

# MasterSeal<sup>®</sup> HLM 5000R

Liquid cold-applied waterproofing membrane system

## DESCRIPTION

**MasterSeal HLM 5000R** is a single component, moisture curing, polyurethane based waterproofing membrane that cures by reaction with atmospheric moisture to form a tough membrane.

**MasterSeal HLM 5000R** protects structures from water penetration while remaining flexible to handle the nominal expansion and contraction of substrates.

## RECOMMENDED USES

- Waterproofing exterior concrete & plywood
- Exterior Below Grade on Concrete and Masonry
- Above Grade between two courses of concrete or masonry and cavity walls
- Balconies, Planter Boxes & Parking Garages
- For Podiums and Green Roo

## FEATURES AND BENEFITS

- **Waterproof** - Protects structure from water penetration
- **Elastomeric** - Permits nominal expansion and contraction of the structure
- **Low Temperature Flexibility** – Wide service temperature, suitable for all climates
- **Single Component** – No complex mixing & easy to use
- **Cold Applied & Seamless** – Eliminates lapping, seaming and precutting
- **Available in Two grades** – Easy application on vertical and horizontal surfaces

## PROPERTIES

Product name	MasterSeal HLM 5000R SL Self-levelling Grade	MasterSeal HLM 5000R RG Roller Grade
Supply form	Liquid	Liquid
Color	Black	Black
Solid Content	≥ 88%	≥ 88%
Density	1.50+/-0.05	1.50+/-0.05
Viscosity (cps) @ 23°C	5000~10000	< 20000
Service Temp. range	-35°C to 60°C	-35°C to 60°C

## PERFORMANCE DATA

Dry Time (H) @ 23°C	
Tack Free	<12
Dry	<24
Tensile Strength (MPa), ASTM D 412	>2.0
Elongation (%) ASTM D 412	>500%
Tear Strength (N/mm), ASTM D 624	>15
Adhesion Strength (MPa) ASTM D 7234	>1.0
Crack bridging at -20 °C@ 3.2mm (10cycles) ASTM C 1305	Pass
Extensibility After Heat Aging ASTM C 1522	Passes 6mm
Low Temperature Flexibility (°C) ASTM D 1970	-35
Water Absorption (%), ASTM D 570	< 3

## APPLICATION

### Surface Preparation

For best results, all concrete deck surfaces should be lightly steel trowelled to a flat, uniform surface. A light broom finish is acceptable. New concrete must be properly water cured at least 14 days. Membrane curing compounds must be mechanically removed.

For extremely porous block: Prime with a coat of **MasterSeal HLM 5000R** diluted up to 5% with xylene.

Remove dust, dirt and other contaminants just before or during application. Surfaces must be dry at the time of application. Air-void pockmarks or honeycombs must be opened up to allow **MasterSeal HLM 5000R** to fill the cavities completely.

### Pre-striping

Before applying the final membrane, all joints, cracks and openings around protrusions must be sealed by caulking or pre-striping (a preliminary coating of **MasterSeal HLM 5000R** applied with a trowel or stiff-bristled brush). Allow to dry overnight before applying final membrane.

# MasterSeal<sup>®</sup> HLM 5000R

When the final membrane is applied, the overall thickness over joints and cracks, at coves and around penetrations should be approximately 2.5 mm on the standard system.

## Static Joints and Cracks

Joints and cracks less than 1.6 mm should be filled by pre-stripping. Apply material so it both fills and overlaps the joint or crack to a width of 100 mm on each side.

## Working or Expansion Joints

All joints over 3 mm must be sealed with a Master Builders Solutions urethane sealant. Any working joint less than 3 mm should be routed to a minimum of 6 mm and filled with a sealant. Prevent the waterproofing membrane from adhering to the joint sealant by applying a coat of wax or bond breaker tape over the cured sealant and then pre-stripping.

## Uncoated Metal Surfaces

Remove dust, debris, and any other contaminants from vent, drain, pipe and post penetrations, reglets and other metal surfaces. Clean surfaces to near white to SA 2.5 and prime immediately with MasterSeal P 691. Provide appropriate cant with MasterSeal sealant to eliminate 90° angles.

## Application

A test application is always recommended before proceeding with entire application.

Select the grade of **MasterSeal HLM 5000R** that best meets individual job requirements

For horizontal applications, empty contents of pail and spread immediately to ensure workability. Best results are obtained by calculation and marking off square meters then evenly spreading the contents of 25 Kg unit with a rubber-edged notched squeegee.

For vertical applications, apply **MasterSeal HLM 5000R RG** by trowel / roller at the rate of 0.6m<sup>2</sup>/Kg without sagging.

Verify the applied thickness with a wet film gauge as the work progresses.

The integrity of the cured membrane on a horizontal surface is verified by damming the entire area and flooding with water to a depth of 50mm and allowing the water to stand for 24 – 48 hours. Visually inspect the bottom surface to check for any water penetration. If repairs are necessary, the area should be drained and allowed to dry before reapplying **MasterSeal HLM 5000R**. After application, the area should be tested for membrane integrity.

## Curing

Appreciable properties develop within 24–48 hours at 24°C and 50% relative humidity. Protect **MasterSeal HLM 5000R** from traffic during curing.

## Drainage and Protection

For protection during backfill and where hydrostatic pressure is anticipated, use a suitable geotextile to divert the water.

For protection during backfill only, install protection board as soon as possible following cure of **MasterSeal HLM 5000 R**.

## ESTIMATING DATA

The consumption depends on the application.

For 1 mm dry film thickness the following quantities are necessary: 1.66 ~ 1.72kg/m<sup>2</sup>.

For 25kg/pail, when applied at 2.05kg to 2.55kg/m<sup>2</sup>, will achieve WFT 1.36~1.70mm, DFT 1.20 ~1.50mm with 12 m<sup>2</sup> ~ 9.8 m<sup>2</sup>;

For 22.5kg/pail, it will be 10.8 m<sup>2</sup> ~ 8.8 m<sup>2</sup> at DFT 1.20~1.50mm.

Coverage may vary with the application technique used. Actual coverage rate and thickness depend on finish and porosity of the substrate.

## PACKAGING

**MasterSeal HLM 5000R** comes in two grades:

- **MasterSeal HLM 5000R SL** (self-leveling) is formulated for application by squeegee or trowel or spray to horizontal areas.
- **MasterSeal HLM 5000R RG** (Roller Grade) is a versatile formulated version for roller application onto horizontal or vertical surfaces.

All grades are available for 22.5kg and 25kg per pail.

22.5kg is with big open mouth pail

25kg is with small open mouth pail

## SHELF LIFE

**MasterSeal HLM 5000R** has shelf life of 9 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall, store temperature should be at 5~35°C and pail is required to sit at upside down manner.

## PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the Master Builders Solutions Material Safety Data Sheet (MSDS) from our office or our website.

# MasterSeal<sup>®</sup> HLM 5000R

---

® = registered trademark of a MBCC Group member in many countries of the world

MAP#MasterSeal\_HLM 5000R v6 - 01.2023

---

**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.

---

**NOTE**

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified, or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

---

**MB Solutions Singapore Pte Ltd**

1 Harbourfront Avenue #07-07/08  
Keppel Bay Tower, Singapore 098632  
Tel: +65 6232 4888