# MasterSeal M 800

**Two component, pigmented, elastic, highly reactive, spray applied (machine application) waterproofing membrane with short curing time**

## MATERIAL DESCRIPTION

MasterSeal M 800 is a two component, waterproofing membrane. It is highly reactive and can only be applied by special, two component spray equipment. MasterSeal M 800 has been in use since 1985 and forms the basis of a number of approval certificates for various waterproofing applications world-wide.

## AREAS OF APPLICATION

MasterSeal M 800 is used in a wide range of waterproofing applications such as bridge deck waterproofing, car park decks, podium decks, cut and cover tunnelling and basement waterproofing. It is also used in some secondary containment applications.
Using the appropriate primer, MasterSeal M 800 can be applied to most substrates including concrete, steel, bitumen cement screed, glass reinforced polyester, timber etc.

## FEATURES AND BENEFITS

- long track record (since 1985)
- fast reacting
- high build capability
- application to vertical surface without runs
- easy application to complicated details
- fast installation
- monolithic – no laps, welds or seams
- fully bonded
- high water vapour permeability – low risk of blistering
- excellent mechanical properties
- excellent crack bridging capability
- resistant to puncture
- resistant to standing water
- thermoset – does not soften at elevated temperatures
- withstands the high temperatures during laying of hot poured asphalt (approx. 240 °C)
- remains elastic at low temperatures; Tg approx -45 °C
- solvent free

MasterSeal M 800 features high elasticity, excellent tensile strength and elongation and a good wear resistance. This highly reactive waterproofing membrane allows its installation on vertical surfaces without problem. Moreover this fast-curing membrane can be re-coated within a few hours.

## APPLICATION METHOD

### (a) Surface Preparation

The preparation of the substrate and the use of the appropriate primer are of paramount importance. All surfaces to which MasterSeal M 800 is applied should be sound, clean and dry and free from oil or grease, loose particles and any other substances which may impair adhesion. For substrate pre-treatment prior to the primer application see primer technical data sheet.

#### Concrete and cementitious screed

Concrete and other cementitious substrates must have a minimum pull off strength of 1.5 N/mm$^2$. Any laitance present on the surface must be removed mechanically. Shot blasting is the preferred method. Release oil and other contaminants which may impair adhesion must be removed prior to the application of the primer.

#### Asphalt (only indoor!)

The asphalt should be cleaned by high pressure water jetting. In mechanically stressed applications the load bearing capacity of the asphalt should be suitable for the intended use and should be shot blasted so that at least 60 % of the surface aggregate is exposed. Blisters should be warmed, re-dressed and a de-bond tape applied over.

#### Bituminous sheeting

MasterSeal M 800 can be applied on bituminous sheeting if no fire-protection is required. For further details, please consult your local sales office.

#### Iron / steel

Should be sand blasted to an Sa 2 ½ finish prior to application of the primer.

#### Primer

Use the following guide to select the appropriate primer:

| *Substrate* | *Primer* |
|---|---|
| Bitumen felt | MasterSeal P 698 |
| Concrete/cementitous screed | MasterTop P 617<br>MasterSeal P 770 |
| Asphalt screed (mind. AS-IR10) | MasterTop P 660 or<br>MasterTop BC 375 N |
| Plywood (preliminary tests are recommended) | MasterTop P 660 or<br>MasterTop P 691 |
| GRP/GFK | MasterSeal P 691 |
| Iron and steel | MasterSeal P 681 |
| Non-ferrous metals (e.g. aluminium, zinc) | MasterSeal P 684 |
| Aged MasterSeal membranes | MasterSeal P 691 |

In some circumstances, other primers may be more appropriate. For further details, please consult your local sales office.

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## (b) Mixing
## (c) Application

MasterSeal M 800 can only be applied by means of a suitable two component spray machine (high pressure with reverse flow technology). The choice of machine depends to a large extent on the type and size of work contemplated. For advice, please contact BASF Construction Chemicals.
MasterSeal M 800 should only be applied to properly prepared substrates.
MasterSeal M 800 is available with the Part A coloured grey **(stir well before use!)** and the Part B colourless. This results in a uniform grey colour of the sprayed material thus giving the sprayer a visual control of the quality of the mixing as machine faults become immediately obvious. This can reduce costly clean up time and material wastage.
Due to the fast reaction it is possible to rapidly build thicknesses from 1.0 to > 6 mm. Surrounding areas should be protected from overspray by masking off with e.g. polyethylene sheet or paper. Care should be taken to prevent spray mist being carried by wind by erecting suitable barriers. MasterSeal M 800 should be applied within the recommended temperature and relative humidity limits. The temperature of the substrate must be at least 3 K above the dew point during the application.

