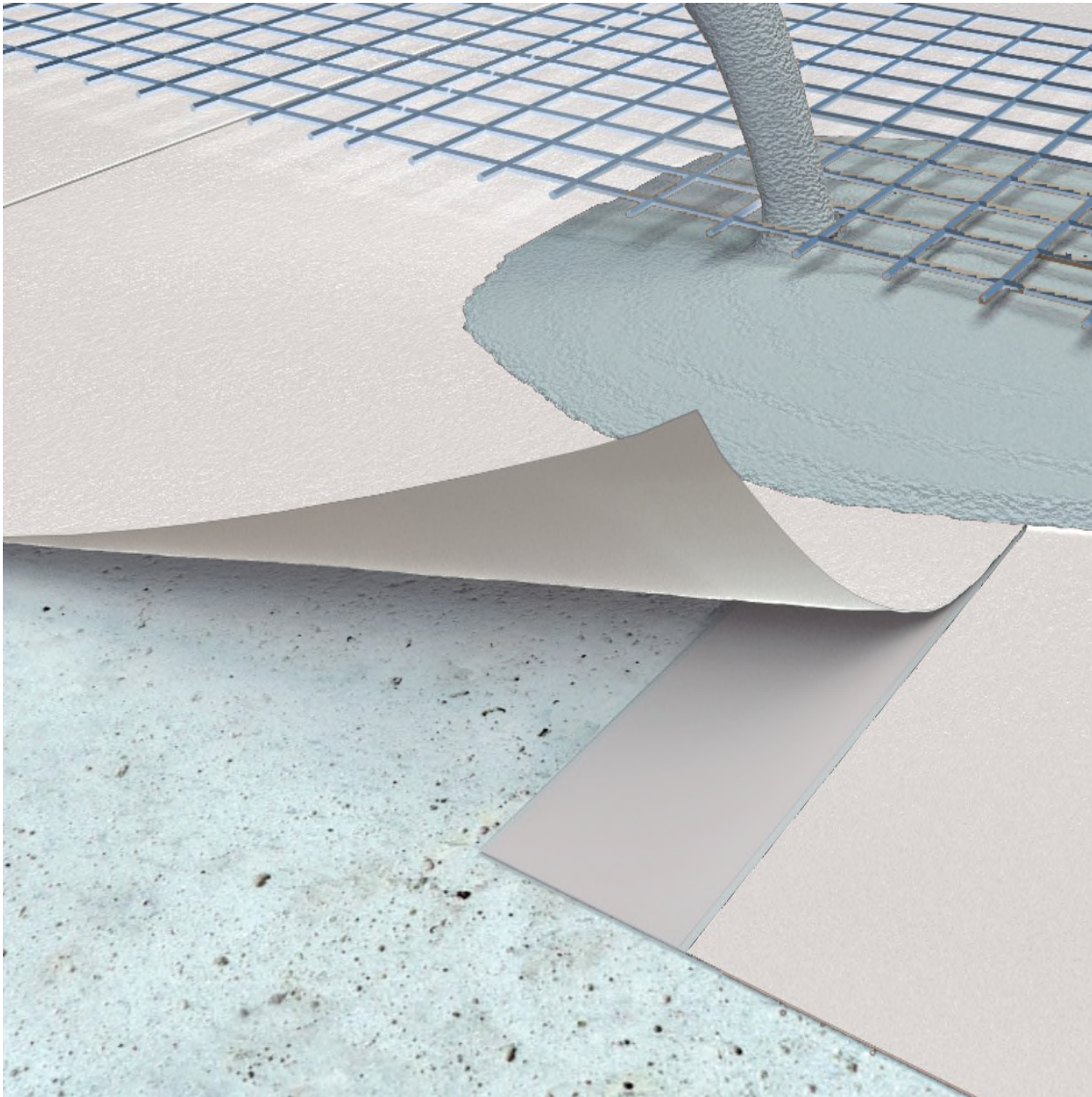


## GENERAL METHOD STATEMENT

### MasterSeal 730PA with MasterSeal 730W System



## 1 Scope





This document outlines the method for application and processing of fully bonded, HDPE waterproofing membranes, **MasterSeal 730PA** pre-applied system and **MasterSeal 730W** post-applied 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
<b>MasterSeal 730PA</b>	Pre-applied HDPE waterproofing membrane
<b>MasterSeal 936</b>	Double sided sticky tape
<b>MasterSeal 937</b>	Single sided sticky tape
<b>MasterSeal M 262</b>	Single component PU coating
<b>MasterSeal 910</b>	Hydrophilic water bar
<b>MasterSeal 914</b>	Epoxy grout
<b>MasterFlow 980</b>	High-strength micro concrete for pile head re-profiling
<b>MasterSeal 730W</b>	Post-applied, self-adhesive HDPE waterproofing membrane
