

**PRODUCT DESCRIPTION**

BI MORTAR PLASTER SEAL is a fibre-reinforced mortar coating with waterproofing function.

**PRODUCT APPLICATION**

Thick waterproof plaster also suitable in conditions of negative hydraulic pressure. Particularly suitable for:

- For underground structures made of either concrete or mixed material
- To waterproof skirting at the foot of the plaster
- To repair diaphragms with a reinforcement mesh being interlaid (REVOMAT)
- To render, level and seal prefabricated elements (wells, ditches...)
- For the application of waterproof rendering mortar for wall finishing with exposed stone

ADVANTAGES

- It simplifies and reduces the application phases as it evens out and waterproofs in a single application
- Also applicable on uneven surfaces
- Excellent adhesion
- Excellent resistance to negative pressure
- Sulphate resistant

PREPARATION AND APPLICATION Preparing the surfaces and the substrate

The BI MORTAR PLASTER SEAL waterproof plaster must be applied continuously and without inserting any foreign parts such as systems and/or pipes, which must be placed above the coating.

Concrete

Clean all traces of form oil, loose parts, grease, oils, etc.

Carry out pressure-washing with pressurised water; should the roughness of the substrate be insufficient (perform adhesion tests), proceed with hydro-sandblasting/sandblasting the surfaces.

In case of degraded concrete, compensate for missing portions by using the Volteco mortar cycle (see relevant technical data sheets).

Masonry in full or mixed bricks

Clean all traces of friable, inconsistent or dirty surface parts.

Level the joints between the bricks and the gaps in general, with BI MORTAR PLASTER SEAL.

Preparation of elements of discontinuity on the surfaces (negative hydrostatic pressure)

- WATER FLOWS Seal any water inflow with TAP 3/I-PLUG quick-setting mortar (see the relative technical data sheets)
- CONSTRUCTION JOINTS Fill the construction joints by means of BI FLEX System (see relevant



technical data sheet)

- **CRACKS** Seal cracks by means of AKTI-VO 201 mastic (see relevant technical data sheet) and/or BI FLEX System
- **PENETRATIONS** Seal all penetrations, including spacers and pipes, with AKTI-VO 201 mastic
- **JOINTS** Seal all structural joints with BI FLEX System

Preparing the reinforcement mesh

Where it is necessary/useful to reinforce the BI MORTAR PLASTER SEAL coating with the REVOMAT reinforcing mesh (see relative data sheet), proceed as described in the reference technical data sheet.

For thicknesses up to 1.5 cm, the mesh can only be left out if there is no hydrostatic pressure and the substrate is suitable for the adhesion of BI MORTAR PLASTER SEAL.

For thicknesses exceeding 1.5 cm, the use of REVOMAT and relevant connectors is particularly recommended on deteriorated masonry, in solid or mixed bricks, wherever the resistance to water pressure must be improved and in the presence of salts.

Preparing the mixture

Pour the mixing water into a mortar mixer (4.4÷4.6 l per bag equivalent to 17÷18% in weight).

Slowly add the product while the mixer is running.

Mix the mixture for approximately 3 minutes, then check product workability (small variations in water will not alter the characteristics of the product).

Continue mixing the mixture for 2 more minutes.

Mixing in a concrete mixer or with a planetary mixer is possible as an alternative, while complying with the above instructions.

Application

With irregular/out of plumb and/or uneven and/or inconsistent surfaces it is advisable to apply a base layer of BI MORTAR PLASTER SEAL with a trowel, as a rough coat, and wait at least 12 hours before applying the next layer.

Apply BI MORTAR PLASTER SEAL with a trowel in the desired thicknesses.

The total thickness of the plaster may vary:

- up to 1.5 cm applied in a single layer;
- From 1.5 cm to 4 cm in two layers with REVOMAT mesh in-between.

In order to insert the reinforcing mesh, apply a first layer of mortar between 1 and 2 cm, in any case equal to half the total thickness to be achieved, embed in REVOMAT respecting the minimum limit of 10 cm in the overlaps and simultaneously fix it to the CONNECTORS 20 previously anchored to the substrate by means of BI FIX 300 chemical fixing (see relevant technical data sheets).

Make REVOMAT adhere to the substrate of BI MORTAR PLASTER SEAL without leaving any gaps, compacting the same mortar during application by compressing it via the laying tools, taking care to maintain it rough on the surface to promote adhesion of the next layer.

Then, between the end of setting and the beginning of hardening of the previous layer, apply a second layer of mortar to completely cover the mesh, compacting it as described above.

Sprayed application

The product can also be applied with a plastering machine with levelling wand after separately mixing the product, or also with a continuous mixing plastering machine equipped with an adjusting flow meter (for more information contact the Volteco Technical Service).

Finishing

Finish the surface with a spatula or straight edge.

Before applying any coatings, let it cure for at least 7 days after applying BI MORTAR PLASTER SEAL. When applied indoors, it is recommended to coat the walls with the macroporous CALIBRO as an anti-condensation layer.

