

MasterRoc[®] MP 355

Formerly MEYCO MP 355 A3

Highly reactive, two component polyurethane injection foam to stop high volume water ingress and for ground consolidation

Product description

MasterRoc MP 355 is a two component, solvent-free polyurethane injection resin specifically designed for rapid water stopping and ground consolidation.

Fields of application

- Permanent stopping of high volume water ingress in underground structures
- Stabilisation of fractured rock, sands and gravels and land-fill materials
- Void filling (observe maximum amounts to be injected in dry ground)
- Repair of concrete structures

Features and benefits

- On contact with water, the product forms a rigid foam.
- Without the presence of water, the product also reacts and forms a hard substance. This is a significant safety advantage, as the material never remains uncured.
- On contact with water the reaction is completed within a short period of time.
- Provides structural strength and rigidity.

Packaging

Component A: 25 kg cans and 200 kg drums

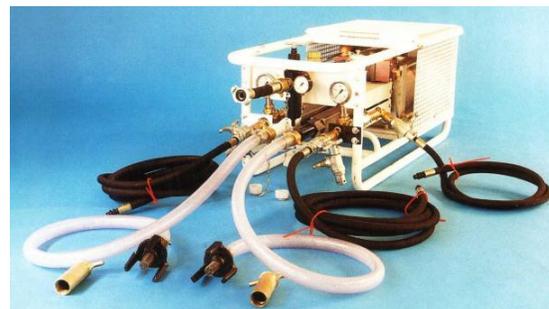
Component B: 30 kg cans and 240 kg drums

Technical data

At 20°C	Color	Viscosity mPa.s	Density kg/l
Component A	Yellowish	320	1.00
Component B	Dark brown	240	1.23
Accelerator 10	Yellowish	500	1.00
Accelerator 15	Yellowish	1000	1.00
Accelerator 25	Yellowish	20	0.90

Application procedure

Component A and B are delivered ready to use. They are injected in the proportion of 1:1 by volume using a two component injection pump equipped with a static in-line mixer nozzle, as shown below.



Please note: The foaming reaction time is dependent on the temperature of the product, and the ground water.

MasterRoc MP 355's properties can be altered by the use of three different accelerators:

- MasterRoc MP 355 Accelerator 10
- MasterRoc MP 355 Accelerator 15
- MasterRoc MP 355 Accelerator 25

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For a high foaming factor (approximately 20-25) and a rapid reaction for water stopping: Add the Accelerator 10 to Component A by 0.5 - 1% dosage (by weight of Component A).

For a dense foam (factor 7-9) with high mechanical strength for ground consolidation: Add the Accelerator 15 to Component A by 0.5 - 1% dosage (by weight of Component A).

Accelerator 25 combines the functions of Accelerator 10 and Accelerator 15. If a big amount of water is expected in soil or rock and a strong foam with a low expansion factor is needed, Accelerator 25 should be added to Component A by 0.1 - 0.5% dosage (by weight of Component A). If a particularly rapid reaction is required, one can additionally premix water to Component A, 2% by volume of Component A.

After the addition of accelerator (and water if added) to Component A, the can should be shaken vigorously to ensure even dispersion throughout the resin prior to injection works.

To achieve the best mixing of the components during injection, the inclusion of a static in-line mixer in connection with the mixing head is strongly advised. The length of the static mixer should be approximately 32 cm.

Note: MasterRoc MP 355 is not suitable for large volume void filling.

Cleaning of injection equipment

For short breaks in the injection procedure, pump Component A through the in-line static mixer nozzle. After finishing the injection, pump an appropriate agent or oil which does not contain water through the pump and injection lines.

For cleaning, the use of a flushing agent for polyurethane resin should be used.

Storage

If stored in dry conditions in unopened, tightly closed original containers and within a temperature range of +5°C and +35°C, the components of MasterRoc MP 355 have a shelf life of 12 months.

Safety precautions

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 an eyebath filled with boracic solution and seek medical advice. Refer to the Material Safety Data Sheet for safety measures. The products are 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.

Safety precaution for void filling and ground improvement

Large single volumes of resin in the ground will generate a significant amount of heat due to the exothermic reaction between the two components. Particularly during void filling and ground improvement injections one should always determine maximum amounts to be injected in order to avoid too large single volumes close to the tunnel which can cause overheating of the reacting resin, with a potential risk of smoke development and/or melting and boiling of the resin.

For these types of injections one should always apply the resin in a foaming mode (with 2% water pre-mixed to component A)

The following general recommendation is given:
Drill-hole lengths 9 m or more: Max. 400 kg / hole.
Drill-hole length 4 – 9 m: Max. 250 kg / hole.

If need for larger amounts of resin to resolve the issue, one can re-drill and re-inject 24 hours later. For drill-hole lengths shorter than 4 m one should always avoid any single concentrations or volumes of resin larger than 150 kg resin. Should backflow occur, the injection must be terminated (or pumping speed significantly reduced) until the backflow is blocked.



The Chemical Company

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The information given here is true, represents our best knowledge and is based not only on laboratory work but also on field experience. However, because of numerous factors affecting results, we offer this information without guarantee and no patent liability is assumed. For additional information or questions, please contact your local representative.

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