

# MasterRoc MSL 345

Spray applied waterproofing membrane for tunnel concrete composite shell linings.

## Material description

MasterRoc MSL 345 is an EVA polymer based sprayable membrane for the waterproofing of underground concrete structures. It is spray applied in a sandwich structure between two sprayed concrete / cast concrete layers, creating a double bonded composite shell lining. It is flexible and has very high bond strength properties on both sides of the membrane. It is an effective alternative to conventional waterproofing sheet membranes.

As a double bonded system, this provides excellent water tightness, preventing the development of water migration on both sides of the membrane.

As with all spray applied membranes, it is not possible to seal against water ingress through the substrate. In such cases, a drainage system or local water management using drainage pipes should be used in combination with MasterRoc MSL 345. However, it can be applied to damp substrate (if there is no running water).

## Fields of application

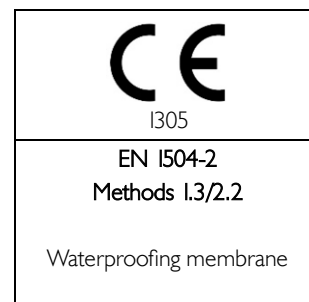
MasterRoc MSL is a product:

- suitable for all types of tunnel designs;
- particularly well suited for underground structures with complex profiles and geometry such as stations, escape and access tunnels, utility caverns, cross passages and tunnel intersections;
- enables tunnel design with composite shell lining to reduce excavation cross section and lining thickness, and is especially suited to tunnel rehabilitations.

## Features and benefits

- Fast curing.
- Easy to use, only addition of water needed.
- Application by spraying with simple equipment.
- Elasticity 80% to 140% depending on temperature.
- No toxic components.
- No classification needed for transport.
- Available in 2 colors if specification is requiring a 2-coat application otherwise applied as a 1 coat system.

In compliance with the European Regulation (EU No 305/2011 and EU No. 574/2014) the product is provided with the CE marking according to UNI EN 1540-2 and the relative DoP (Declaration of Performance).



## Packaging

MasterRoc MSL 345 is available in 15 kg bags.

## Storage

MasterRoc MSL 345 has a shelf life of 12 months if stored in original, unopened bags between +5 °C to +40°C. The product must be kept out of direct sunlight. The storage area must be kept dry.

## Consumption

Consumption depends on the surface roughness but is typically between 3 and 6 kg per m<sup>2</sup>. For more information, please refer to the Method Statement.

## Compatibility

MasterRoc MSL 345 can be applied onto all types of concrete, if the surface is clean and without loose particles. Sprayed concrete and cast concrete may be placed against the membrane surface once it has cured. Fiber reinforced sprayed concrete can be used on both sides of the membrane. It is also compatible with traditional waterproofing methods, enabling interface solutions with other systems (good bond to most sheet membranes and steel).



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Technical Information	
Form	powder
Color	light beige or orange
Water pressure resistance (max)	15 bar
Bulk density (+20°C)	590 g/l ± 100 g/l
Application thickness	3 ÷ 6 mm
Application temperature	5 ÷ 40°C
Failure stress (at +20°C, at 28 days)	1.5 to 3.5 MPa
Failure strain (at +20°C, at 28 days)	> 100%
Bond strength to concrete (28 days)	1.2 ± 0.2 MPa
Shore hardness (28 days)	80 ± 5
Flammability (in accordance with DIN 4102-B2)	self-extinguishing
Essential characteristic in accordance to EN 1504-2	Performance
Adhesion strength	≥ 0.8 MPa
Permeability to water vapor	Class I
Capillary absorption and permeability to water	≤ 0,1 kg/m <sup>2</sup> ·h <sup>0,5</sup>
Permeability to CO <sub>2</sub>	SD > 50
Reaction to fire	Class E

## Application

MasterRoc MSL 345 is applied by the dry spraying method using readily available dry spraying equipment like the Reed "Sove" pump.

- Rotor allowing low output (e.g., 18 pocket feedbowl)
- Rotor dust collector
- Spraying nozzle DIA 32 mm (plastic tip with collar/conical) with minimum 16-hole water ring (18 holes are recommended)
- Spraying hose DIA 32 mm

## Curing

The speed of curing depends on weather conditions on site (humidity, wind conditions and temperature).

We recommend not exposing the membrane to air temperatures outside the range of +5°C and +40°C for a minimum of 5 days following application, and cyclic variations should not exceed 10°C within this range.

## Safety information

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.



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## Other services

For additional technical information, brochures, references, technical reports and technical support please visit [www.master-builders-solutions.com/it-it](http://www.master-builders-solutions.com/it-it) or alternatively contact [infomac@masterbuilders.com](mailto:infomac@masterbuilders.com).

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



## Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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