

# MasterSeal<sup>®</sup> M 808

**Polyurethane membrane for waterproofing and protection of concrete structures.  
Suitable for direct contact with potable water and foodstuff (\*)**

## DESCRIPTION

**MasterSeal M 808** is a two-component elastic polyurethane membrane, with 100% solids formulation, high chemical and abrasion resistance. Approved for direct contact with potable water (WRAS certified) and foodstuff (\*).

## TYPICAL APPLICATIONS

**MasterSeal M 808** is used in waterproofing applications where contact with potable water or a high level of chemical resistance is required.

This includes:

- Water towers, storage tanks or any other water retaining structures.
- Interior coating to drinking water tanks.
- Storage tanks containing foodstuffs etc.
- Water treatment plants (urban and industrial), both in the inflow and outflow areas.
- Steel and concrete pipes.

**MasterSeal M 808** can be applied on:

- Horizontal and vertical substrates.
- Internal and external areas.
- Concrete, cementitious mortar or steel substrates.
- Reinforced concrete to protect it against carbonation or chloride induced corrosion and for protection against chemical attack in secondary containment bunds in chemical and petrochemical industries.

Contact your local Master Builders Solutions representative for any other applications.

## ADVANTAGES

- Can be applied on vertical and horizontal surfaces
- Easy to apply by roller or air-less spray equipment
- Waterproof
- Resistant to standing water
- Elastic, flexible and crack-bridging
- High chemical resistance
- Protects concrete against carbonation and rebar corrosion: Once hardened it is impermeable to water and carbon dioxide
- Excellent mechanical and elastic properties (elongation, tensile and tear strength, abrasion)
- Excellent adhesion on different substrates (concrete, steel).
- Excellent freeze/thaw resistance
- UV resistant
- Thermoset – does not soften at elevated temperatures
- 100% solids formulation, no risk for the environment and operative caused by solvent vapours

## PACKAGING AND COLORS

**MasterSeal M 808** is supplied in 13.5 kg and 6.5 kg units and available in Grey and Light Grey.

(\*) check local regulations regarding contact to potable water and foodstuff

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## TYPICAL PROPERTIES\*

| Properties  | Result   |
|---|--|
| Density of mixed material EN ISO 2811-1               | approx. 1.2 g/cm <sup>3</sup>                              |
| Viscosity ISO cup n° 8                                | 32 s   |
| Application temperature (substrate and material)      | from +10 to +35°C  |
| Maximum substrate moisture (during application)       | ≤ 4%   |
| Maximum relative humidity (during the application)    | ≤ 70%  |
| Pot-life (10 kg kit) at +20°C                         | approx. 20 – 25 min  |
| Re-coating interval at +20°C                          | 6 – 24 h   |
| Dry to touch at +20°C                                 | approx. 6 h  |
| Exposure to water pressure after at +20°C             | 3 days   |
| Fully cured after at +20°C                            | 7 days   |
| Service temperature (dry)                             | - 20 to +80°C  |
| Service temperature (wet)                             | - 20 to +50°C  |
| Adhesion to concrete after 28 days EN 1542            | 3.8 N/mm <sup>2</sup>                                      |
| Adhesion to steel EN 12188                            | > 10 N/mm <sup>2</sup>                                     |
| Adhesion strength after freeze-thaw cycles EN 13687-1 | 2.6 N/mm <sup>2</sup>                                      |
| CO <sub>2</sub> permeability SD EN 1062-6             | 74 m (required > 50)                                       |
| Water vapour permeability SD EN ISO 7783              | 6.2 m (class II 5 < SD < 50)                               |
| Capillary water absorption EN 1062-3                  | 0.001 kg/m <sup>2</sup> ·h <sup>0.5</sup> (required < 0.1) |
| Behaviour after artificial weathering EN 1062-11      | No changes   |
| Tensile strength EN ISO 527-1/-2                      | > 20 N/mm <sup>2</sup>                                     |
| Abrasion resistance EN ISO 5470 -1                    | Mass loss < 350 mg<br>(required < 3000 mg)                 |
| Impact resistance EN ISO 6272/2                       | 20 Nm  |
| Shore D hardness after 7 days EN ISO 868/07           | 70   |
| Static crack bridging EN 1062-7                       | A4 class (+23°C)   |
|   | A3 class (-10°C)   |
|   | A2 class (-20°C)   |
| Dynamic crack bridging EN 1062-7                      | B2 class (+23°C)   |
|   | B2 class (-20°C)   |
| Elongation at break DIN 53504                         | 60%  |
| Cathodic disbondment ASTM G95                         | 3.8 mm   |
| Mandrel Bend Test ASTM D522 (180°)                    | Pass   |
| Dielectric breakdown voltage ASTM D149                | 251.1 V/mil  |
| Salt spray test (500h & 500 microns) EN ISO 4628      | Pass   |

