

MasterSeal[®] M 800

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

DESCRIPTION

MasterSeal M 800 is a solvent free, two component, pigmented, low modulus, hybrid polyurethane polyurea 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 worldwide.

RECOMMENDED USES

MasterSeal M 800 is used in wide range of waterproofing applications such as, bridge deck waterproofing, car park decks, podium decks and cut and cover tunneling 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, bitumen cement screed, glass reinforced polyester, timber etc.

FEATURES AND BENEFITS

- **Long Track Record** (since 1985)
- **Fast reacting spray application** – Complex details both horizontal and vertical easy to waterproof
- **Application to vertical surface without runs** - Installation to walls not problem
- **Monolithic** – No laps, welds or seams
- **Fully bonded** – Moves with the structure
- **High water vapor permeability** – Low risk of blistering in service
- **Crack bridging capability**- Can cope with cracks that occur after installation
- **Solvent and monomeric isocyanate free** – Increased safety for applicators
- **Unaffected by standing water or ground water** – Suitable for constant water contact
- **Thermoset** – Does not soften at elevated temperatures encountered on a roof
- **Withstands the high temperature** – Suitable for bridge deck waterproofing during laying of hot poured asphalt (approx. 240°C)
- **Remains elastic at low temperatures-Tg approx. -45°C** – Suitable for all Asia Pacific.
- **Solvent free**

PRODUCT DATA

Mixing ratio	Part A	Part B
by weight	100	73
by volume	100	70
Density (kg/L) @ 23°C	1.06	1.08
Viscosity(mPas) @ 23°C	2400	1800
Reaction time (sprayed), sec.	10~15	
Fully Cured @ 23°C, d	2	
Substrate and Ambient temperature, °C	5 °C to 35 °C	
Processing temperature (Flow heater, hose heater)*, °C	70~75	65~70
Processing pressure*, bar	130~180	130~180
Relative humidity (%)	Max. 85	

*The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

PERFORMANCE DATA after Curing

Shore A hardness	75 ±5
Tensile strength (DIN 53504)	8~10 MPa
Elongation (DIN 53504)	400%
Tear Strength (DIN 53515)	30 N/mm
Water Vapor Permeability (4.0mm, 23°C /75%r.h.) (EN ISO 7783-1)	3.6 g/(m ² d)
Dynamic Crack bridging (EN 1062-7)	B4.2 at -20°C
Dynamic Crack bridging for bridge deck system (EN 14224)	10,000 cycles at -30°C
Dynamic Crack bridging for bridge deck system (Japan NEXCO)	4.8 mil. cycles @ 23°C

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

Results may vary and depends on equipment parameters set, site conditions, quality of film formed, aging of sample etc.

MasterSeal® M 800

APPROVAL AND CERTIFICATION

- CE Marked according to EN 1504-2
- CE Marked according to EN 13813
- Car Park Deck BBA certification
- Japan NEXCO (Nippon Expressway Company Limited) GRADE 2 certification for bridge deck waterproofing
- ETA certification for bridge deck waterproofing
- Green Label Singapore

APPLICATION

Surface Preparation

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

Concrete and Cementitious Screed:

The concrete substrates to be sprayed must be at least 14 days old, dry, free of laitance as well as substances which impair adhesion such as oil, grease, rubber skid marks, paint, or other contaminants. Preparation of the substrate by grit or shot blasting, high-pressure water jetting, grinding, or scarifying is necessary for plain concrete. Prior to application of the primer the bond strength of the substrate must be at least 1.5 MPa.

The substrate to be coated must be protected against rising damp by having a damp proof membrane installed if it is a slab in contact with the ground.

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 de-bond tape applied over.

Bituminous Sheetting

MasterSeal M 800 can be applied on bituminous sheetting by using special primers. For further details, please consult your local sales office.

Iron / Steel

Iron or steel surfaces should be sand blasted to an SA 2 ½ finish prior to the application of primer.

Primer

Use the following guide to select the appropriate primer.

Substrate	Primer
Concrete / Cementitious Screed	MasterSeal P 770
	MasterSeal P 770N
	MasterSeal P 2525
	MasterSeal P 658
	MasterEmaco 2525
Bitumen Felt	MasterSeal P 698
Asphalt Screed (mind. AS-IR 10)	MasterTop P 660 or MasterTop BC 375N
Plywood (preliminary tests are recommended)	MasterTop P 660 / P 691
GRP / GFK	MasterSeal P 691
Iron and Steel	MasterSeal P 681
Non-Ferrous metal (eg. Aluminum)	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.

