Basic MALTA R3

Normal setting thixotropic cement mortar with low elastic modulus and compensated shrinkage for structural renovation and consolidation

Scheda Tecnica rev.01_05/2025

DESCRIPTION

Basic MALTA R3 is a thixotropic ready-to-use anti-shrinkage cement-based hydraulic binder mortar with PAN synthetic fibers and corrosion inhibitors.
It has high mechanical resistance to both short and long curing, strong adhesion to concrete, high resistance to sulphates and excellent durability even in highly aggressive conditions (marine areas, de-icing salts, acid rain). It does not contain metal particles and chlorides.
By adding water you will get a thixotropic mortar, highly adhesive, with high toughness and durability.

ADVANTAGES

- Free of metal particles and chlorides; no cracking risk.
- Excellent resistance to impact, wear and dynamic loads in general.
- Excellent workability and easy to apply (manually or mechanized).

USES

Consolidation of existing walls with CRM systems made with high resistance fiberglass mesh impregnated with thermosetting resin and preformed connectors with the reinforced plaster technique.
Basic MALTA R3 is used for the restoration of deteriorated reinforced concrete structures such as pillars, beams, cornices, balcony mouldings, bridges, road and rail viaducts, canals, dams, tunnels.

CERTIFICATIONS

Basic MALTA R3 is CE marked as R3 structural mortar according to EN 1504-3.

R3 EN 1504-3 CE

APPLICATION

Manual application		Normal curing time: 150 ± 30 mins	
Mechanical device application		Mixing water: 4,4 lt/ 25Kg variable according to the desired workability	
Max. thickness per coat: 15-30 mm for horizontal application 15-30 mm for vertical application 15-20 mm for overhead application			

The product can be used with the simple addition of drinking water, following the quantity indicated in the table. Saturate the area to be treated, taking care to eliminate any stagnant water when casting.
Mixing must be carried out in a cement mixer or in the mixer of the spraying machine for at least 5 minutes until you get a proper plastic, homogeneous, lump-free mixture. A mortar mixer or a drill equipped with an agitator can be used, it depends on the quantity to be prepared. Mixing must take place at low speed to avoid entrapping air.
Introduce the 3/4 of water and, continuously, the product and the remaining water until the desired consistency is obtained. Apply by trowel or spray with suitable plastering machines.

In the case of mixing with plastering machine (standard models), load the hopper with Basic MALTA R3 and adjust the flowmeter at a flow rate of 5-6 l/min, depending on the machine used, until the desired consistency is achieved.
In particular we suggest to use a plastering machine with the following characteristics:

- Hose diameter: 30 mm
- Hose length: 30 m
- D7-pumps
- All remaining characteristics corresponding to a plastering machine PFT G5

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MASONRY CONSOLIDATION

The substrate must be perfectly clean, compact, free from dust, grease, paint. Thoroughly clean the surface by brushing. If the substrate has cavities, irregularities or cracks of considerable size, the surface can be suitably prepared by applying a rough coat of mortar
Saturate the substrate with water, taking care to remove its excess.
Apply Basic MALTA R3 with a trowel or with a plastering machine. The maximum thickness applicable for each single coat is 30 mm. Greater thicknesses must be made in several layers, taking care to wait for the previous layer to dry before applying the next.
In conditions of environments with strong ventilation and sun exposure, an intervention that requires a curing of synthesis, which prevents the sudden evaporation of the water, may be necessary. In these cases we recommend the use of Antievaporante W.

To create reinforcements with CRM composite systems using the reinforced plaster technique, use Basic MALTA R3 in combination with Kimitech WALLMESH MR and Kimitech WALLMESH HR fiberglass mesh, suitably anchored with Kimitech PLUG VR preformed connectors.

CONSUMPTION

17 Kg/m²/cm..

PACKAGING

Bag 25 Kg.

STORAGE

Protect from humidity. Store the product in a sheltered and dry place; in these conditions and in unopened containers it remains stable for 12 months.