## COVERAGE

MasterSeal M 800 is normally applied at 2.0 – 2.5 kg/m$^2$ This corresponds to a thickness of approx. 2,0 – 2,5 mm. Details require a higher coverage rate up to 4.0 kg/m$^2$ or more.
*The above consumption figures are intended as a guide only and may be higher on very rough or porous substrates*

### Re-coatings intervals

| ***Next layer*** | ***Hours min.*** | | | ***Hours max.*** | | |
|---|---|---|---|---|---|---|
| | ***Temperature [°C]*** | | | ***Temperature [°C]*** | | |
| | ***10*** | ***20*** | ***30*** | ***10*** | ***20*** | ***30*** |
| *MasterSeal M 800* | *immediately* | | | *8** | *4** | *2** |
| *MasterSeal P 690* | *4* | *2* | *2* | *14 days* | | |
| *MasterSeal P 691* | *4* | *2* | *2* | *14 days ** | | |
| *Wear coat* | *4* | *3* | *2* | *36** | *24** | *16** |
| *Top Coat* | *4* | *3* | *2* | *24** | *16** | *12** |

* *If the re-coating times are exceeded or if rain falls or dew forms on the MasterSeal M 800 then allow to dry thoroughly and apply MasterSeal P 691 according to manufacturers instructions before proceeding.*
** *If the re-coating interval exceed 14 days, the MasterSeal M 800 must be lightly abraded and the dust removed by vacuum cleaning and solvent wipe prior to the application of the MasterSeal P 691.*

## TOPCOATS

MasterSeal M 800 does not have sufficient UV and weather resistance to be used in exposed applications without protection. A number of top coats are available including MasterSeal TC 259 for most standard applications, and MasterSeal TC 258 which can be broadcast with dry silica sand to provide a hard wearing, slip resistant finish. Other top coats may be more suitable for specific applications, consult your local sales office for further details.

## FINISHING AND CLEANING

Re-useable tools should be cleaned carefully with Cleaner 40 or e.g. solvent naphtha.

## PACKAGING

| | |
|---|---|
| Part A | 210 kg in 200 l barrels |
| Part B | 220 kg in 200 l barrels |

## COLOUR

MasterSeal M 800 is available in the following colour combination:
Part A grey / Part B unpigmented

## STORAGE / SHELF LIFE

Store in original containers under dry conditions at a temperature between 15° – 25° C. Do not expose to direct sunlight. For maximum shelf life under these conditions see "Best before....." label.

## WATCH POINTS

This product conforms to the EU directive 2004/42/EG (Deco-Paint directive) and contains less than the maximum allowable VOC limit (Stage 2, 2010)
According to the EU directive 2004/42, the maximum allowable VOC content for the Product Category IIA / j is 500 g/l (Limit: Stage 2, 2010). The VOC content for MasterSeal M 800 is < 500 g/l (for the ready to use pro-duct).

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## HANDLING / PRECAUTIONS

In its cured state, MasterSeal M 800 is physiologically non-hazardous. The following protective measures should be taken when working with this material:

Wear safety gloves, goggles and protective clothing. Avoid contact with the skin and eyes. In case of eye contact, seek medical attention. Avoid inhalation of the fumes. Respiratory protection must be worn when spraying or when in the vicinity of the spraying operation.

When working in well ventilated areas, a combined charcoal filter and particle filter mask (A-P2) should be worn. When working in less well ventilated and in confined spaces, air-fed helmets are to be worn by sprayer and assistant(s) When working with the product do not eat, smoke or work near a naked flame. For additional references to safety-hazard warnings, regulations regarding transport and waste management please refer to the relevant Material Safety Data Sheet. The regulations of the local trade association and/or other authorities, regulating safety and hygiene of workers handling polyurethane and isocyanates must be followed.

