

MasterRoc[®] MP 307 CE

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

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)

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 by usage of a two-component injection pump equipped with a static in-line mixer.

Table 1: Adjustment of gel time under lab conditions

[%]	Amount of MasterRoc MP 307 CE Hardener	Gel Time at 50 °F (10 °C)	Gel Time at 68 °F (20 °C)
	ounces per 44 lb (g per 20 kg) of water	[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

Master Builders Solutions Construction Chemicals Europe Ltd.
Im Tiergarten 7, CH-8055 Zurich, Switzerland

12
EN 1504-5

Concrete injection product for filling voids, fissures and cracks
U (S2) W (1) (1/2/3) (5/40)

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.

Master Builders Solutions, a brand of MBCC Group, is a global leader of innovative chemistry systems and formulations for construction, maintenance, repair and restoration of structures. The Admixture Systems business provides advanced products, solutions and expertise that improve durability, water resistance, energy efficiency, safety, sustainability and aesthetics of concrete structures, above and below ground, helping customers to achieve reduced operating costs, improved efficiency and enhanced finished products.

Utilizing worldwide resources, the Master Builders Solutions community of experts are passionate about providing

solutions to challenges within all stages of construction, as well as the life cycle of a structure. At Master Builders Solutions we create sustainable solutions for construction around the globe.

Limited Warranty Notice

Master Builders Solutions Admixtures US, LLC (“Master Builders Solutions”) warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. MASTER BUILDERS SOLUTIONS MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of Master Builders Solutions. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. MASTER BUILDERS SOLUTIONS WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on Master Builders Solutions' present knowledge and experience. However, Master Builders Solutions assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. Master Builders Solutions reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.

© MBCC Group ■ 04/21 ■ DAT-0864
 ® registered trademark of a MBCC Group member in many countries of the world