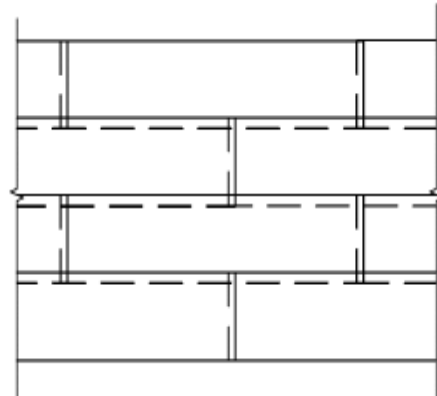
4 MasterSeal 730PA Pre-applied System – General Application

4.1 Substrate Preparation

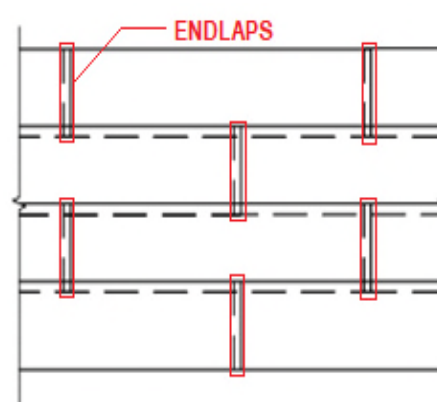
- Substrates must be regular and smooth, free of loose aggregate and sharp protrusions.
- All sharp edges to be chamfered / rounded with minimum 10mm radius.
- Surface should be sufficiently dry, standing water must be removed.
- Horizontal substrate requirement is a minimum of 100mm blinding poured 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

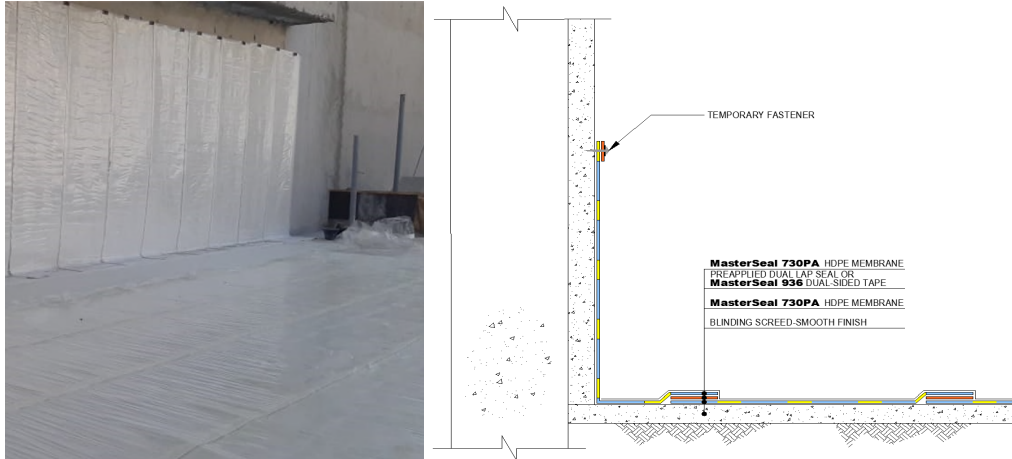
- Install the membrane with the adhesive side facing the expected pouring of concrete and shall be laid out with staggered joints.



- Overlap for succeeding membrane should be at least 80mm. Membrane sheets are pre-stripped with a line on one side having an adhesive. The other side of membrane will have another layer of adhesive at its back, providing the Dual Lap Seal overlap. Overlaps without Dual Lap Seal adhesives shall be adhered using **MasterSeal 936** double sided sticky tape. This includes end lap of membranes.



- Install the vertical membrane extending at least 300mm longer than starter reinforcing bars. For application with vertical height greater than 2 meters, waterproofing membrane is ideally rolled down vertically to avoid weight load along the overlap.



Note:

Removal of formworks having **MasterSeal 730PA** 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.

