

MasterRoc[®] MP 307 CE

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

Formerly MEYCO MP 307 CE*

Description

MasterRoc MP 307 CE acrylic resin is a highly reactive two-component acrylic resin with a low viscosity for good penetration. The product cures quickly, forming a rubber-like resin with the ability to withstand certain ground and crack movement. MasterRoc MP 307 CE acrylic resin is especially designed for concrete repair and is CE-certified according to EN 1504-5.

Applications

Recommended for use in:

- Concrete repair as swelling fitted filling of cracks and fissures (EN 1504-5: category S)
- Permanent sealing of tunnel linings, shafts and masonry against static ground water pressure of more than 12 bar (1200 kPa)
- Stopping minor water inflow
- Injection of injection hoses
- Ground stabilization
- Curtain injection

Features

- Very low viscosity
- Controlled gel time between 3 and 22 minutes at 68 °F (20 °C)
- Workable between 41 °F (5 °C) to 104 °F (40 °C)
- Superior flexibility (Elongation at break >300%)
- Good chemical resistance against acids, bases, solvents, fuels, etc.
- Good bond strength to fractured rock and concrete, even under wet conditions

Benefits

- Environmentally preferable – harmless in contact with ground water
- Low viscosity allows deep penetration into very fine fissures and cracks
- Good assimilation to ground movements or settlements
- Durability of more than 10 years
- Watertightness up to more than 12 bar (174 psi [1.2 MPa])
- Non-corrosive
- Not sensitive to water and closely retains its original shape (maximum change of mass -15% to +20%)

Performance Characteristics

Technical Data

MasterRoc MP 307 CE Resin

Appearance	Clear liquid
Viscosity*	5 cP (5 mPa·s)
Density*	8.76 lb/gal (1.05 kg/L)

MasterRoc MP 307 CE Accelerator

Appearance	Clear liquid
Viscosity*	2 cP (2 mPa·s)
Density*	7.76 lb/gal (0.93 kg/L)

*@ 68 °F (20 °C)

MasterRoc MP 307 CE Part B

Appearance	White liquid
Viscosity*	12 cP (12 mPa·s)
Density*	8.43 lb/gal (1.01 kg/L)

MasterRoc MP 307 CE Hardener

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

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

Appearance	White liquid
Viscosity*	7 cP (7 mPa·s)
Density*	8.60 lb/gal (1.03 kg/L)
Gel time*	3 to 15 minutes
Final curing*	10 to 25 minutes

Final properties

Appearance	Opaque, rubber-like solid
Tear strength:	> 11 psi (0.08 MPa)
Elongation at break:	> 300%
Swelling rate:	20%

*@ 68 °F (20 °C)

Guidelines for Use

Dosage and Application: The resin (e.g. 44 lb (20 kg)) is premixed with 5% of accelerator (e.g. 2.2 lb (1 kg)) to activate it prior to use.

Part B 44 lb (20 kg) is activated by premixing it with 0.2 to 5% of hardener 1.4 oz (40 g) to 2.2 lb (1 kg). The amount of hardener powder is adjusted to the needed pot life (see Table 1). In case of injections in the area of reinforcing steel, the amount of hardener powder should be limited to 1.5 % (e.g. 0.66 lb (300 g)).

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, either by usage of a two-component injection pump equipped with a static in-line mixer, or by premixing the two components thoroughly and using a one-component pump. For 1K injection pumps, please make sure that the open time is suitable and long enough.

Table 1: Adjustment of gel time under lab conditions

Amount of MasterRoc MP 307 CE Hardener [%]	lb per 44 lb (kg per 20 kg) of Water	Gel Time at 50 °F (10 °C)	Gel Time at 68 °F (20 °C)
		[min]	[min]
0.20%	1.4 (40)	24:18	22:00
0.25%	1.75 (50)	21:42	20:17
0.50%	3.5 (100)	17:15	15:17
1.00%	7 (200)	13:10	9:40
1.50%	10.5 (300)	9:40	7:10
3.00%	21 (600)	5:46	4:30
5.00%	35 (1000)	3:40	3:30

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


MasterRoc MP 307 CE

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 EN 1504-5

Concrete injection product for filling voids, fissures and cracks

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Water Tightness	103 psi (7x105 Pa)
Viscosity	≤ 60 cP (60 mPa.s)
Corrosion behavior	No corrosion
Change in volume/mass by air drying and water immersion	Air drying: approx. -15% Water immersion: approx. +20%
Sensitivity to water	Passed
Sensitivity to wet-drying cycles	Passed
Compatability with concrete	Passed
Application temperature	41 °F to 104 °F (5 °C to 40 °C)
Dangerous substances	Comply with 5.4

Product Notes

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

Packaging

MasterRoc MP 307 CE Resin: 44 lb (20 kg) can

MasterRoc MP 307 CE Accelerator: 2.2 lb (1 kg) can

MasterRoc MP 307 CE Part B: 44 lb (20 kg) can

MasterRoc MP 307 CE Hardener: 0.66 lb (0.3 kg) can

Additional Information

For additional information on MasterRoc MP 307 CE acrylic 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.

* MEYCO MP 307 CE became MasterRoc MP 307 CE under the Master Builders Solutions brand, effective October, 2013.

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