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|  |   |
|--|---|
| <p>Resistance to severe chemical attack EN 13529<br/>(Reduction in Hardness)</p> | <p>Class II (required &lt; 50 %)</p> <ul style="list-style-type: none"> <li>Group 2 &lt; 9 %</li> <li>Group 3 &lt; 14 %</li> <li>Group 5 &lt; 13 %</li> <li>Group 6a &lt; 28 %</li> <li>Group 7b &lt; 33 %</li> <li>Group 8 &lt; 16 %</li> <li>Group 9 &lt; 15%</li> <li>Group 9a &lt; 17%</li> <li>Group 10 &lt; 15%</li> <li>Group 11 &lt; 10 %</li> <li>Group 12 &lt; 8 %</li> <li>Group 12 &lt; 21 %</li> <li>HCl 10% &lt; 16 %</li> <li>HCl 30% &lt; 30 %*</li> <li>H2SO4 30% &lt; 16 %</li> <li>H2SO4 50% &lt; 21 %</li> <li>NaOH 30% &lt; 12 %</li> <li>NaOH 50% &lt; 16 %</li> </ul> <p>* colour change</p> |
|--|---|

*Note: Hardening times are measured at 21°C ± 2°C and 60% ± 10% relative humidity. Higher temperatures and/or higher R.H. can shorten these times, and vice versa. Technical data shown are statistical results and do not correspond to guaranteed minima. Tolerances are those described in appropriate performance. Measured values by an application of 0.4 kg/m<sup>2</sup> (equivalent to 0.3 mm) if not otherwise indicated.*

## APPLICATION GUIDELINES

### SURFACE PREPARATION

All substrates (new and old) must be structurally sound, dry, free of laitance and loose particles and clean of oil, grease, rubber skid marks, paint stains and other adhesion impairing contaminants.

Concrete: The surface should be prepared by shot blasting, high-pressure water jetting or other suitable mechanical method.

After preparation, concrete and other cementitious substrates must have a minimum pull off strength of 1 N/mm<sup>2</sup>.

Substrate temperature must be minimum +10°C and maximum +35°C and minimum 3°C above the dew point both during the application and for at least further 2 hours (at 15°C). The residual moisture content of the substrate must not exceed 4% (check with e.g. CM device).

Iron / steel: Should be sand blasted to a SA 2½ finish prior to application of the product.

## PRIMING

A primer coat will improve the adhesion and prevent the appearance of pinholes or bubbles in the hardened coating. The recommended primers for **MasterSeal M 808** on dry substrates is **MasterTop P 650**. The residual moisture content of the substrate must not exceed 4% (check with e.g. CM device). Waiting time before applying **MasterSeal M 808** depends on curing time of the primer used.

On humid substrates or where osmotic pressures can exist, it is recommended to use **MasterEmaco P 2700\*** as primer coat.

Apply **MasterSeal M 808** minimum 18 hours after application of **MasterEmaco P 2700**

\* Please refer to relevant product data sheet for details.

