

## **MasterSeal M800**

**Heat resistant certified two component solvent-free, trafficable PU waterproof membrane**

### **Section 1 – General Information and Instructions**

#### **1.1 Background**

Installation information contained in this procedure are as specific as possible, but cannot cover all variations in field conditions. If anticipated conditions do not permit following these guidelines, do not hesitate to call your BASF Representative.

#### **IMPORTANT: READ THIS FIRST**

BASF does not warrant the performance of this product unless the instructions of this document and other related BASF documents are adhered to in all respects.

#### **1.2 High Speed Spray Application**

The following recommendation is suggested as guideline for good working practices for application using high speed spray equipment:

- Store and place any unmixed materials in a cool and dry environment (preferably temperature controlled), avoiding exposure to direct sunlight.
- Make sufficient materials, labour and power supply available to ensure continuous application process.

#### **1.3 Equipment**

The following list of equipment and necessities are recommended to be adopted as a minimum requirement.

Protective Clothing:

- Protective overalls,
- Industrial gloves
- Goggles and Facemask, Safety glasses
- Ear plugs
- Dust masks.

Surface Preparation Equipment:

- Equipment to mechanically abrading the surface to remove laitance
- Industrial vacuum
- Regular and stiff bristled brooms etc
- Masking tape, paper and / or polyethylene for protection of adjacent areas.

Installation Equipment:

- Suitable high performance pump
- Brush, squeegee
- Cleaning solvent

## **Section 2 – Surface Preparation and Treatment**

### **2.1 Pre-Installation**

The following checklist is recommended prior to starting the installation:

- Review in detail the current, published MasterSeal M800 System Technical Datasheet.
- Inventory all materials ordered from BASF (Malaysia) Sdn Bhd and find :
  - MasterSeal M800 Part A 210 kg/drum
  - MasterSeal M800 Part B 220 kg/drum
  - MasterTop 1140 primer Part A 30 kg/pack
  - MasterTop 1140 primer Part B 15 kg/pack
  - MasterSeal TC 258 top coat 35 kg/pack
- Determine surface preparation requirements (i.e. sandblast, shot blast, scarify, etc.).
- Check that all necessary equipment is on the job site and that adequate electrical power is available for all power tools.
- Brief all installation personnel on application procedures and SAFETY requirements.
- Review Material Safety Data Sheets (MSDS) and have available at job site.

### **2.2 Surface Preparation**

Correct surface preparation is critical for optimum performance. The performance of the coating is largely dependent upon a good bond to a strong concrete substrate. Lack of bond due to a weak surface may cause premature failure. The purpose of surface preparation is to remove any weak surface material or contamination that would impair bonding.

Surfaces should be structurally sound, clean and free from loose particles, oil, grease, moss, fungus growth, barnacles or any other contaminants.

Fillets should be provided at corners using a 4:1 sand cement mortar modified with an approved BASF bonding agent.

#### **Surface Treatment**

Light to moderately contaminated surfaces which are covered with dirt or traffic soil, other than grease and oil, can be satisfactorily prepared by mechanical treatment. If the surface is contaminated with oil or grease, a detergent wash should be used prior to the mechanical treatment.

Strong, low-foaming detergents are recommended for this use. The detergent should be scrubbed vigorously into the surface with a brush or power scrubber and should then be thoroughly flushed with clean water before beginning further treatment. Multiple cycles of scrubbing and rinsing may be necessary for satisfactory results.

Heavily contaminated surfaces that have excessive caking of oil, grease, grime, earth, mortar or other materials may be encountered. Such conditions will prevent detergents from performing correctly. Caked deposits should

be removed prior to any application of detergent. Thick-caked deposits (oil, grease, etc.) are best removed by scraping or chipping the area before detergent treatment. Animal fats and vegetable oils should be removed by scrubbing with a strong soap solution prior to further treatment.

The laitance and curing compound that may present on freshly placed concrete surfaces and sometime older surfaces must be removed to ensure a satisfactory bond.

The use of wet grit blasting or high pressure water jetting (approx 150 bars) or such other effective methods are recommended to remove cement laitance, loose particles, moss, fungus growth, barnacles and other contaminants from the surface.

***Note : Upon completion of all surface treatment and repair, the concrete should be thoroughly vacuumed to remove all dust and dirt from the substrate area. A successfully prepared concrete substrate will be sound, clean and be free from all contaminants. All "hollow" areas will have been removed and depressions, spalled areas or cracks pre-filled.***

