

# MasterSeal<sup>®</sup> M 811

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

## DESCRIPTION

**MasterSeal M 811** is a solvent free, two-component polyurea hybrid waterproofing membrane. It is high reactive and needs to be applied by special, two component spray equipment (Mixing ratio 100 : 100 by volume).

## TYPICAL APPLICATIONS

**MasterSeal M 811** is used in a wide range of waterproofing applications such as car park decks, podium decks, cut and cover tunneling, roofing and basement waterproofing. It is also used in some secondary containment applications.

Using the appropriate primer, **MasterSeal M 811** can be applied to most substrates including concrete, steel, bitumen cement screed, glass reinforced polyester, timber etc.

## ADVANTAGES

- 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 vapor permeability – low risk of blistering
- excellent mechanical properties
- excellent crack bridging
- resistant to puncture
- resistant to standing water
- thermoset – does not soften at elevated temperatures
- remains elastic at low temperatures; T<sub>g</sub> approx. -45°C
- solvent free
- resistance to root penetration

**MasterSeal M 811** 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.

## PACKAGING AND COLORS

**MasterSeal M 811** is available as:

### Option 1

PTA 200 kg  
PTB 200 kg

### Option 2

PTA 210 kg  
PTB 220 kg

**MasterSeal M 811** is available in the following color combination:

PTA grey / PTB unpigmented

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## TYPICAL PROPERTIES\*

Properties	Result
Chemical base	Polyurea hybrid
Mixing ratio	100 : 100 by volume 100 : 106 by weight
Density @ 23°C	PTA 1.06 kg/L PTB 1.08 kg/L
Viscosity @ 23°C	PTA 1725 mPas PTB 1800 mPas
Reaction time (sprayed)	10-15 s
Fully cured @ 23°C	2 d
Processing temperature (Flow heater, Hose heater)	PTA 70-75°C PTB 70-75°C
Processing pressure	PTA 130-180 bar PTB 130-180 bar
Substrate and ambient temperatures	min. 5°C max. 50°C
Permissible relative humidity	max. 85%

## Technical data after curing\*

Properties	Result
Shore A Hardness ASTM D2240	87
Tensile strength ASTM D412 : 2013	14 N/mm <sup>2</sup>
Elongation ASTM D412 : 2013	> 450%
Tear strength ASTM D624 : 2000e	50 kN/m
Crack bridging ability EN 1504	Static: A5 (23°C) / Dynamic: B4.2 (23°C)
Hydrostatic pressure resistance ASTM D5385	No leak @ 5Bars with 3.2mm crack width on substrate
Depth of penetration of water under pressure BS EN 12390 Pt8	No penetration @ 5Bars
Root penetration CEN TS 14416	Resistant

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

## APPLICATION GUIDELINES

### SURFACE PREPARATION

The preparation of the substrate and the use of the appropriate primer are of paramount importance. All surfaces to which **MasterSeal M 811** 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 screeds

Concrete and other cementitious substrates must have a minimum pull off strength of 1.5 N/mm<sup>2</sup>. 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.

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

## Metal substrates

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

### PRIMING

Use the following guide to select the appropriate primer:

<i>Substrate</i>	<i>Primer</i>
Concrete cementitious / screed	<b>MasterTop P 650</b>
Metal	<b>MasterSeal P 616</b>
Aged <b>MasterSeal</b> membranes	<b>MasterSeal P 691</b>

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

### PLACING / APPLICATION

**MasterSeal M 811** can only be applied by means of a suitable two component spray machine (high pressure with reverse flow technology) (e.g. Graco Reactor 2 E-XP2). The choice of machine depends to a large extent on the type and size of work contemplated. For advice, please contact Master Builders Solutions Construction Chemicals.

**MasterSeal M 811** should only be applied to properly prepared substrates.

**MasterSeal M 811** is available with the PTA colored grey (stir well before use) and the PTB

colorless. This results in a uniform grey color 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 > 6mm. 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 811** should be applied within the recommended temperature and relative humidity limits. The temperature of the substrate must be at least 3K above the dew point during the application.

### TOP COATS

**MasterSeal M 811** does not have sufficient UV and weather resistance to be used in exposed applications without protection.

In exposed areas, a UV resistant topcoat is required, i.e. **MasterSeal TC 256**, **MasterSeal TC 257** and **MasterSeal TC 258**, consult your local Technical Services office for further details.

### CLEANING

Re-useable tools should be cleaned carefully with a suitable thinner (Xylene / MEK / Acetone).

### COVERAGE / YIELD

Minimum 1.5 kg/m<sup>2</sup> to achieve 1.5 mm thickness for podium and roof waterproofing. The above coverage does not include wastage and may vary depending on the profile of the substrate.

For coverages on different applications, consult Master Builders Solutions Technical Services Department.

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## WATCHPOINTS

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 500g/l (Limit: Stage 2, 2010). The VOC content for **MasterSeal M 811** is <10g/l (for the ready to use product).

## STORAGE AND SHELF LIFE

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

## HEALTH AND SAFETY

In its cured state, **MasterSeal M 811** 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 char-coal 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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\* Properties listed are based on laboratory controlled tests.

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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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