

MasterRoc MP 355

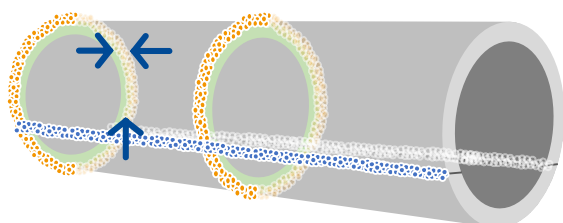
Injection expanding polyurethane resin, two-component, highly reactive.

Material description

MasterRoc MP 355 is a two-component, solvent-free injection polyurethane resin, particularly suitable for rapid sealing of water inflows and for soil consolidation.

Fields of application

- Sealing or reduction of copious amounts of water.
- Consolidation of fractured rocks, sandy / gravelly soils and inert filling material.
- Consolidation of sub-foundation land.
- Repair of concrete structures.
- Construction of waterproof sectors behind traditional tunnels or tunnels dug in TBM to compartmentalize portions to be waterproofed.



Features and benefits

- Highly reactive product, suitable where structural resistance and high impermeability are required.
- MasterRoc MP 355 always reacts, with or without water and this represents an indisputable advantage for those situations in which the humidity conditions of the mass to be injected are not homogeneous.
- When in contact with water, the product forms a rigid, closed-cell foam, while in the absence of water it gives rise to a hard and rubbery compound. It is possible to add water to component A to always have an expanding reaction.
- The reaction in the presence of water begins very quickly and is completed in a very short time.
- It is possible to modify the reaction by using an accelerator and a thixotropic agent supplied separately and added to component A.

Packaging

Component A: 25 kg tanks or 1000 kg drums.

Component B: 30 kg tanks or 250 kg drums.

Storage

If stored in dry conditions, in their original well closed containers, at temperatures between 5°C and 35°C, the components of MasterRoc MP 355 have a shelf life of 24 months.

Technical data		
Component A	Color	Brown
	Viscosity (mPa·s)	< 500
	Density (kg / l)	1.0 ± 0.01
Component B	Color	Dark brown
	Viscosity (mPa·s)	< 300
	Density (kg / l)	1.25 ± 0.03
Accelerator 15 for MasterRoc MP 355	Color	Light brown
	Viscosity (mPa·s)	< 900
	Density (kg / l)	1.0 ± 0.10

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Application sheet

Application method

Components A and B must be injected in the volumetric proportion of 1: 1 using a dual-component pumping injection pump, equipped with an in-line static mixer, as shown in the photo below.



Note: the reaction time is strongly linked to the temperature of the PU resin, the rock and the water.

It is possible to give the MasterRoc MP 355 resin two essentially different characteristics by using two different accelerators:

- MasterRoc MP 355 Accelerating I0
- MasterRoc MP 355 Accelerating I5

For a high expansion factor of the foam (approximately 20-25) and for a quick reaction to seal water ingress: add Accelerator

I0 to Component A in a percentage of 0.5-1% of the weight of Component A.

For a dense foam (factor 7-9) with high mechanical resistance for soil consolidation: add Accelerator I5 to Component A in a percentage of 0.5-1% of the weight of Component A.

In the absence of water in the soil, or if a particularly rapid reaction is required, it is possible to pre-mix the water in Component A at 2% of its volume.

After adding the Accelerator or water to Component A, shake the tank well to ensure even distribution in the resin before proceeding with the injection.

To obtain the best mixing of the components during injection, it is necessary to use an in-line static mixer combined with the injection gun.

Cleaning the injection pump

With three-piston pumps, like the one in the photo, in the event of short interruptions to work, it is possible to pump the MasterRoc MP 230 CLN cleaner through the dedicated pumping unit. Once the work is finished, also wash the pumping elements and the pipes of the two components with the MasterRoc MP 230 CLN cleaner.

Safety precautions for vacuum filling and land consolidation

Huge volumes of resin injected into the ground in a single solution generate considerable heat due to the exothermic reaction between the two components. It is not recommended to fill voids and cavities with MasterRoc MP 355. Although MasterRoc MP 355 reacts slowly, it is always necessary to determine the maximum amount to inject, in order to avoid excessively large volumes that would cause overheating of the reagent resin, with the potential risk of smoke and / or melting and boiling of the resin itself.

Therefore, observe the following general recommendations:

Drill holes 9 m long or more: max. 400 kg / hole.

4 to 9 m drill holes: max. 250 kg / hole.

If more resin is needed to get the job done, it is possible to re-drill and re-inject after 24 hours.

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For boreholes of less than 4m. always avoid single concentrations or volumes of resin exceeding 150 kg of product. In the presence of moving water, quantities can be increased and waiting times can be reduced.

Warnings

MasterRoc products are for professional use. For further information, consult the Master Builders Solutions Italia Spa area technician.

Safety instruction

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

Other services

For additional technical information, brochures, references, technical reports and technical support please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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