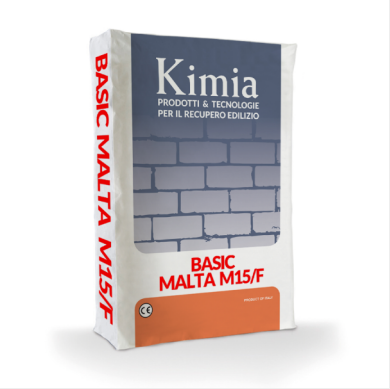

Basic MALTA M15/F

ST8-0622

M15 Natural Hydraulic lime based mortar with a maximum particle size of 1.2 mm

CVT · EN 998-1 · EN 998-2 · R2 EN 1504-3 · CE

DESCRIPTION

Basic MALTA M15/F is a ready-to-use mortar based on natural hydraulic fiber, fiber-reinforced, with granulometry maximum of 1.2 mm inert; it contains completely recyclable natural materials, fired at low temperatures, reducing emissions and energy consumption; it is free from Chromium VI; it contains traditional materials with a low content of soluble salts; in contact with water it forms very little soluble and very stable hydrate products of a basic nature.
It is CE marked as non structural mortar R2 in compliance with the UNI 1504-3 and it is CE marked according to the requirements of UNI EN 998-2 for mortar for masonry class M15 and according to UNI EN 998-1 as mortar for internal and external GP CS IV.
Basic MALTA M15/F is part of Kimitech BS ST 200 and Kimitech BS ST 400 system which got the CVT n. 207.

USES

It is used for the consolidation of masonry structures: reinforced plasters; consolidation of vaults by making collaborative castings, FRCM systems, reinforced repointing works and masonry works for foundations.

WORKS

- Structural reinforcing systems using stainless steel fabrics with organic or inorganic matrix (**SA63**);
- Masonry perimetral beams reinforced with stell fabrics Kimisteel INOX (**SA114**);
- Structural reinforcement of brick, stone and tuff masonry, with FRCM systems consisting of a 200 g/m² basalt fiber mesh and natural hydraulic lime mortar (**SA124**);
- Structural reinforcement of brick, stone and tuff masonry, with FRCM systems consisting of a 400 g/m² basalt fiber mesh and natural hydraulic lime mortar (**SA125**).

APPLICATION

	Manual application		Workability time of fresh mortar: 60 mins
	Mechanical device application		Mixing water: 4,5-5,5 lt/ 25Kg variable according to the desired workability
	Max thickness per coat: 30 mm for vertical application		

Basic MALTA M15/F must be mixed with drinking water in the quantities shown in the table.
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.
It is advisable to introduce 3/4 of the required water into the mixer, adding the product and the remaining water continuously, until the desired consistency is achieved. The product must not be added during preparation and laying with no other binder. Apply with normal manual or mechanical equipment. Do not mix the product by adding water once it has started setting.
In the case of mixing with plastering machine (standard models), load the hopper with **Basic MALTA M15/F** 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

Apply **Basic MALTA M15/F** from a distance of about 20 cm, from the bottom of the masonry towards the top, evenly. For plaster thicknesses greater than 30 mm, the application must be carried out in several coats, applying successive layers on the previous non-wrinkled layer.
Basic MALTA M15/F must be applied on clean, dust-free surfaces, inconsistent parts, paints, grease and any other material that could affect the good anchoring. Before applying the product, wet the surface until SSD conditions are achieved.

CONSUMPTION
15 Kg/m^2/cm

PACKAGING
Bag 25 Kg.

STORAGE
The product fears moisture. Store in a sheltered and dry place; in these conditions and in intact containers, the product maintains its stability for 12 months.

Characteristics	Value
Appearance	Powder
Color	Bianco fumo
Type of binder (UNI EN 459-1)	NHL 3,5 and NHL 5
pH in water dispersion	> 11
Application temperature	+2 - +35 °C
Max dimension of aggregate EN 1015-1	1,2 mm
Bulk of fresh mortar UNI EN 1015-6	1900 Kg/m³
Fresh mortar consistency UNI EN 1015-3	165 mm
Mechanical compressive strength UNI EN 1015-12	in 7 dd> 9 MPa in 14 dd> 12 MPa in 28 dd > 15 MPa
Flexural tensile strength	in 7 dd > 3,8 MPa in 14 dd > 3,9 MPa in 28 dd > 4 MPa

