

MasterRoc[®] MP 355 Thix

Highly reactive, two component polyurethane injection resin / foam to stop very high-volume water ingress

Material Description

MasterRoc MP 355 Thix is a two component, solvent-free polyurethane injection resin specifically designed for rapid water stopping under difficult conditions (flowing water).

Areas of Application

- Stopping of high-volume water ingress in underground structures
- Also suitable for cold water

Characteristics and Benefits

- On contact with water, the reaction is completed within a short period of time.
- Thixotropic properties which give increased stability and anti-diluting properties when exposed to high water flows
- Suitable when structural strength is required immediately (see Part A of MP 355 Thix)
- When in contact with water, the product forms rigid foam.
- Without the presence of water, the product also reacts and forms a stiff, rubber-like material. This is a significant safety advantage as the material will be cured in any conditions.
- Very fast viscosity increase: > 2000 mPa.s at 10 seconds, > 4000 mPa.s at 20 seconds (20°C)

Packaging

MasterRoc MP 355 Thix is available in the following packaging:

- Part A: 25 kg cans and 205 kg drums
- Part B: 30 kg cans and 250 kg drums

Technical Data

(taken at 20° C)	Color	Viscosity mPa.s	Density kg/l
Part A	Yellowish	320	1.00
Part B	Dark brown	240	1.23
Accelerator 10	Yellowish	500	1.00
Accelerator 15	Yellowish	1000	1.00
Accelerator 25	Yellowish	250	0.90

Reaction Data (typical)

System variations and conditions	Time to start foaming	Time to end foaming	Expansion factor
Part A + B + water	60 (10 °C)	80 (10 °C)	8
	40 (20 °C)	60 (20 °C)	15
	20 (30°C)	40 (30 °C)	20

Application Procedure

Parts A and B are always to be injected at the volumetric ratio of 1:1 using a two-component injection pump equipped with a static in-line mixer nozzle, as shown below.



example of a two-component injection pump

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

It is possible to modify properties of cured MasterRoc MP 355 Thix by the use of different accelerators:

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

For a high foam expansion factor (approximately 15-20) and a rapid reaction for water stopping: Add the Accelerator 10 to Part A by 0.5 - 2% dosage (by weight of Part A).

For a dense foam (factor 7-9) with high mechanical strength for ground consolidation: Add the Accelerator 15 to Part A by 0.5 - 2% dosage (by weight of Part A).

For an extremely rapid foaming reaction and a high early strength of the foam, add Accelerator 25 to part A by 0.1 - 1 % dosage (by weight of part A). A foam expansion factor of 12-15 can be achieved. This foaming property is particularly suitable for extremely high-water inflow situations.

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If a particularly rapid reaction is required, one can additionally pre-mix water to Part A, 2% by volume of Part A.

After the addition of accelerator (and water if added) to Part 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 is required. The length of the static mixer should be approximately 50cm.

Cleaning of Injection Equipment

For short breaks in the injection procedure, pump Part A through the in-line static mixer nozzle. After the injection process pump an appropriate cleaning and maintenance agent (MasterRoc MP 230 CLN) or oil containing no water, through the pump and injection hoses until MasterRoc MP 355 Thix is completely washed out. Store the pump and hoses with the cleaning agent in-side and seal all openings.

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 Thix have a shelf life of 24 months.

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 boric solution and seek medical advice. Refer to the Material Safety Data Sheet for safety measures. The cured 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.

Disclaimer

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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