***All surface preparation should be completed prior to proceeding with the coating installation.***

## **Section 3 – Installation**

### **3.1 Priming**

- 3.1.1 Use a low speed (300rpm) electric drill fitted with a paint mixer or a wing type paddle.
- 3.1.2 Mix one unit of MasterTop 1140 Part A with one unit of MasterTop 1140 Part B and mix for at least 3 minutes or until the mix is homogenous and free of streaks
- 3.1.3 Immediately after mixing pour the material onto the substrate and spread the mixed material using a squeegee or paint roller. The primary purpose of this primer coat is to seal the substrate completely and avoid air-bubbles formation in the placement of the Body Coat.
- 3.1.4 Broadcast with F5 lightly when the primer is still wet.
- 3.1.5 On very porous substrates, a second primer sealer coat may be required. If in doubt, apply a sample patch of body coat.
- 3.1.6 To avoid wastages mix only sufficient material that can be used within the pot life of the material.
- 3.1.7 Working time is around 35 minutes at 20°C. (Refer to technical Data Sheet). Working time decreases with increasing temperature.
- 3.1.8 After the system had cured, remove the excess F5 by sweeping it out manually or preferably using industrial vacuum machine.
- 3.1.9 Level the surface by giving the floor light scraping with the edge of the trowel or a light sanding to remove rough spots, loosely bonded aggregate or any bumps.

**NOTE:** A weak bond between the MASTERTOP P1602 primer and the existing concrete substrate will result if too much of the primer is absorbed into old, dry, porous concrete. In the case of old, dry, porous concrete, an additional application of primer is recommended. Coverage will vary with the porosity of the prepared floor. Due to the limited working time of the primer, it is recommended that the primer be mixed and applied in batch sizes no larger than the one set (30.0kg/set)

### **3.2 Placing MasterSeal M800**

3.2.1 Spray MasterSeal M800 onto MasterTop 1140 in one continuous unbroken layer (one pass) using suitable two component spraying machine.

### **3.3 Placing MasterSeal TC 258 Top Coat**

3.3.1 Stir to achieve a homogeneous mix, the material must be thoroughly mixed with a mixing device (paddle) at above 300 rev/min. Ensure that the mixing device reaches side and bottom areas of the mixing vessel. Stir for at least 3 minutes or until the blend is homogeneous and streak free.

3.3.2 Apply MasterSeal TC 258 using paint-roller, spraying or a paintbrush to the pre-treated substrate. The material is best poured to the substrate and distributed using a rubber squeegee and finally leveled and rolled to ensure even finish.

3.3.3 The workability of MasterSeal TC 258 is influenced by the humidity as well as the ambient and substrate temperature. At a low humidity, the chemical reaction is slowed down; this lengthens the pot life and re-coating interval and the time before it can be walked on.

3.3.4 In order to achieve full curing of MasterSeal TC 258, the relative humidity must be between 40 and 90%.

Following application the material should be protected from direct contact with water for approximately two hours.

Within this period, contact with water causes foaming of the sealer.

Ensure that the solvent contained in the material has flashed off completely before a subsequent coat is applied.

### **3.4 Cleaning**

Use Cleaner 40 to clean the machine and hand tools from MasterSeal M800 and MasterSeal TC 258. Use xylene to clean MasterTop P1602 from all hand tools. Cured material can only be removed mechanically.

#### **3.5 Safety**

This product should be used only by qualified personnel for recommended applications in accordance with current, published installation guidelines. Please review current MSDS sheets for detailed information prior to placing any material and/or for specific product information.

## **Section 4 – Responsibility and Variable**

The technical information and application advice given in this BASF (Malaysia) Sdn Bhd publication is a general proposal for the application of MasterSeal M800 based on present state of our best scientific and practical knowledge. As the information is of a general nature no assumption can be made as to a product 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.

## MASTERSEAL System (Formerly Masterseal SYSTEM)

Seeing is believing! The MASTERSEAL M 800 SYSTEM solvent-free membrane is applied as a sprayed liquid and sets to form a solid, impervious monolithic membrane within 20 seconds of application. No other system can equal this membrane's speed of installation, physical properties and on the job performance.

Over 2 million squaremeters of MASTERSEAL SYSTEM elastomeric waterproofing membrane has been successfully applied since 1982. It is a success in

Japan, Hong Kong, Singapore, Germany, Switzerland and the UK and is the preferred waterproofing alternative to conventional sheet membranes in newly constructed multi-storey car parks, subterranean and below grade structures, landscaped areas, roofs and also to concrete structures in need of restorative work.



MASTERSEAL M 800 is applied using state-of-the-art computer controlled high-pressure spray equipment. The spray applied SYSTEM guarantees uniform coverage and optimal protection. It also allows structural detailing to be done effortlessly, without the risk of leaky joints or seams.



*State-of-the-art Michio-3 high pressure spraying equipment*

With its extensive track record and test results surpassing the most stringent test standards, MASTERSEAL M 800

SYSTEM has become "The Ultimate in Waterproofing", providing the solution to the nightmare of waterproofing problems.