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## MIXING

**MasterSeal M 808** is supplied in working kits which are pre-packaged in the exact mixing ratio.

Pour the entire content of Part B into the container of Part A. **DO NOT MIX BY HAND!** Mix with a mechanical drill and paddle at a very low speed (max. 400 rpm) for at least 3 minutes. Scrape the sides and the bottom of the container several times to ensure complete mixing.

Keep the mixer blades submerged in the coating to avoid introducing air bubbles. Do not part mix packs.

## PLACING / APPLICATION

**MasterSeal M 808** can be applied by brush, roller or by air-less spray machine. It is always recommended to complete the application in a minimum of two layers.

## Working time

Approximately 20 minutes at 20°C ambient and substrate temperature.

## CLEANING

Tools can be cleaned with solvent while still wet. Once cured, the material can only be removed mechanically.

## COVERAGE / YIELD

The consumption of **MasterSeal M 808** is approximately 0.4 – 0.8 kg/m<sup>2</sup>, in two coats, depending on the condition and porosity of the substrate and requested film thickness.

This will provide a dry film thickness of 0.3 to 0.6 mm. In harsh, abrasive environments it is important to apply a total minimum thickness of at least 0.5 mm in order to obtain best performance.

In high chemically demanding environments (e.g. waste water treatment plants) a minimum thickness of 1 mm is recommended. Therefore, a minimum consumption of 1.2 kg/m<sup>2</sup> in two or three layers must be applied.

These consumptions are theoretical and can vary according to the absorption and roughness of the substrate. It is essential to carry out representative trials on site to evaluate the exact consumption.

## WATCHPOINTS

- Do not apply at temperatures below +10°C nor above +35°C.
- Do not add any solvents, sand or other components to **MasterSeal M 808** mixes.

## STORAGE AND SHELF LIFE

Store in original containers, under dry conditions and a temperature between 15-25°C. Do not expose to direct sunlight.

Shelf life under these conditions is 12 months for Part A and Part B. See, in any case "Best before....." label.

## HEALTH AND SAFETY

Usual preventive measures for the handling of chemical products should be observed when using this product, for example do not eat, smoke or drink while working and wash hands when taking a break or when the job is completed.


Specific safety information referring the handling and transport of this product can be found in the Material Safety Data Sheet.

Disposal of product and its container should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

® = Registered trademark of the MBCC Group in many countries.

\* Properties listed are based on laboratory controlled tests.

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| EN 1504 - 2   |   |
| Surface protection product for the principles and methods<br>2.2 and 8.2 defined in EN 1504-9   |   |
| Capillary absorption  | ≤ 0.1Kg/m <sup>2</sup> ·h <sup>0.5</sup>  |
| Water vapour permeability   | Class II  |
| Permeability to CO <sub>2</sub>   | Sd > 50 m   |
| Crack bridging ability (static)   | +23° C: Class A4<br>-10° C: Class A3<br>-20° C: Class A2  |
| Crack bridging ability (dynamic)  | +23° C: Class B2<br>-20° C: Class B2  |
| Adhesion strength by pull-off test  | > 2 N/mm <sup>2</sup>   |
| Adhesion after thermal compatibility:<br>Freeze-thaw cycling with<br>de-icing salt immersion and thunder-<br>shower cycling (thermal<br>shock)        | > 1.5 N/mm <sup>2</sup>   |
| Abrasion resistance (Taber)   | Mass loss < 3000 mg   |
| Resistance to severe chemical attack:<br>reduction in hardness<br>< 50%   | Group 2: Class II<br>Group 3: Class II<br>Group 5: Class II<br>Group 6a: Class II<br>Group 7b: Class II<br>Group 8: Class II<br>Group 9: Class II<br>Group 9a: Class II<br>Group 10: Class II<br>Group 11: Class II<br>Group 12: Class II<br>Group 13: Class II |
| Behaviour after artificial weathering   | No changes  |
| Reaction to fire  | Class F   |
| Dangerous substances  | Comply with 5.3 of EN 1504-2  |

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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.

## 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.

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