

MasterSeal[®] M 640

Flexible and elastic single component polyurethane waterproofing membrane

DESCRIPTION

MasterSeal M 640 is a single component, polyurethane based, elastomeric coating for roof waterproofing.

TYPICAL APPLICATIONS

- Applicable for outdoor use
- Can be applied on concrete and cement mortar.
- Waterproofing of roofs, balconies and terraces

Contact the Technical Service of your local Master Builders Solutions Construction Chemicals office regarding any application required not mentioned here.

ADVANTAGES

- High elasticity and flexibility
- Excellent adhesion to concrete and mortar. Fully bonded system
- Once hardened it is impermeable to water and carbon dioxide
- Tar free
- Easy to apply
- Single component and low viscosity
- Excellent crack bridging capacity even at low temperatures
- Monolithic – no laps, welds or seams
- High water vapour permeability - low risk of blistering
- Excellent mechanical properties
- Resistant to standing water
- Can be re-coated after only a few hours

PACKAGING AND COLORS

MasterSeal M 640 is supplied in 25kg and 6kg pails and available in White, Red and Grey.

APPLICATION GUIDELINES

SURFACE PREPARATION

All substrates (new and old) must be structurally sound, dry and free of laitance and loose particles. Clean of oil, grease, paint stains and other adhesion impairing contaminants. Profile mechanically the surface by shot blasting, high-pressure water jetting or other suitable mechanical preparation method. After surface preparation the tensile strength of the substrate should exceed 1N/mm² (check with an approved pull-off tester). Temperature of the support should be minimum +5°C and maximum +35°C. The residual moisture content of the substrate must not exceed 4% (check with e.g. CM device). The temperature of the substrate must be at least 3 K above the current dew point temperature. Try to keep the temperature uniform during application and hardening.

Primer: Suitable primer for using **MasterSeal M 640** on concrete or cementitious mortar substrates is **MasterSeal P 640**. Refer to TDS for application guidelines.

Before the surface application, all detail areas and any singular points like wall-floor connections, chimneys, joints, substrate cracks, penetrations, corners, etc, must be treated. For this apply one layer of **MasterSeal M 640**, then place a correct cut stripe of geotextile mat (110 g/m²) into the wet material. Press in to fully soak without leaving air pockets. Then fully saturate the geotextile mat by applying additional **MasterSeal M 640**. All lap joints in the mat reinforcement should be minimum 50mm.

PLACING / APPLICATION

Homogenize **MasterSeal M 640** with mechanical stirring before use. Pour the **MasterSeal M 640** onto the primed substrate and spread with a roller or brush at a minimum consumption of 0.75-1.0kg / m² per layer (2 coats required).

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FULLY REINFORCED SURFACE APPLICATION (CE)

Homogenize **MasterSeal M 640** with mechanical stirring before use. Add the correct quantity of **MasterSeal 640** Catalyst (3% by weight for consumptions >800 g/m² of **MasterSeal M 640**). Mix by low speed mechanical stirrer, according to the stipulated mixing ratio, for about 3-5 min. The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous.

After the mixing, pour the mixture onto the primed surface to be waterproofed, and spread with a roller or brush at a minimum consumption of 1.2kg/m² per layer. Lay geotextile mat (110 g/m²) reinforcement into the wet membrane, press in and roll flat with a roller to fully saturate the geotextile mat. All lap joints in the geotextile mat reinforcement should be minimum 50mm. Immediately after pour again the mixture on the geotextile mat and spread with a roller or brush at a minimum consumption of 1.8kg/m² per layer, until full saturation. **MasterSeal M 640** can also be sprayed by airless spray equipment.

Top Coat: **MasterSeal M 640** does not have sufficient UV and weather resistance to be used in exposed applications without protection. In exposed applications, apply one or two coats of **MasterSeal TC 640**. Refer to TDS for application guidelines. **MasterSeal TC 640** can be broadcasted with dry silica sand to provide a hard wearing, slip resistant finish.

COVERAGE / YIELD

Normally approx. 1.5-2.0kg/m² are required in two coats, depending on chosen application method. These consumptions are theoretical and can vary according to the absorption and roughness of the support. It is essential to carry out representative trials on site to evaluate the exact consumption. Higher consumptions up to 3.0kg/m² with two or three coats due to national regulations are possible.

For best performance:

The product must not be applied when the temperature is below +10°C or above 30°C. Do not mix solvents, sand or other products that could affect the products properties must not be added.

For full application details please refer to the Method Statement.

CLEANING

While still wet with a suitable thinner (Xylene / MEK / Acetone). Once cured it can only be removed mechanically.

STORAGE AND SHELF LIFE

Store in cool and dry warehouse conditions between 15-25°C. Do not expose to direct sunlight. Shelf life in these conditions is 9 months in unopened original containers.

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TYPICAL PROPERTIES*

Properties	Result
Chemical base	Polyurethane
Mixing ratio	single component
Density @ 20°C	1.32g/cm ³
Solid content	83%
Working time @20°C	40 mins
Re-coating interval / Open to pedestrian traffic @20°C	min. 12 hours max. 48 hours
Rain safe @20°C Fully cured @20°C	4 days 7 days
Substrate and ambient temperatures	min. 5°C max. 35°C
Permissible relative humidity	max. 80%

Technical data after curing*

Properties	Standard	Result
Service temperatures		min. -20°C max. 80°C
Shore A hardness	ASTM D2240	65±5
Crack bridging	EOTA TR 008	>2 mm
Elongation at break	DIN 52455	600%
Tensile strength	DIN 52455	>4 N/mm ²
Water vapour permeability	ISO 9932:91	25 g / m ² / 24 hours
Solar Reflection (SR)	ASTM E903-96	0.87
Solar emittance	ASTM E408-71	0.89
Adhesion to concrete	ASTM D903	>2 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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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 640** is <500g/l (for the ready to use product).

HEALTH AND SAFETY

In its cured state, **MasterSeal M 640** 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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* 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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