BI MORTAR ULTRA SEAL

PRODUCT DESCRIPTION

BI MORTAR ULTRA SEAL is a multi-purpose, three-component epoxy-cement levelling compound.
It creates a water and capillary rise impermeable coating with high mechanical and chemical performance, stabilising surfaces.

UNI EN 1504-2

Rn Radon tested

PRODUCT APPLICATION

• Coating of cement-based surfaces with high residual moisture (maximum value 10%), even if not fully cured, particularly suitable as a barrier against rising damp
• Levelling and waterproof restoration also of uneven surfaces; when mixed with quartz sand, it increases the mechanical strength and applicable thickness
• Suitable for wet structures, pipes, tubs, pools, etc...

ADVANTAGES

• High adhesion on a variety of surfaces: it guarantees excellent setting on hardened or uncured concrete, dry or wet, on even smooth screeds, ceramic or stoneware floors, natural stone and plaster, old suitably cleaned coatings
• Compatible with subsequent coatings: allows coating with acrylic, epoxy, polyurethane and cement-based coatings
• Improves substrate preparation: regulates surface absorption and eliminates dustiness of cement-based surfaces, optimising adhesion of subsequent layers
• Versatility of application: it can be added with quartz sand to increase its mechanical strength and the application thickness
• Safe and practical: solvent-free product with quick and easy application
• Protection against radon

PREPARATION AND APPLICATION

Preparing the surface

The cement surface must have a minimum compression resistance equal to 15 N/mm^2, complete absence of free water, and its surface relative humidity must not be higher than 10% (measured with a Storch electric hygrometer).
Thoroughly clean the surfaces by brushing or pressure washing to remove all traces of dust, dirt, salt deposits, efflorescence and loose parts.
In the case of old ceramic floors, tiles etc., check that they are fully bonded to the substrate.
Restore missing parts or seal any cracks by applying a suitable cement-based levelling compound.

Preparing the product

Pour component B (base) into a suitable container (minimum 14 litres) and add component A (reagent), stirring with a mixer at low speed until completely homogenised.
Next, slowly add component C (powder), keeping the mixer moving, until a homogeneous, lump-free mixture is obtained.

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Once the three components have been thoroughly mixed, depending on the desired degree of workability and the tool to be used, the mixture can be diluted with water, up to a maximum of 10% by weight (equal to a maximum of 2 litres of water).
To increase the mechanical strength and improve the application thickness, quartz sand with a grain size of 0.1-0.6 mm can be added after mixing, up to a maximum of 30% by weight.
The sand must be poured in slowly, with the mixer in motion, until thoroughly mixed.
When preparing small quantities of product, it is recommended that the weight ratio between the three components be strictly adhered to.
Manual mixing of the product is not recommended.

Application
The mixed product should be applied evenly in two or more crossed coats by brush, spatula or VOLTECO ROLLER, with an interval between them of at least 4-6 hours.
The number of coats varies depending on the type of tool used and its dilution with water in order to achieve a minimum thickness of 1 mm.
On particularly absorbent substrates, apply a first pore-tightening coat.
It will be possible to proceed with subsequent coats as soon as the surface is dry to the touch.
Protect it from rain for at least 12 hours.
Once the application is complete, wait at least 24 hours before proceeding with further processing.

CONSUMPTION AND YIELD

Product A+B+C: approx. 1.5 kg/m^2 per millimetre thickness depending on the porosity of the substrate.

PACKAGING AND STORAGE

The product is supplied in 20 kg packages:
Component A (reagent) 2.2 kg
Component B (base) 8.2 kg
Component C (powder) 9.6 kg
The product must be stored in a dry place without being exposed to frost and heat (at a temperature between +10°C and +30°C) and direct exposure to the sun before being applied.
Under these conditions it has a shelf life of 12 months.

WARNINGS - IMPORTANT NOTES

Do not apply the product on wet surfaces.
Avoid direct exposure to the sun before application.
After mixing, the product must be strictly used within the specified service life; beyond this limit, it cannot be used even if it has an adequate viscosity.
Do not add water to the mix during application if the product loses workability.
High temperatures in the room and on the surface reduce the product's pot life.
Low ambient temperatures and/or very humid air prolong the product's drying and curing time.
The preparation and installation data refer to normal environmental conditions (temperature +20°C; relative humidity 60%).
Protect from exposure to UV radiation.
Clean tools with water while the product is still fresh.

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Values
Appearance	white powder - white liquids
Mixture consistency	viscous fluid
Application temperature	from +10°C to +30°C
Workability time at +20 °C	35-40'
Maximum aggregate size	0.7 mm
Mixture ratio	16 parts of component A 60 parts of component B 70 parts of component C

Feature	Test method	Declared performance	Certified performance (**)
Specific weight		> 1.70 kg/l	
Bond strength	UNI EN 1542	≥ 1 MPa	3.07 MPa
Capillary absorption	UNI EN 1062-3	< 0.1 kg*m^{-2}*h$^{-0,5}$	0.007 kg*m^{-2}*h$^{-0,5}$

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Feature	Test method	Declared performance	Certified performance (**)
Water vapour permeability (equivalent thickness: Sd)	UNI EN 7783-2	-	SD = 1.24 m
Reaction to fire	UNI EN 13501-1	-	Class Bfl-s1

Feature	Test method	Declared performance
Water impermeabiity	UNI EN 14891 Met. A.7	150 kPa

Feature	Ente certificatori	Test method	Certified performance (**)
Impermeability in negative pressure (concrete structure Water/Concrete: 0.7)	IMM SA (Switzerland)	UNI EN 12390-8	8 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.

SAFETY

Refer to the related Safety Data Sheet.

CE

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BI MORTAR ULTRA SEAL
Protection systems of the concrete surface.
Moisture content control (MC) and increased resistivity (IR) coating

Reaction to fire: Class Bfl-s1
Water vapour permeability: Class I
Capillary absorption and permeability to water: < 0.1 $kg*m^{-2}*h^{-0,5}$
Adhesion: ≥ 1 N/mm^2
Thermal compatibility:
• Part 1: Un/freezing cycles: NPD
• Part 2: Thunderstorm cycles (thermal shock): NPD
• Part 3: Thermal cycles without immersion in de-icing salt: NPD
Crack bridging properties: NPD
Performance after exposure to the action of artificial atmospheric agents: NPD
Methods of conditioning before testing (7 days at 70°C): NPD
Linear shrinkage: NPD
Coefficient of thermal expansion: NPD
Cross cut: NPD
Slip resistance: NPD
Antistatic behavior: NPD
Adhesion on wet concrete: NPD
Hazardous substances: See SDS

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