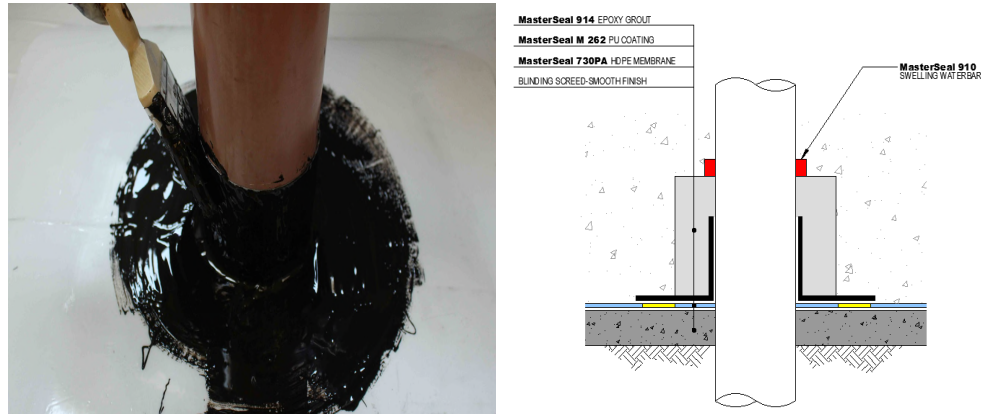
4.3 Pile Head Treatment

- Cut a hole on the membrane slightly smaller than the pile. Insert the pile through and fit snugly to the opening.
- Secure the end of membrane with minimum 30mm sand-cement fillet.
- 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 and insert the pipe through fitting it snugly to the opening.
- Coat the pipe with **MasterSeal M 262** extending at least 100mm from the base and sides of the pipe.
- 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 edges to be chamfered / rounded with minimum 10mm radius.
- Substrate must be fully dry and free of any contamination.

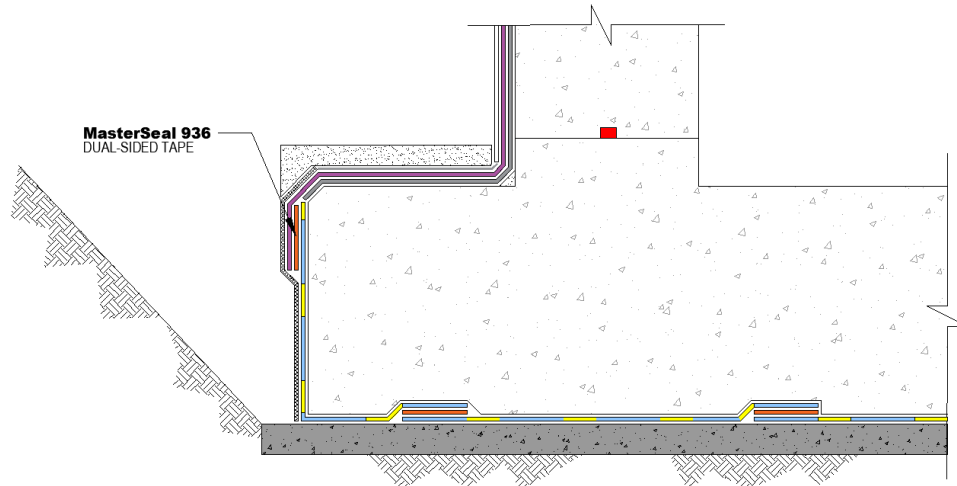
5.2 Primer Application – MasterSeal P 700

- All concrete surfaces shall be primed by solvent-based bitumen primer, **MasterSeal P 700**.
- Stir the contents of the pail/drum prior to application to remove any settlement.
- Apply the primer @ 1 to 3 m²/litres 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 730PA** 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** double-sided sticky tape on the edge of **MasterSeal 730PA** to improve adhesion on overlap.
- Do not remove the outer foil of **MasterSeal 936** 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 smoothed 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 at the termination level by tucking it into a groove in concrete and sealed with a suitable mastic sealant.
- Protect the installed **MasterSeal 725HC**, using **MasterSeal 720PB** asphaltic protection board.
- Protection board can be installed by slightly torching the board surface with flame torch to create a sticky surface for adhesion with the installed membrane. Torching should be done away and not direct over the membrane.

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 730PA** membrane can be repaired by patching it with a piece of **MasterSeal 730 PA** extending at least 100mm on all direction, adhered using **MasterSeal 936**. Minor cuts can be treated simply by patching the defect with **MasterSeal 957** single sided sticky tape.
- **MasterSeal 725HC** can be repaired using a patch piece of **Masterseal 725HC** extending 100mm on all directions. Apply **MasterSeal P 700** primer prior to patching application.

7 Material Storage

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

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

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