***FAST CURE, HIGH STRENGTH FLEXIBLE MEMBRANE***



*Excellent chemical & mechanical resistance*



*Excellent abrasion resistance*



*Accommodates difficult & irregular profiles  
“seamlessly”*



*Suitable for “green roof”.  
Root penetration resistance*



*Dynamic crack bridging*



*Allows wide variety of profiles & features*



*Detail integrity. No complicated detailing work to be carried out.*



*Refurbishment of old roofs with minimum inconvenience & fast completion*



*Vehicular trafficable.*



*Excellent UV & weather resistance top coats are available in a range of colours.*

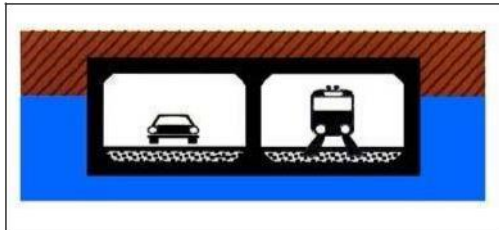


*Complete coverage of complex forms.*



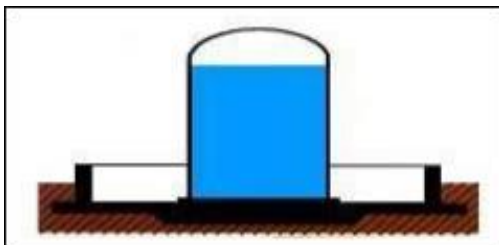
*Easily applied vertically without any drip mark.*

## TYPICAL APPLICATIONS



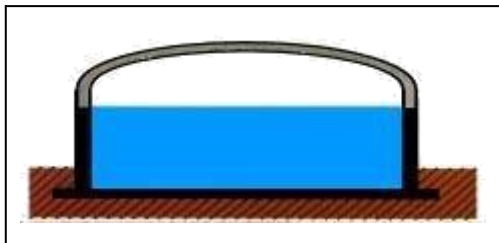
### Tunnels for road and rail traffic

- Waterproofing & corrosion protection of road and other surfaces (e.g. de-icing salt)



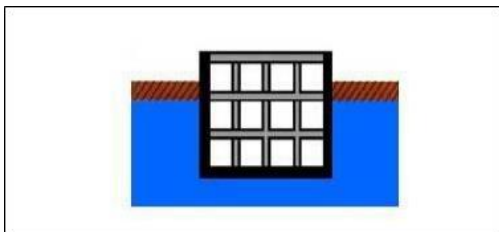
### Secondary containment

- Waterproofing of tanks/ secondary containment basin
- Protection of outer and inner walls against the corrosion of concrete and rebars



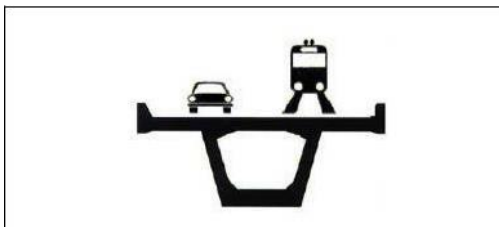
### Storage of water, fuel and chemicals

- Sealing of concrete "BIO" tanks



### Basement structures

- Protection of outer and inner walls against the corrosion of concrete and reinforcement



### Typical concrete bridges

- Waterproofing and corrosion protection of bridge deck



## KEY FEATURES & BENEFITS

FEATURES	BENEFITS
<b>Fast curing spray applied waterproofing system</b>	<p>The Masterseal membrane cures within 20 seconds of application and is applied at a rate of 800 – 1500m<sup>2</sup> per 10 working hours per machine depending on site condition.</p> <p>It speeds up construction work and reduced cost. This feature gives it a high tolerance for unpredictable site condition and high turnover of construction.</p> <p>Due to its high reactivity, overhead and vertical applications present no problem.</p>
<b>Spray applied using state-of-the-art computer controlled high pressure spray equipment.</b>	<p>The spray application guarantees uniform coverage, optimal protection and quality assurance. It also allows structural detailing to be done effortlessly, without the risk of leaky joints or seams. It is very versatile and able to accommodate difficult and irregular profiles “seamlessly”.</p> <p>Less dependent on skilled labour and reduces human error in application and tedious detailing.</p>
<b>High tensile strength and elongation</b>	<p>The robust membrane has high resistance to tearing.</p> <p>Cracks are sealed permanently preventing the penetration of moisture, water and corrosive media into concrete.</p>

	It is also able to bridge cracks in both static and dynamic modes.
<b>Solvent free and 100% solid polyurethane membrane</b>	<p>The Masterseal membrane is non-hazardous in its cured condition. However, protective measures should be taken when working with the material (refer to product data sheet).</p> <p>It is awarded the Green Label certification by the Singapore Environment Council</p>
<b>Excellent chemical, mechanical &amp; abrasion resistance</b>	<p>It is durable and can be used for corrosion protection of road and other surfaces.</p> <p>Suitable of use in exposed car park decks, bridge decks, basement, cut &amp; cover tunnel and containment tanks.</p>
<b>Excellent adhesion</b>	<p>Good adhesion to most substrate with the use of correct pretreatment primer.</p> <p>Prevent water migration between waterproofing membrane and concrete substrate.</p>
<b>Root penetration resistance</b>	Can be applied as waterproofing membrane for "green" roof or roof garden.
<b>Excellent weathering resistance</b>	<p>Stays elastic in the range of temperature from -40 to + 110°C</p> <p>Able to withstand extreme climatic conditions and resistant to hydrolysis, hot air and ozone.</p>