CHARACTERISTICS	TYPICAL VALUE
Appearance	Powder
Color	Gray
Specific apparent weight uni 9446	1,35 ± 0,1 g/cm³
Hazard classification1999/45/CE e 67/548/CEE	Irritant
Max dimension of aggregate EN 1015-1	3 mm
Apparent bulk density of fresh mortar EN 1015-6	2050 ± 50 kg/m³
Apparent bulk density of hardened mortar EN 1015-10	2058 ± 50 kg/m³
Consistency uni 7044/72	50-70 %
Mixing process en 1015-9	80 ± 30 mins
Min. Temperature of application	+5 °c
Ph of the mixture	12 ± 0,5
Start setting time en 196-3	150 ± 30 mins
End setting time en 196-3	230 ± 30 mins

CHARACTERISTICS (MIXING WATE 18%)	LIMITS EN 1504-3 FOR R3 MORTARS	TYPICAL VALUE
Compressive strength in 28 days EN 12190 [MPa]	≥ 25	In 3 days > 15 In 7 days > 25 In 28 days > 30
Flexural tensile strength EN 196/1 [MPa]	Not required	In 3 days > 2 In 7 days > 5 In 28 days > 6
Secant elastic modulus on compression EN 13412 [GPa]	≥ 15	19
Choride content EN 1015-17 [%]	≤ 0,05	≤ 0,05
Concrete adhesion (EN 1542) [MPa]	≥ 1,5	2
Thermal compatibility measured as adhesion (EN 1542) after 30 dry thermal cycles EN 13687-4 [MPa]	≥ 1,5	> 1,5
Thermal compatibility measured as adhesion (EN 1542) after 30 thundershower cycles EN 13687-2 [MPa]	≥ 1,5	> 1,5
Thermal compatibility measured as adhesion (EN 1542) after 50 freezethaw cycles with de-icing salts EN 13687-1 [MPa]	≥ 1,5	≥ 1,5
Resistance to accelerated carbonation EN 13295	Depth of carbonation, dk < Concrete MC 0,45 a/c	Ok
Water impermeability (capillar absorption coefficent, EN 13057) [Kg/m²·h$^{1/2}$]	≤ 0,5	< 0,5
Reaction to fire EN 13501-1	Euroclass	A1

WARNING

Product intended for professional use.
Given the possibility that different supplies of the same raw materials have slightly discordant colors, including a lot of production and the other may be minor color variations that do not affect in any way the technical performance of the products supplied.
Do not remix by adding water to the product when it has already started to set.
Do not add concrete, additives or other Betonfix mortars.
Before using, check bags have not been damaged, and do not use the product if there are any lumps. Use the entire contents once the bag has been opened. Take all necessary precautions to ensure correct curing of the casting. Do not use at temperatures of under +5 °C. Wet with water for the first 48 hours, or cover with plastic sheets or damp jute bags. Do not use anti-evaporation agents in case other coatings are to be performed.
The marking obligations are not related to the intrinsic nature of a given product, but to the use to which a specific material is used: before making the order in Kimia, the buyer shall submit all the documentation available to the construction supervision in order to determine the

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materials suitability (in terms of certifications and performance) in relation to the use for which they are intended.

For further information and advice on safe handling, storage and disposal of chemical products, the user must refer to the most recent Safety Data Sheet, containing physical, ecological, toxicological and other data related to safety.
All technical data shown in this Technical Data Sheet are based on laboratory tests. Actual measurement data may vary due to circumstances beyond our control.

The information and requirements indicated in this Technical Data Sheet are based on our current knowledge and experience and are to be considered, in any case, purely indicative. They cannot guarantee the final result of the applied product and they have to be confirmed by exhaustive practical applications; therefore the user must test the suitability of the product for the intended application and its purpose. Users must always refer to the latest version of the local technical data sheet related to the product.

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