

MasterRoc MP 4WRE

Mortar for injections pre-mixed, single-component, anti-washout, with rheology specifically designed for injections in the presence of water, even in motion.

DEFINITION OF THE MATERIAL

MasterRoc MP 4 WRE is a pre-mixed cement mortar, single-component with maximum diameter equal to 700 µm, when mixed only with water it results in a mortar with high fluidity and free of bleeding or segregation even under high-pressure conditions. Thanks to its anti-washout features it gives a fluid mixture with high cohesion, which withstands water washout even in motion and is therefore especially suited to be injected in cavities and voids with water. The mixture is optimally pumpable.

MAIN FIELDS OF APPLICATION

The product may be used in applications such as filling the voids behind tunnel segments, also in presence of water, or in injection applications to fill and consolidate structures, in general where anti-washout features are required.

CONSUMPTION AND PACKAGING

1.36 kg of product is required to obtain one litre of mortar. Available in large 500 kg bag and in bulk.

TYPICAL PERFORMANCE

(obtained using 39% of water; T = 20 °C, water)

Description	Performance
Marsh cone UNI EN 445 (with orifice diameter 12.5 mm)	
-test performed upon completing mixing	< 30 s
-test performed 4 hours after mixing (with material kept in motion)	< 30 s
Spillage test with mini cone, UNI EN 445	140 mm
Density of the fresh mixture UNI EN 1015-6	1.830 ± 50 Kg/m ³
Chloride content UNI EN 1015-17	< 0.05%
Setting time, UNI EN 196-2	Start after about 8 hours End after about 13 hours
Compression strength, UNI EN 196-1	1 d ≥ 1 MPa 7 dd h ≥ 3.5 MPa 28 dd h ≥ 5.5 MPa
Bleeding test UNI 480-4 - UNI 11152	Absent
Bleeding test under 3.0 bar pressure (pressurised cylinder method)	Absent
Bleeding test under 3.0 bar pressure in the presence of water head (pressurised cylinder with water method)	Absent
Compression elastic modulus UNI EN 13412	4300 MPa
Dynamic elastic modulus UNI EN 12504- 4	6300 MPa
Anti-washout features (BS 8443 amended)	Weight loss < 2.5% after 5 cycles



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APPLICATION SHEET

STORAGE

Store the product in a cool, dry place indoors (5 ÷ 35 °C) away from direct contact with the sun, fire or naked flames.

MIXING

Mix MasterRoc MP 4 WRE with water, dosage is 37 - 41% of powder weight, using vertical axis mixers to obtain a consistent mixture without any lumps. Do not exceed the recommended mixing water in order to avoid either bleeding and/or reduction of the anti-washout capability.

APPLICATION

Inject the mortar with conventional injection pumps inside the suitably arranged pipes.

EQUIPMENT CLEANING

Due to the high mixture cohesiveness it is recommended to remove waste material from the equipment as soon as possible.

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This edition supersedes all previous ones.

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