Characteristics (mixing water 17%)	EN 1504-3 limits for R2 mortars	Value
Compressive strength EN 12190 [MPa]	≥ 15	≥ 15
Chloride content [%]	≤ 0,05	< 0,01
Adhesion to concrete EN 1542 [MPa]	≥ 0,8	≥ 0,8
Adhesion to concrete (EN 1542) after dry cycles EN 13687-4 [MPa]	≥ 0,8	≥ 0,8
Adhesion to concrete (EN 1542) after thunder-shower cycles EN 13687-2 [MPa]	≥ 0,8	≥ 0,8
Adhesion to concrete (EN 1542) after frost-thaw cycles EN 13687-1 [MPa]	≥ 0,8	≥ 0,8
Waterproofing (capillary absorption coefficient, EN 13057) [Kg/m²·h$^{1/2}$]	≤ 0,5	≤ 0,5
Reaction to fire EN 13501-1	Euroclass	A1

Characteristics (mixing wate 17%)	Limits EN 998-2	Value
Elements ratio in weight [%]	Declared value	Binder: 25-35 Aggregates: 65-75 Additives: < 1
Chloride content [%] EN 1015-17		≤ 0,01
Compressive strentgth in 28 dd EN 1015-11 [MPa]		≥ 15
Initial shear strength [MPa] with masonry elements in compliance with EN 771		0,15 [Table value]
Capillar water absorption EN 1015-18		0,04
Water vapour permeability EN 1745		15/35 [Table value]
Reaction to fire class		A1
Hazardous substances		See SDS

Characteristics (mixing water 17%)	Limit value for GP mortar	Value
Dry bulk UNI EN 1015-10	Declared value	1900 Kg/m³
Mechanical compressive strength in 28dd UNI EN 1015-11	CS I (0,4 – 2,5 Mpa) CS II (1,5 – 5 Mpa) CS III (3,5 – 7,5 Mpa) CS IV (≥ 6 Mpa)	CS IV
Adhesion UNI EN 1015-12	Declared value	> 1 N/mm² - FP: B
Capillar water absorption UNI EN 1015-18	Declared value	W2
Water vapour permeability UNI EN 1015-19	Declared value	μ < 18
Average thermal conductivity $\lambda_{10, dry, mat}$ values UNI EN 1745	Average value as per the table (P = 50%)	0,97 W/m*K
Reaction to fire class UNI EN 13501 - 1	Declared value	A1
Durability	Declared value	NPD
Hazardous substances	Declared value	See SDS

WARNING
Product for professional use.
The use of natural raw materials may result in natural color variations from one production batch to another.
If the product is not covered, use only material from the same batch of production and organize the installation in continuity.
Only use enough water to obtain the right mix. 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.
Do not apply the mortar to flaking, loose surfaces: in this case consult our Technical Dpt.

Do not apply at temperatures under +2 °C or above +35 °C, to surfaces in direct sunlight, when it is about to rain, or on windy or misty days.
Saturate the support before the mortar application so as to avoid that the wall absorbs an excessive amount of mixing water of the mortar, which could cause its "burning", associated to possible delaminations and cracks.
If it is necessary to lay thick layers of plaster, it is recommended that this be done in successive coats of maximum 3 cm, each one applied after the previous layer has dried, so as to avoid applying excessively thick layers of fresh plaster that might slip during setting, or differences in drying time between the surface and the internal mass that might result in the formation of micro-cracks and a decreased adhesion of the macroporous plaster to the substrate.

If the product is used to make reinforced plasters with non-traditional meshes (polymeric) in order to avoid that during the mortar application the mesh be pushed at direct contact against the support, not resulting incorporated in the jet and by acting as separation layer, is essential to create a rough coat with the structural mortar, apply and fix the network and then continue with the plaster execution according to the directions indicated on the maximum thicknesses achievable per this coat, as shown before.

If a later levelling is to be carried out, this has to be done when the plaster is completely cured (wait for at least 1 week for any centimeter of thickness, and for a minimum of 3 weeks), so as to seal any shrinkage cracks that may have formed, particularly in the case of thick layers of plaster.
In case of discontinuity points, non-homogeneous or weak substrates and high thicknesses, insert **Kimitech 350** net in the chosen finish.

The Obligations of marking 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 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.

TECHNICAL SPECIFICATIONS

SK63 - Structural reinforcing systems using stainless steel fabrics with organic or inorganic matrix
SK114 - Masonry perimetral beams reinforced with stell fabrics Kimisteel INOX
SK124 - Structural reinforcement of brick, stone and tuff masonry, with FRCM systems consisting of a 200 g/m² basalt fiber mesh and mortar based on natural hydraulic lime
SK125 - Structural reinforcement of masonry in brick, stone, tuff, with FRCM systems consisting of 400 g/m² basalt fiber mesh and mortar based on natural hydraulic lime