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| Product data* | | | | |
|---|---|---|---|---|
| **Properties** | | **Standard** | **Data** | **Unit** |
| Chemical base | | - | Polyurethane | - |
| Mixing ratio | | A : B | 100 : 70<br>100 : 73 | by volume<br>by weight |
| Density (at 23 °C) | Component A<br>Component B | - | 1.06<br>1.08 | g/cm³<br>g/cm³ |
| Viscosity (at 23 °C) | Component A<br>Component B | - | 2400<br>1800 | mPas<br>mPas |
| Reaction time (sprayed) | | - | 10 – 15 | sec. |
| Fully cured | at 23 °C | - | 2 | d |
| Substrate and ambient temperatures | | - | min. 5<br>max. 35 | °C<br>°C |
| Processing temperature (Flow heater, Hose heater)* | | Component A<br>Component B | 70 - 75<br>65 - 70 | °C<br>°C |
| Processing pressure* | | Component A<br>Component B | 130 – 180<br>130 - 180 | bar<br>bar |
| Permissible relative humidity | | - | max. 85 | % |

***** Values are intended as a guide only and need to be defined individually referring to machine used.

**Product data after curing***

| **Properties** | **Standard** | **Data** | **Unit** |
|---|---|---|---|
| Shore-A-hardness | - | 80 | - |
| Tensile strength | DIN 53504 | 10 | N/mm² |
| Elongation | DIN 53504 | 400 | % |
| Tear strength | DIN 53515 | 18 | N/mm² |
| Water vapour permeability (4.0 mm, 23 °C/75 % r.h.) | EN ISO 7783-1 | 3,6 | g/(m².d) |

* The above figures are intended as a guide only and should not be used as a basis for specifications.

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### CE-MARKING (EN 1504-2)

| CE |
|---|
| 1119 |
| Master Builders Solutions Deutschland GmbH<br>Donnerschweer Str. 372, D-26123 Oldenburg |
| 08 |
| 480001 |
| EN 1504-2:2004 |
| Surface protection product - coatings<br>EN 1504-2: ZA.1d, ZA.1e, ZA.1f and ZA.1g |

| | |
|---|---|
| Abrasion resistance | ≤ 3000 mg |
| Permeability to $CO_2$ | Sd > 50 |
| Permability to water vapour | Class I |
| Capillary absorption and permeability to water | < 0.1 kg/(m²xh$^{0,5}$) |
| Thermal compatibility after freeze-thaw cycling | ≥ 1.5 N/mm² |
| Resistance to severe chemical attack | Reduction of hardness < 50 % |
| Crack bridging ability | B 4.2 (23° C) |
| Impact resistance | Class I |
| Adhesion strength by pull-off test | ≥ 1.5 N/mm² |
| Reaction to fire | $C_{fl}$-s1 |
| Skid resistance<br>with MasterSeal TC 258<br>with MasterSeal TC 681 | <br>Class III<br>Class II |

NPD = No performance determined. Performance determined in system build up **MasterSeal Traffic 2205** and **MasterSeal Roof 2110.**

### CE-MARKING (EN 13813)

| CE |
|---|
| Master Builders Solutions Deutschland GmbH<br>Donnerschweer Str. 372, D-26123 Oldenburg |
| 08 |
| 480001 |
| EN 13813: 2002 |
| Synthetic resin screed for use internally in buildings<br>EN 13813: SR-B1,5-AR1-IR4 |

| Essential characteristics | Performance |
|---|---|
| Fire behavior | Efl |
| Release of corrosive substances | SR |
| Water permeability | NPD |
| Wear resistance | < AR 1 |
| Bond strength | > B 1,5 |
| Impact resistance | > IR 4 |
| Impact sound insulation | NPD |
| Sound absorption | NPD |
| Heat insulation | NPD |
| Chemical resistance | NPD |
| Slip/Skid resistance | NPD |
| Emissions behavior | NPD |

NPD = No performance determined. Performance determined in system build up **MasterSeal Traffic 2205.**

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## DISCLAIMER

In view of widely varying site conditions and fields of application of our products, this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical helpline for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with Master Builders Solutions and possible resulting damages are in the sole responsibility of the customer. All descriptions, drawings, photographs, data, ratios, weights i.e. stated herein can be changed without advance notice and do not represent the condition of the product as stipulated by contract. It is the sole responsibility of the recipient of our products to observe possible proprietary rights as well as existing laws and provisions. The reference of trade names of other companies is no recommendation and does not exclude the use of products of similar type. Our information only describes the quality of our products and services and is no warranty. Liability is accepted for incomplete or incorrect particulars in our data sheets only in the event of intent or gross negligence, without prejudice to claims under product liability laws.

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