<b>MasterTop P 650 or MasterTile P 302</b>	Primer for <b>MasterSeal 730W</b> self-adhesive membrane

## 3 Tools

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

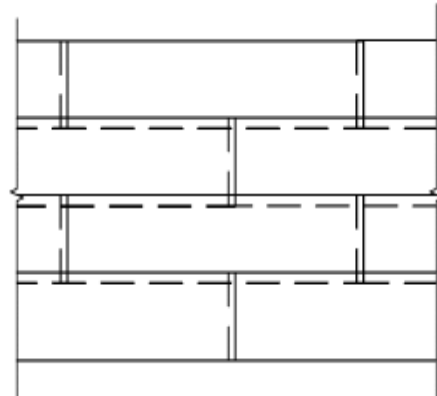
## 4 MasterSeal 730PA Pre-applied System – General Application

### 4.1 Substrate Preparation

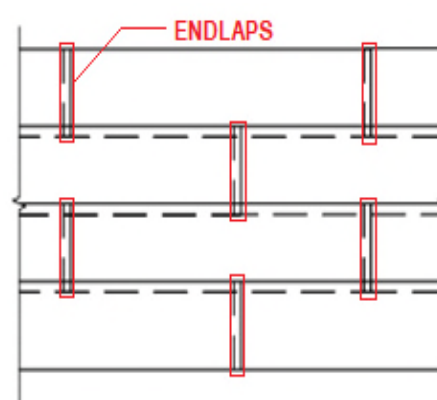
- Substrates must be regular and smooth, free of loose aggregate and sharp protrusions.
- All sharp edges to be chamfered / rounded with minimum 10mm radius.
- Surface should be sufficiently dry, standing water must be removed.
- Horizontal substrate requirement is a minimum of 100mm blinding poured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

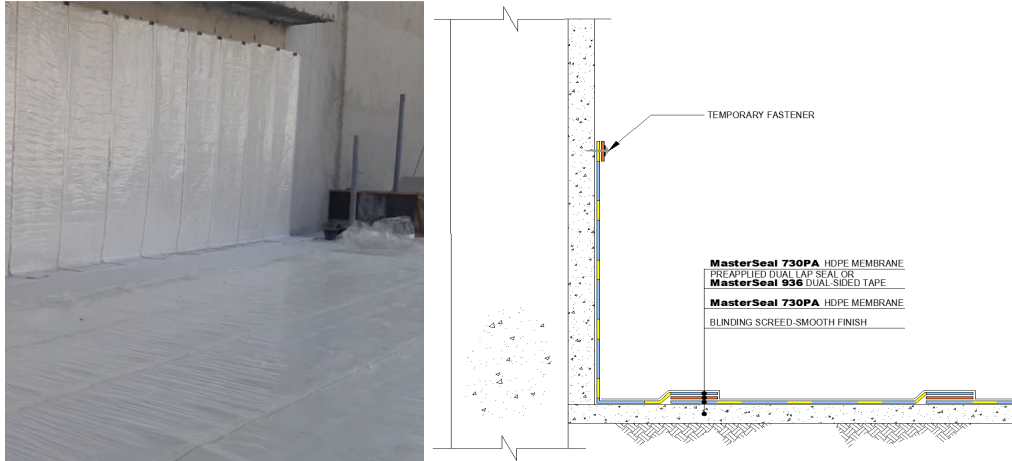
- Install the membrane with the adhesive side facing the expected pouring of concrete and shall be laid out with staggered joints.