(**SK63**) Shoring the structure if necessary. Clean the support removing any materials that can affect the good adhesion of next applications. Rounding edges (minimum radius of 2cm). Accurate sealing of existing cracks with suitable resins or mortars. In case the surface to be treated is quite irregular, smooth the surface with adequate hydraulic mortars. 2) Prime the surface with the bi-component epoxy resin in aqueous solution Kimicover FIX by Kimia S.p.A. or similar product, respecting a minimum consumption of 0,3 Kg/m² . The bi-component epoxy primer will be prepared following strictly the instructions indicated in the TDS issued by the manufacturer and it will have the following characteristcs: • Number of components: 2 (A+B); • Solvent free • Start setting time at 20°C: 2 hours; • Minium application temperature: +5 °C; • Density (A+B) EN 2811-1: 1,10 ± 0,05 g/cm³; • Refraction index of resin: 1,550; • Refraction index of hardner: 1,365. 3) Apply the first coat of Kimitech EP-TX by Kimia S.p.A. or similar product in case of organic matrix or a high mechanical resistance mortar from Betonfix, Basic or Tectoria range by Kimia S.p.A. or similar products in case of inorganic matrix. 4) Cut the unidirectional stainless steel fabric Kimisteel INOX 800 by Kimia S.p.A. or similar product, according to the length needed. While the matrix is still fresh, lay the unidirectional, stainless steel fabric Kimisteel INOX 800 by Kimia S.p.A. or similar product, by trowel slightly pressing the fabric into the matrix, to be sure the steel will be completely embedded inside the matrix. The stainless steel fabric will have the following characteristics: • Elastic module: 177,6 GPa; • Number of strands/10 cm: 16; • Cable diameter: 1 mm; • Gramage: 800 g/mq; • Type of stainless steel: AISI 316; • Theoretic thickness: 0,1 mm; • Resistance per unit width of the fabric: 123,8 N/mm. 5) Apply on the steel fabric, the next coat of matrix, by trowel, previously used for glue the fabric on the existing surface.

(**SK114**) Removal of detached parts any materials that cna affect the adhesion on the existing support. Restore accurately existing cracks with appropriate mortars. In case of an irregular surface, smooth the support with an adequate hydraulic mortar.
Lay the first line of bricks. Prime the brick surface with a bi-component synthetic resin in aqueous solution like Kimicover FIX by Kimia S.p.A. or similar product.

Apply by trowel a first coat of a M15 NHL-based mortar from Tectoria or Basic ranges by Kimia S.p.A. or similar products, respecting a consumption of 1,5 kg/m²/cm.

While the mortar coat is still fresh, apply the steel fabric Kimisteel INOX, slightly pressing down the fabric in order to obtain a good penetration in the mortar layer.

Apply the second coat of mortar and proceed with the next level of bricks.

Once all the layers are applied, drill vertical holes in order to connect with adequate connectors the new masonry permetral beams to the underlying masonry structure.

(**SK124**) (**SK125**) Demolition of existing plaster and loose parts and scarification of bed joints. Washing and wetting of the surface.
Possible reconstruction of missing or particularly damaged masonry parts.
Wetting of the substrate and application of M15 NHL-based mortar from Tectoria or Basic ranges by Kimia S.p.A. or similar product.
Between 12 and 48 hours after applying the mortar, proceed with the application of the reinforcement.
On a wet substrate with a dry surface, apply a first coat of render to the masonry using NHL-based mortar with a amximum granulometry of 1,2 mm from Basic or Tectoria ranges by Kimia S.p.A or a similar product. Installation of a baslat-fibers reinforcing mesh like Kimitech BS ST 200 or Kimitech BS ST 400 by Kimia S.p.A. or similar products, (to cut the net at the openings use shears and/or construction cutters or angle grinder), partially incorporating it into the fresh mortar, providing overlapping of the mesh strips for about 15 - 20 cm in order to guarantee mechanical continuity.

The ready-to-use mortar based on NHL 3.5 and NHL 5 natural hydraulic lime will comply with the requirements for masonry mortars (EN 998-2) type M15, tested with regard to the non-emission of gamma/radon radiation; it will use contain recyclable natural materials, fired at low temperatures, reducing emissions and energy consumption; it will contain no Chrome VI; it will contain traditional materials, have low soluble salt content. It will be prepared and applied scrupulously following the indications given on the technical sheets supplied by the manufacturer and will have the following characteristics:

- Mechanical resistance to compression EN 1015-12: at 7 days> 9 MPa; at 14 days> 12 MPa; at 28 days> 15 MPa;
- Absorption by capillarity EN 1015-18: 0.04 Kg/m² · min$^{1/2}$;
- Water vapor permeability coefficient EN 1015-19 μ <18.

The basic binder of the product will be CE marked on the basis of EN 459 009 /CPD/ A46/0003.

It is CE marked as non structural mortar R2 in compliance with the UNI 1504-3 and it is CE marked according to the requirements of UNI EN 998-2 for mortar for masonry class M15 and according to UNI EN 998-1 as mortar for internal and external GP CS IV.