

# MasterSeal<sup>®</sup> HLM 5000

## Liquid cold-applied waterproofing membrane system

### DESCRIPTION

**MasterSeal HLM 5000** is a single component, bitumen modified, polyurethane based waterproofing membrane that cures by reaction with atmospheric moisture to form a tough membrane. **MasterSeal HLM 5000** protects structures from water penetration while remaining flexible to handle the nominal expansion and contraction of substrates.

### RECOMMENDED USES

Waterproofing exterior, below grade concrete and between concrete slab applications.

### FEATURES AND BENEFITS

- **Waterproof** - Protects structure from water penetration
- **Elastomeric** - Permits nominal expansion and contraction of the structure
- **Inert when cured** - Resists bacterial attack and salts found in ground waters
- **Monolithic Single pack and one coat finish liquid-applied** - Eliminates lapping, seaming, and precutting
- **Single pack and one coat finish**
- **Tough and durable** - Long-term protection

### PROPERTIES

| Property  | Results       | Test Method |
|---|---------------|-------------|
| Shore OO hardness   | 85            | ASTM C 836  |
| Tensile strength – MPa                                    | 1.0           | ASTM D 412  |
| Average elongation %                                      | 600           | ASTM D 412  |
| 100% modulus - MPa  | 0.6           | ASTM D 412  |
| Moisture vapor permeability, dry perms                    | 0.1           | ASTM E 96   |
| Crack bridging test, cycled 10 times per 24 hours at –9°C | Passed @1.5mm | ASTM C 836  |
| Extensibility after heat ageing                           | No cracking   | ASTM C 836  |
| Weight loss (20% max)                                     | 16%           | ASTM C 836  |

|  |  |
|--|--|
| Supply form                                      | Liquid   |
| Colour   | Black  |
| Viscosity in poise of various grades, Brookfield | Self Level – 125, Spray – 450, Roller – 800,           |
| Application temperature                          | 5°C to 35°C  |
| Minimum recovery                                 | 90%  |
| Swelling in water                                | Nil  |
| Service temp, range                              | –40°C to 50°C  |
| VOC Content                                      | Self level-183 g/L<br>Spray- 190 g/L<br>Roller-180 g/L |
| % Solids   | 85%  |
| Specific gravity                                 | 1.24   |

### STANDARDS

- ASTM C 836
- National standard of Canada 37.58-M86 developed by CGSB

### APPLICATION

#### Surface Preparation

For best results, all concrete deck surfaces should be lightly steel troweled 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 5000 diluted up to 25% 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 5000 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 5000 applied with a trowel or stiff-bristled brush). Allow to dry overnight before applying final membrane.

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.

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## 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 SAE2.5 and prime immediately with MasterSeal P691.

Provide appropriate cant with MasterSeal sealant to eliminate 90° angles.

## Application

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

### Standard System

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

For horizontal applications, empty contents of pail and spread immediately to ensure workability. Best results are obtained by marking off 11.6 m<sup>2</sup> areas and evenly spreading the contents of a 18.93 L unit with a rubber-edged notched squeegee.

For vertical applications, apply by trowel, roller or spray at the rate of 0.6 m<sup>2</sup>/L.

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

## Curing

Appreciable properties develop within 24–48 hours at 24°C and 50% relative humidity. Protect MasterSeal HLM 5000 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.

## ESTIMATING DATA

Wet Film Thickness @ 1.65mm = 0.6m<sup>2</sup>/litre  
Coverage per 18.93 litres is approximately 11.6m<sup>2</sup>

## PACKAGING

**MasterSeal HLM 5000** comes in a variety of grades for different applications, dependent on surface profile, texture and horizontal or vertical.

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

All grades are available in 18.93 litre pails.

## SHELF LIFE

**MasterSeal HLM 5000** has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

## PRECAUTIONS

It is highly recommended to use necessary PPE (Gloves, mask etc.) during installation of the product. In case of incidents of direct inhalation, causing dizziness/giddiness, loss of consciousness, contact with eyes etc, seek immediate medical advice. The requirements may vary depending on the application areas.

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Please ensure to have proper ventilation while working in confined areas. Contact Master Builders Solutions representative in case you need further details or refer to the material

safety datasheet of the product to know more.

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