Application

MasterSeal M 800 can be applied by means of a suitable two component spray machine (high pressure with reverse flow technology). For advice on machines, please contact your local Master Builders Solutions technical representative.

MasterSeal M 800 is available with the Part A in Grey colors (stir well before use) and the Part B Colorless. When sprayed results in a uniform grey colour which gives 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. The temperature of the substrate should be min. 3°C above the dew point prior to application of the membrane.

Primer has to be cured to a 'tack-free' state prior to the application of **MasterSeal M 800**.

MasterSeal® M 800

Re-coating intervals

	Hours min.			Hours max.		
	Temperature (°C) 10 20 30			Temperature (°C) 10 20 30		
MasterSeal M 800	Immediately			8*	4*	2*
MasterSeal P 691	4	2	2	14days**		
Wear Coat	4	3	2	36*	24*	16*
Top Coat	4	3	2	24*	16*	12*

If re-coating times are exceeded or rain falls or dew occurs on the surface of **MasterSeal M 800 then the membrane must be dried and **MasterSeal P 691** applied prior to the application of any wear coat or two part top coat.*

*** If the re-coating intervals exceed 14 days, the **MasterSeal M 800** must be slightly 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 topcoats are available including **MasterSeal TC 259**, **MasterSeal TC 269** for most standard application and **MasterSeal TC 258** or **MasterSeal TC 268** or **MasterSeal TC 681** which can be broadcast with dry silica sand to provide a hard wearing, non-slip surface.

For more information about application, please obtain a copy of the Master Builders Solutions "Application Guide for MasterSeal Spray Membrane System" from your local representative.

ESTIMATING DATA

MasterSeal M 800 is normally applied at 1.8 – 2.4 kg/m². This corresponds to a thickness of approx. 1.6 – 2.2mm.

PACKAGING

MasterSeal M 800 is supplied as two component material.

Part A: 200kg, 210kg in 200l barrels

Part B: 220kg drums in 200l barrels



SHELF LIFE

Twelve months if stored in original containers under dry conditions at a temperature between 10-30° C. Do not store in direct sunlight for more than 3 days.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the Master Builders Solutions Material Safety Data Sheet (MSDS) from our office or our website

MasterSeal[®] M 800

CE-MARKING (EN 1504-2)		CE-MARKING (EN 13813)	
			
1119		Master Builders Solutions Deutschland GmbH Donnerschweer Str. 372, D-26123 Oldenburg	
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08		08	
480001		480001	
EN 1504-2:2004		EN 13813:2002	
Surface protection product – coatings EN 1504-2: ZA.1d, ZA.1e, ZA.1f and ZA.1g		Synthetic resin screed for use internally in buildings EN 13813: SR-B1,5-AR1-IR4	
Abrasion resistance	≤ 3000 mg	Essential characteristics	Performance
Permeability to CO ₂	Sd > 50	Fire behavior	Efl
Permability to water vapour	Class I	Release of corrosive substances	SR
Capillary absorption and permeability after freeze-thaw cycling	< 0.1 kg/(m²xh ^{0.5})	Water permeability	NPD
Thermal compatibility after freeze-thaw cycling	≥ 1.5 N/mm²	Wear resistance	< AR 1
Resistance to severe chemical attack	Reduction of hardness < 50 %	Bond strength	> B 1,5
Crack bridging ability	B 4.2 (-20° C)	Impact resistance	> IR 4
Impact resistance	Class I	Impact sound insulation	NPD
Adhesion strength by pull-off test	≥ 1.5 N/mm²	Sound absorption	NPD
Reaction to fire	Cfl-s1	Heat insulation	NPD
Skid resistance		Chemical resistance	NPD
With MasterSeal TC 258	Class III	Slip/Skid resistance	NPD
With MasterSeal TC 681	Class II	Emissions behavior	NPD
NPD = No performance determined. Performance determined in system build up MasterSeal Traffic 2205 , and MasterSeal Roof 2110		NPD = No performance determined. Performance determined in system build up MasterSeal Traffic 2205	

® = registered trademark of a MBCC Group member in many countries of the world

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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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