

MasterEmaco A 255

Special air-entraining and anti-shrinkage additive for dehumidifying macroporous plasters. It improves workability and reduces the tendency to crack of mortars prepared on site.

MATERIAL DESCRIPTION

MasterEmaco A 255 is an anti-shrink aging additive specific for the packaging of cement-based plasters and mortars.

Mixed with sand and cement, MasterEmaco A 255 gives rise to a macroporous plaster, with a homogeneous distribution of porosity. The macroporous structure ensures breathability and containment of salts.

Due to its thermo-insulating properties, the mortar made with MasterEmaco A 255 prevents condensation on the surface of the plaster.

In addition, thanks to the particular formulation, the hygrometric shrinkage decreases by reducing the surface tension of the water inside the capillary pores.

MasterEmaco A 255 improves both the workability and the mechanical and durability properties of the plaster made on site.

FIELDS OF APPLICATION

The product is used as an additive for the following applications:

- in the realization of mortars for the restoration of masonry subject to rising damp;
- in the production of mortars to prevent the formation of unsightly efflorescence of salts on plastered walls.

Moreover, thanks to the particular formulation, it is used in all cases where it is required to improve the workability of a mortar prepared on site and to improve the durability characteristics, increasing the resistance to freeze-thaw cycles and significantly reducing the hygrometric shrinkage and hence the tendency to crack of mortars prepared on site.

FEATURES AND BENEFITS

The product, used as an additive for making mortars on site, confers the following properties:

- high vapor permeability due to the presence of air macro-bubbles uniformly distributed in the internal structure;
- anti-salt function of the plaster due to the presence of macro bubbles that allow the crystallization of the salts inside;
- dehumidifying function as it actively promotes the expulsion of capillary rising damp;

- improvement in durability: MasterEmaco A 255 strongly reduces the hygrometric shrinkage of cementitious products packaged on site and therefore reduces the tendency to crack; in addition, MasterEmaco A 255 increases the resistance to the action of freezing and thawing.
- thermo-insulating characteristics by virtue of the low specific weight and the presence of high porosity in the mortar added with MasterEmaco A 255;
- improvement of physical-mechanical compatibility: the plaster prepared with MasterEmaco A 255 has mechanical strengths similar to those typical of masonry and therefore avoids the risk of detachment;
- improvement of workability characteristics: a mortar added with MasterEmaco A 255 has improved workability and creaminess; it can be more easily applied either by hand, using a trowel or trowel, or by spraying, with a plastering machine.

CONSUMPTION

The quantity of MasterEmaco A 255 required is approximately 0.35 liters / m² per 1 cm of thickness.

PACKAGING

MasterEmaco A 255 is supplied in 5 liter containers and 20 liter cans.

STORAGE

MasterEmaco A 255 can be kept for at least 1 year in unopened packages. The packages must be stored in covered places, raised from the ground. Stack up to 2 pallets.

Protect materials from sources of humidity and frost.

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Essential characteristic obtained with standard mortars with sand / cement ratio = 3, water(2/3 water and 1/3 MasterEmaco A 255) / cement ratio = 0.3		Performances
Adhesion on concrete	NBN 813-1	0.4 MPa
Adhesion on brick substrate	NBN 813-1	0.4 MPa
Adhesion on new stone		1.75 MPa
Adhesion on old stone		0.59 MPa
Compressive strength	UNI EN 196/1	7.0 MPa
Flexural strength	UNI EN 196/1	3.25 MPa
Modulus of elasticity		10000 MPa
Water impermeability measured as a capillary absorption coefficient	UNI EN 13057	1.01 kg/m ² h ^{0.5}
Coefficient of thermal expansion (m / m ° C)		6,2 x 10 ⁻⁶ m/m °
Start setting time		56 h
End setting time		520 h
Presence of void on mortar	ASTM C 642	50%
Trapped air	DIN 18555	28%
Vapor permeability coefficient: μH ₂ O	DIN 52615	25-35

APPLICATION SHEET

PREPARING THE SUBSTRATE

The substrate must be completely clean and structurally sound.

The substrate surfaces must be clean, that is, free of grease, oil, paint, efflorescence, traces of gypsum, plaster residues, encrustations, and in general, dust that can compromise adhesion. Dry cleaning methods such as hammering or sandblasting are recommended. In the case of ancient and / or crumbly masonry, brushing and the consequent removal of the materials that detach with the use of compressed air is preferable. Avoid washing methods with water, because it can dissolve the crystallized salts present in the masonry, bringing them to the surface and thus compromising adhesion.

We also advise against the use of chemical treatments such as highly concentrated acid solutions, because they cause the precipitation of salts with a consequent reduction in plaster adhesion.

When laying the mortar, the substrate must be saturated wet. Remove any excess water.

PREPARING THE MIXTURE

MasterEmaco A 255 is added to the mixture of cement, silica sand and water.

It is recommended to mix 50 kg of cement with 150 kg of silica sand (0.2-3 mm) with 5 liters of MasterEmaco A 255 diluted in 10 liters of water. If necessary, add up to 5 liters of more water, depending on the humidity of the sand, to obtain the right workability.

It is recommended to use a washed and dry silica sand with the following particle size distribution

Aggregate dimension [mm]	Percentage [%]
> 2 mm	10-15%
1-2 mm	15-20%
0,4-1 mm	65-75%
< 0,4 mm	25-35%

The amount of MasterEmaco A 255 for the mixture varies greatly depending on the granulometric distribution of the sand.

The preparation of the macroporous plaster is preferably carried out in a cement mixer at low speed.

The right density is obtained after 10 minutes of mixing.

APPLICATION

Do not apply plasters prepared with MasterEmaco A 255 when the temperature is below 5 ° C or when it is expected to drop below 5 ° C in the 24 hours following application.

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Plasters prepared with MasterEmaco A 255 must be applied with a thickness of between 10 and 30 mm per layer, in a single application.

- By hand: apply a thin layer of adhesion with a trowel, exerting strong pressure, in order to ensure better adhesion to the substrate. If the surface of the wall is very rough, apply a rough coat with a trowel and press it firmly with a trowel. Immediately afterwards, on the still wet priming coat, apply a single layer of mortar with a thickness of no more than 3 cm.
- By spray: spray a thin layer of adhesion and compact with a trowel, exerting strong pressure, in order to ensure better adhesion to the substrate. Immediately afterwards, fresh on fresh, spray a layer of mortar with a thickness of no more than 3 cm.

If it is necessary to obtain a thickness greater than 30 mm, lay it in successive layers after one day.

The surface of each layer must be rough to allow optimal adhesion of the next.

Allow the plaster to cure for at least 7-14 days depending on the temperature and humidity conditions before applying the coating with MasterEmaco A 255, in order to prevent color variations in the finish.

CURING

In case of high temperature, dry climate or wind it is recommended to protect the surface of the plaster with moistened sheets.

Occasionally it may be necessary to moisten the finishing layer with a nebulizer until it is consolidated.

SAFETY INSTRUCTION

MasterEmaco A 255 is non-toxic, but it must not be ingested anyway.

It is recommended to wear gloves while working. Accidental splashes of material on the skin or eyes should be washed immediately with plenty of water. In case of prolonged irritation, consult a doctor.

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

OTHER SERVICES

For price analysis, specifications, supplementary brochures, references, reports and technical assistance, visit the website www.master-builders-solutions.com/it-it or contact infomac@mbcc-group.com.

Scan the QR code to visit the product page and download the latest version of this datasheet.



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