

MasterSeal M 860

2C-PU/PUA waterproofing membrane, highly elastic, for hand applications

MATERIAL DESCRIPTION

MasterSeal M 860 is a two-component, hand applied, self-levelling, elastomeric polyurethane-polyurea hybrid membrane.

AREAS OF APPLICATION

MasterSeal M 8601 is used in a variety of concrete waterproofing applications including balconies, terraces, podium decks and car park decks. It's also used in roofing applications where there is no requirement for a fire retardant coating.

FEATURES AND BENEFITS

- monolithic – no laps, welds or seams
- fully bonded
- excellent mechanical properties
- excellent crack bridging capability
- resistant to puncture
- resistant to standing water
- thermoset – do not soften at high temperature
- remain elastic at low temperatures
- (T_g approx – 45 °C)
- can be re-coated after only 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 860 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/mm². Any laitance present on the surface must be removed mechanically. Shot blasting or scabbling is the preferred method.

Release oil and other contaminants which may impair adhesion must be removed prior to application of the primer.

Asphalt

In roofing applications, 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 (min. quality e.g. AS-IC10). Blisters should be warmed, redressed and a de-bond tape applied over.

Bitumen felts

Blisters should be opened, dried out and repaired. Major cracks should be repaired and taped with de-bond tape.

Warning: MasterSeal M 860 will not bond to black APP modified bitumen felts nor is a suitable primer available.

Plywood

All joints should be flush and taped prior to the application of the primer. All fittings must be flush with or sunk lower than the surface.

Iron and steel

Iron and steel should be sand blasted to Sa 1/2 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/cementitious screed	MasterSeal P 770 MasterTop P 622
Asphalt screed (mind. AS-IR10)	MasterTop P 660 or MasterTop BC 375 N
Plywood (preliminary tests are recommended)	MasterTop P 660 or MasterSeal 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.

(b) Mixing

MasterSeal M 860 is supplied in working packs which are pre-packaged in the exact ratio. Before mixing, precondition both the A and B components to a temperature of approximately 15 to 25 °C.

Pour the entire contents of Part A into the container of Part B. DO NOT MIX BY HAND. Mix with a mechanical drill and paddle at a low speed (approx. 300 rpm) for at least 3 minutes. Scrape the sides and the bottom of the container several times to ensure complete mixing. Keep the mixer bladed fully submerged in the coating to avoid introducing air bubbles. DO NOT WORK OUT OF THE ORIGINAL CONTAINER. After proper mixing to a homogeneous consistency, pour the mixed Parts A and B into a clean container and mix for a further minute.

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(c) Application

MasterSeal M 860 is poured onto the prepared substrate and spread with a notched trowel or spreader (rubber or steel). The curing time of the material is influenced by the ambient, material and substrate temperatures. At low temperatures, the chemical reactions are slowed down, this lengthens the pot-life, open time and curing times. High temperatures speed up the chemical reactions thus the time frames mentioned above are shortened accordingly. To fully cure, the material, substrate and application temperatures should not fall below the minimum recommended. The temperature of the substrate must be at least 3 K above the dew point both during and for at least 6 hours after application (at 15 °C).

COVERAGE

The consumption of MasterSeal M 860 depends on the application. For a 1 mm thick film the following quantities are necessary:

MasterSeal M 860 1.24 kg/m²

TOPCOATS

MasterSeal M 860 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 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

MasterSeal M 860 is supplied in 12 and 30 kg working packs.

COLOUR

MasterSeal M 860 is available in grey.

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 860 is < 500 g/l (for the ready to use product).

HANDLING / PRECAUTIONS

In its cured state, MasterSeal M 860 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 fumes. 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 regarding safety and hygiene of workers handling polyurethanes and isocyanates must be observed.

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Technical data*			
Properties	Standard	Data	Unit
Chemical base	-	PU/PUA hybrid	-
Mixing ratio	A : B	100 : 180	-
Density	-	1.24	g/cm ³
Viscosity	-	5200	mPas
Working time (30 kg Unit)	at 10 °C	35	min
	at 20 °C	25	min
	at 30 °C	15	min
Re-coating interval	at 10 °C	min. 8 max. 2	h d
	at 20 °C	min. 5 max. 1	h d
Fully cured	at 10 °C	5	d
	at 20 °C	4	d
Substrate and ambient temperatures	-	min. 5 max. 30	°C °C
	-	max. 80	%

Product data after curing*


Properties	Standard	Data	Unit
Shore-A-hardness	after 28 days	75	-
Tensile strength	DIN 53504	15	N/mm ²
Elongation	DIN 53504	700	%
Tear strength	DIN 53515	21	N/mm ²

* 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)

	
1119	
Master Builders Solutions Deutschland GmbH Donnerschweer Str. 372, D-26123 Oldenburg	
10	
486001	
EN 1504-2:2004	
Surface protection product - coatings 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 III
Capillary absorption and permeability to water	< 0.1 kg/(m ² xh ^{0,5})
Thermal compatibility after freeze-thaw cycling	NPD
Resistance to severe chemical attack	Reduction of hardness < 50 %
Crack bridging ability	A 4 (-20° C)
Impact resistance	NPD
Adhesion strength by pull-off test	≥ 1.5 N/mm ²
Reaction to fire	C _{fi} -s1
Skid resistance	NPD

NPD = No performance determined. Performance determined in system build up **MasterSeal Balcony 1338**.

CE-MARKING (EN 13813)

	
Master Builders Solutions Deutschland GmbH Donnerschweer Str. 372, D-26123 Oldenburg	
10	
486001	
EN 13813: 2002	
Synthetic resin screed for use internally in buildings 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	R10
Emissions behavior	NPD

NPD = No performance determined. Performance determined in system build up **MasterSeal Balcony 1338**.

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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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