It is also possible to complete the finish with X-LIME (see relative data sheet).



References available at www.volteco.com



BI MORTAR PLASTER SEAL



CONSUMPTION AND YIELD 18 kg/m² per centimetre in thickness equivalent to a yield of 13÷14 l of mortar per bag.

PACKAGING AND STORAGE 25 kg bags.
An open package is sensitive to humidity.
The products must be stored in a dry place protected from sun and humidity.

WARNINGS - IMPORTANT NOTES Do not add water to extend the pot life.
Protect the applied product from exposure to wind or sun.
Significant condensation may occur in environments with poor ventilation or high humidity.
In case of plaster interruption or structural joints, it will be required to guard the joints by means of BI FLEX System (see relevant technical data sheet).
The structures that the product is applied to must be suitably sized to resist the hydraulic pressure.
The preparation and installation data refer to normal environmental conditions (temperature +20 °C; relative humidity 60%).

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Values
Appearance	grey powder
Mixture consistency	thixotropic
Application temperature	from +5 °C to +30 °C
Workability time at +20 °C	20'
Maximum aggregate size	1.2 mm
Specific weight	> 1.9 kg/l
Mixture ratio	100 parts powder 17-18 parts liquid

Feature	Test method	Performance requirements UNI EN 1504-3 Class R4	Declared performance (*)	Certified performance (**)
Shrinkage	-	-	controlled	-
Flexural strength after 1 day	UNI EN 196-1	-	> 2.5 MPa	-
after 7 days	UNI EN 196-1	-	> 5.0 MPa	-
after 28 days	UNI EN 12190	-	> 6.5 MPa	-
Compressive strength after 28 days	UNI EN 12190	≥ 25 MPa	> 30 MPa	40.2 MPa
Chloride ions content	UNI EN 1015-17	≤ 0.05%	-	0.01%
Adhesion to the concrete	UNI EN 1542	≥ 1.5 MPa	> 2.0 MPa	2.7 MPa
Compressive modulus of elasticity after 28 days	UNI EN 13412	> 15 GPa	-	23.6 GPa
Resistance to carbonation	UNI EN 13295	dk < control concrete (0.45 MC)	-	fulfilled requisite
Capillary absorption coefficient	UNI EN 13057	≤ 0.5 kg*m ⁻² *h ^{-0.5}	< 0.5 kg* ⁻² *h ^{-0.5}	0.43 kg*m ⁻² *h ^{-0.5}
Thermal compatibility Part 1 (adhesion after 50 un/freezing cycles)	UNI EN 13687-1	≥ 1.5 MPa	-	2.30 MPa
Thermal compatibility Part 2 (adhesion after 30 thunder cycles)	UNI EN 13687-2	≥ 1.5 MPa	-	2.47 MPa
Thermal compatibility Part 4 (adhesion after 30 dry thermal cycles)	UNI EN 13687-4	≥ 1.5 MPa	-	2.27 MPa
Slipping resistance	UNI EN 13036-4	Class I: >40 units with wet test Class II: >40 units with dry test Class III: >55 units with wet test	-	Dry: class II Wet: class III
Reaction to fire	UNI EN 13501-1	Classification	-	Euroclass A1

Feature	Certifying body	Test method	Certified performance (**)
Impermeability in negative pressure (concrete structure Water/Concrete: 0.7)	IMM SA (Switzerland)	UNI EN 12390-8	7 Bar: no passage

The quoted data are obtained in a laboratory at +20 °C and 60% RH.



* Performance thresholds guaranteed by VOLTECO

** Performance values certified by accredited third parties

SAFETY

Refer to the related Safety Data Sheet.

	VOLTECO S.p.a Via delle Industrie, 47 - 31050 Ponzano Veneto (I)
28 DOP 0049 EN 1504-3:2006 1370-CPR-1299 BI MORTAR PLASTER SEAL Structural and non-structural repairs: CC repair mortar for the restoration of concrete, structural strengthening and the preservation or restoration of passivity	
Reaction to fire: Class A1 Compressive strength: Class R3 ≥ 25 MPa Chloride ions content: $\leq 0.05\%$ Adhesion: ≥ 1.5 MPa Thermal compatibility: • Part 1: Un/freezing cycles: ≥ 1.5 MPa • Part 2: Thunderstorm cycles (thermal shock): ≥ 1.5 MPa • Part 4: Dry cycles: ≥ 1.5 MPa Resistance to carbonation: $dk \leq$ concrete ref. (MC 0.45) Modulus of elasticity: ≥ 15 GPa Slip resistance: dry class II; wet class III Capillary absorption: $\leq 0.5 \text{ kg} \cdot \text{m}^{-2} \cdot \text{h}^{0.5}$ Hindered shrinkage/expansion: Not relevant Coefficient of thermal expansion: Not relevant Hazardous substances: See SDS	

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