- 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 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.

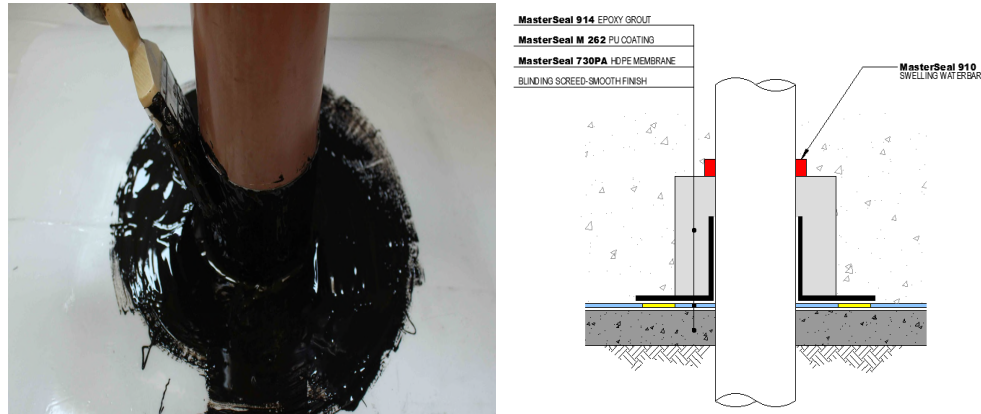
**4.3 Pile Head Treatment**

- 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.



