

MasterRoc[®] MP 303 CE

Low-viscosity, fast-reacting acrylic resin for permanent water sealing and layer curtaining of concrete and masonry

Formerly MEYCO MP 303 CE*

Description

MasterRoc MP 303 CE is a highly reactive two-component acrylic sealing resin with a low viscosity for good penetration. The product cures quickly, forming a highly flexible hydrogel with extraordinary swelling/re-swelling properties.

Applications

MasterRoc MP 303 CE resin has been designed for usage as a permanent water sealing and layer curtaining resin. It is used for low pressure injection in concrete and masonry.

Upon curing, MasterRoc MP 303 CE resin forms a highly flexible compact resin.

Recommended for use in:

- Stopping of minor water infiltration
- Curtain injection
- Repair of cracks and fissures in concrete
- Permanent sealing of tunnel linings, shafts and masonry

Features

- Very low viscosity
- Controlled gel time between 14 seconds and 3 minutes at 68 °F (20 °C)
- Workable between 41 °F and 104 °F (5 °C and 40 °C)
- Good bond strength to fractured rock and concrete, even under wet conditions
- Excellent swelling (up to 200% of initial volume) and re-swelling behavior (while maintaining self-healing properties)

Benefits

- Environmentally preferable: Harmless in contact with groundwater, and no emission of potentially harmful substances
- Low viscosity allows deep penetration into very fine cracks or fissures
- The cured resin is resistant to acidic and alkaline solutions as well as many other solvents

Performance Characteristics

Technical Data

MasterRoc MP 303 CE Resin

Appearance	Clear blue liquid
Viscosity*	40 cP (40 mPa·s)
Density*	9.93 lb/gal (1.19 kg/L)

MasterRoc MP 303 CE Accelerator

Appearance	Clear liquid
Viscosity*	280 cP (280 mPa·s)
Density*	9.35 lb/gal (1.12 kg/L)

MasterRoc MP 303 CE Hardener

Appearance	White solid
Density*	Approx. 21.7 lb/gal (2.6 kg/L)

MasterRoc MP 303 CE Inhibitor

Appearance	Yellow liquid
Density	Approx. 8.35 lb/gal (1 kg/L)

Mixed material (Mixing ratio Resin:Part B of 1:1)

Appearance	Clear blue liquid
Viscosity*	5 cP (5 mPa·s)
Density*	9.51 lb/gal (1.14 kg/L)
Gel time*	10 seconds to 3 minutes
Final curing*	10 to 20 minutes

*@ 68 °F (20 °C)

Guidelines for Use

Dosage and Application: The Resin (e.g. 49.6 lb (22.5 kg)) is premixed with 4.5% of Accelerator (e.g. 2.2 lb (1 kg)) to activate it prior to use.

The corresponding activated Part B is produced by dissolving 0.15% to 5% of hardener powder (e.g. 1 oz (30 g) to 2.2 lb (1 kg)) in the same volume of water as of activated resin (e.g. 5.3 gal (20 L)). The amount of hardener is adjusted to the needed pot life (see Table 1).

The activated resin and Part B have a pot life of approximately 5 hours at 68 °F (20 °C).

The activated components are injected in the ratio of 1:1 by volume, using a two-component injection pump, equipped with a static in-line mixer.

In cases of long open times a one-component pump can also be used.

Cleaning: Equipment can easily be cleaned of uncured material using water (if possible with a detergent).

Table 1: Adjustment of gel time under lab conditions

Amount of MasterRoc MP 303 CE Hardener	Gel Time at 50 °F (10 °C)	Gel Time at 68 °F (20 °C)		
			[%]	lb per 44 lb (kg per 20 kg) of Water
0.20%	300	130		
0.25%	245	118		
0.50%	115	63		
1.00%	78	36		
1.50%	49	27		
3.00%	38	18		
5.00%	24	14		

NOTE: The reaction time is dependent on the temperature of the components and the soil.



MasterRoc MP 303 CE

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Concrete injection product

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Water tightness	103 psi (7x10 ⁵ Pa)
Viscosity	≤ 60 cP (60 mPa·s)
Corrosion behavior	Deemed to have no corrosive effect
Volume and weight changes by air drying and water storage	Volume change 87%, Mass change 76%
Sensitivity to water	Passed
Sensitivity to wet-drying cycles	Passed
Compatibility with concrete	Passed
Application temperature	41 °F to 104 °F (5 °C to 40 °C)
Dangerous substances	Comply with 5.4

Storage and Handling

Storage Temperature: In unopened, tightly closed containers, the components of MasterRoc MP 303 CE resin may be stored for up to 12 months, if kept dry and within a temperature range of 50 °F (10 °C) to 86 °F (30 °C), protected from sunlight.

Safety: Avoid contact with skin and eyes by using the required personal protective equipment, such as overalls, gloves and safety glasses.

If contact with skin occurs, wash thoroughly using soap and water. If contact with eyes occurs, rinse thoroughly with water and seek medical advice.

The cured MasterRoc MP 303 CE is physiologically harmless.

Uncured products should be prevented from entering local drainage systems and water courses. Spillage must be collected using absorbent materials such as sawdust and sand, and disposed of in accordance with local regulations.

Refer to the Safety Data Sheet for further safety measures.

Packaging

MasterRoc MP 303 CE Resin: 49.6 lb (22.5 kg) container

MasterRoc MP 303 CE Accelerator: 2.2 lb (1.0 kg) container

MasterRoc MP 303 CE Hardener: 2.2 lb (1.0 kg) container

MasterRoc MP 303 CE Inhibitor: 2.2 lb (1 kg) container

Related Documents

Safety Data Sheets: MasterRoc MP 303 CE resin

Additional Information

For additional information on MasterRoc MP 303 CE resin, or its use in developing a concrete mixture with special performance characteristics, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

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* MEYCO MP 303 CE became MasterRoc MP 303 CE under the Master Builders Solutions brand, effective October, 2013.