BI MORTAR PLASTER SEAL

PRODUCT DESCRIPTION

BI MORTAR PLASTER SEAL is a fibre-reinforced multifunctional coating plaster.

UNI EN 1504-3
CLASSE R3

Rn Radon tested

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
- 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
- Protection against radon
- Sulphate resistant

PREPARATION AND APPLICATION

The preparation and installation data refer to normal environmental conditions (temperature +20°C; relative humidity 60%).

Preparing the surfaces

Before applying BI MORTAR PLASTER SEAL, it is essential to adequately prepare the application surface. In the case of reinforced concrete surfaces, remove all traces of dust, release agents, grease, oil or loose material that could compromise adhesion.
A high-pressure water wash to clean the surface is recommended.
If the surface is not sufficiently rough, hydro-blasting or sandblasting is required to improve cohesion and promote better adhesion of the coating.
In the case of solid or mixed brickwork, it is important to remove any crumbly, loose or dirty parts from the surface.
If the application surface is degraded, uneven or out of plumb, it is recommended to apply a layer of BI MORTAR PLASTER SEAL to regularise the base.
In this case, it is essential to wait at least 12 hours before continuing with further applications to ensure proper adhesion and complete hardening of the material.
The application of BI MORTAR PLASTER SEAL must be carried out continuously and without any

insertion of foreign parts, such as systems, pipes or similar elements.
Therefore, any pipes, whether already present or planned in the project, must be installed above the BI MORTAR PLASTER SEAL coating to avoid interruptions or compromises in the waterproofing 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 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
Proceed with the application of BI MORTAR PLASTER SEAL using a trowel.
It is advisable to start at the base of the wall to facilitate self-supporting mortar and to ensure even spreading, carefully compacting the material to avoid the formation of cavities and to ensure an even coating.
Then proceed with crushing with a straight edge and, if necessary, smoothing/refinishing using a trowel, to obtain a smooth, continuous surface.
For thicknesses up to 1.5 cm, it is not necessary to insert the reinforcing mesh as long as there is no hydrostatic pressure and the surface has the necessary characteristics to favour the mechanical adhesion of BI MORTAR PLASTER SEAL, i.e. good roughness and cohesion of the substrate.
For thicknesses greater than 1.5 cm and up to a maximum of 4 cm, it is recommended to integrate BI MORTAR PLASTER SEAL with REVOGRID structural preformed GFRP mesh, including REVOGRID CORNER elements, positioned and fixed using REVOGRID CONNECTOR-L connectors, or REVOMAT glass fibre AR mesh, secured using REVOGRID CONNECTOR 20 or REVOGRID CONNECTOR-L connectors according to specific design and worksite requirements (see relevant technical data sheets) in order to guarantee the strength and stability of the coating.
Ensure that the mesh is correctly positioned, so that it is half the thickness of the applied BI MORTAR PLASTER SEAL at the end of the work.
The net must be installed with precision, ensuring its flatness and stability on the surface.
During application with the reinforcement mesh already in place, it is essential to avoid the formation of cavities behind it, ensuring that the material is well compacted to achieve a uniform and continuous coating.
For applications of greater thicknesses, apply in several layers at a distance of at least 24 hours from each other; it is recommended to roughen the surface of the base layer in order to optimise adhesion of the next layer.
Alternatively, the application of BI MORTAR PLASTER SEAL can be carried out with a plastering machine, using a levelling wand after mixing the product, or with a continuous mixing plastering machine equipped with a flow meter regulator (for further information contact Volteco's 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).

BI MORTAR PLASTER SEAL




References available at www.volteco.com

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* *after 7 days* *after 28 days*	 UNI EN 196-1 UNI EN 196-1 UNI EN 12190	 - - -	 > 2.5 MPa > 5.0 MPa > 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

BI MORTAR PLASTER SEAL

Feature	Test method	Performance requirements UNI EN 1504-3 Class R4	Declared performance (*)	Certified performance (**)
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
Radon diffusion coefficient	CZECH TECHNICAL UNIVERSITY IN PRAGUE	ISO/TS 11665-13	1,4 E-10 m^2/s

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.

CE

VOLTECO S.p.a
Via delle Industrie, 47 - 31050 Ponzano Veneto (I)

23
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: ≤ 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 ≤ concrete ref. (MC 0.45)
Modulus of elasticity: ≥ 15 GPa
Slip resistance: dry class II; wet class III
Capillary absorption: ≤ 0.5 $kg*m^{-2}*h^{-0.5}$
Hindered shrinkage/expansion: Not relevant
Coefficient of thermal expansion: Not relevant
Hazardous substances: See SDS

LEGAL NOTES

Note for buyer/installer:
This document prepared by Volteco S.p.A. is provided as an aid and guideline for the buyer/installer.
This does not take into consideration the details of each single operational context, for which Volteco S.p.A. will not be held liable.
This does not change and does not extend the obligations of Volteco S.p.A.
It may vary and the installer is therefore required to update his/her information prior to each application by referring to www.volteco.com.
The above clarifications extend to the pre-post-sales technical/commercial information of the commercial network.