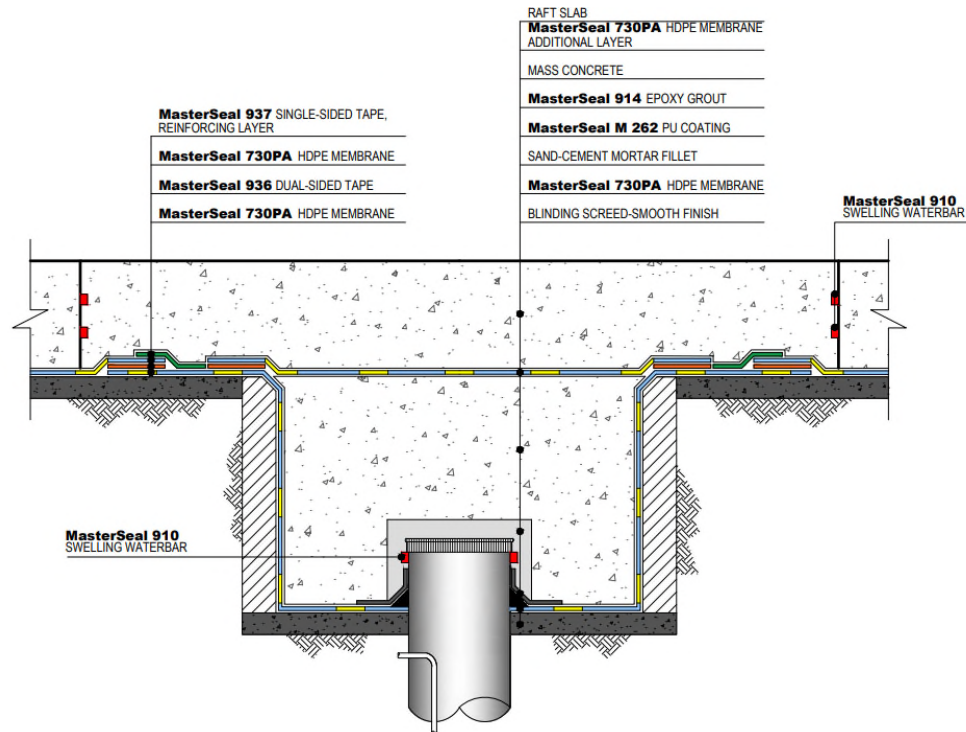
#### 4.4 Pipe Penetrations

- Cut a hole on the membrane slightly smaller than the pipe and insert the pipe through 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.
- Encapsulate with **MasterSeal 914** epoxy mortar.
- Install **MasterSeal 910** swelling water bar above the epoxy mortar encapsulation.



#### 4.5 Dewatering Well Termination

- Dewatering well termination is best situated below the raft as this is a very critical location since it is a direct access of ground water. Ideally it should be at least 400mm below the raft and should be boxed out as a pit, leaving a minimum clear space of 500mm around the pipe for termination works
- Lay the waterproofing inside the pit, terminated around the bottom side of dewatering sleeve, and connected with the main waterproofing membrane around the box-out.
- Support the end of the waterproofing around the sleeve using cement mortar and coat with **MasterSeal M 262** extending at least 100mm from the base and sides of the dewatering sleeve.
- Install **MasterSeal 910** swelling water bar above the **MasterSeal M 262** coating application.
- Encapsulate the treatment with **MasterSeal 914** epoxy mortar including the **MasterSeal 910** swelling water bar.
- Fill the pit with mass concrete up to the bottom of the raft.
- Install a layer of **MasterSeal 730PA**, connected to the main waterproofing layer to close the pit.
- Treat the box-out as per raft construction joint detail.



## 4 MasterSeal 730W Post-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 10mm radius.
- Surface should be dry. Moisture content on concrete should not exceed 5%.

### 4.2 Primer Application

#### Option 1: MasterTile P 302

- Apply undiluted **MasterTile P 302** acrylic primer onto the prepared substrate using roller at an approximate rate of 0.1-0.2 kg/m<sup>2</sup>. Coverage may highly vary depending on the porosity of substrate.
- Allow the primer to dry prior to membrane application.

#### Option 2: MasterTile P 650

- Where optimum sealing and substrate stabilization is required, use **MasterTop P 650** epoxy primer, applied using roller at an approximate rate of 0.15-0.30 kg/m<sup>2</sup>.
- **MasterTop P 650** is a two-component primer. Mix A and B components on a dry and clean container until it is homogeneous and free of streaks
- Allow the primer to dry prior to membrane application.

#### 4.3 MasterSeal 730PA and MasterSeal 730W 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 post-applied membrane **MasterSeal 730W**.
- Clean the overlapping area, removing dirt, concrete laitance, or any residues or contamination that may impair adhesion. Use suitable cleaning solvent if required.
- Apply **MasterSeal 730W** directly over the cleaned surface of **MasterSeal 730PA** with minimum 80mm overlap.

#### 4.4 Membrane Installation

- Lay **MasterSeal 730W** 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 centre to the sides by a wooden press followed by rolling with an iron roller to ensure proper and strong adhesion of the adhesive with base surface.
- Protect the vertically installed **MasterSeal 730W** membrane, using geotextile or other suitable protection layer recommended by Master Builders Solutions based on actual conditions.
- Application over top of slabs shall be protected with 50mm screed.
- For ground level termination, the membrane will be finished on the top by tucking into a groove cut in the concrete and sealed with a suitable mastic sealant.

### 5 Visual Inspection and Quality Control

#### 5.1 Before waterproofing installation

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

#### 5.2 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.

#### 5.3 After steel reinforcement installation

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

#### 5.4 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** and reinforced with **MasterSeal 937** tapes on the sides.
- **MasterSeal 730W** can be repaired easily using a patch piece of the same material extending 100mm on all directions.

## 6 Material Storage

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

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### 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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### NOTE

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