

MasterEmaco S 1130 TIX



R3 structural semirapid thixotropic mortar with high durability, high resistance to cracking with total protection of the reinforcements for repairs and smoothing from 3 to 50 mm.

MATERIAL DESCRIPTION

MasterEmaco S 1130 TIX is a structural, semi-rapid thixotropic cementitious mortar (workability time at 20 ° C about 30 minutes) with CSA technology, containing sulfoaluminate cement, with reduced environmental impact, counteracts cracking in the plastic phase, for thicknesses of 3 to 50 mm in a single layer

The innovative formulation creates a sort of slow-release "internal water tank" that allows for better maturation, drastically reducing the tendency to crack and allowing application even on particularly absorbent substrates

Thanks to the new formulation, MasterEmaco S 1130 TIX offers a protective barrier for the reinforcements, thus ensuring high durability of the restoration. The product allows interventions to be carried out even without the use of the passivating MasterEmaco P 5000 AP as long as a concrete cover greater than 10 mm is guaranteed.

FIELDS OF APPLICATION

MasterEmaco S 1130 TIX has been designed to ensure maximum effectiveness and durability in the restoration of reinforced concrete such as millimeter leveling and localized repairs for thicknesses ranging from 3 to 50 mm. Typical interventions are:

- remaking of corners and chipping of beams and pillars;
- localized and generalized restoration of exposed concrete structures (front panels, etc.);
- repair of defects or localized detachments in concrete elements of civil, industrial or commercial buildings;
- fine-grained millimeter smoothing in light gray color of reinforced concrete surfaces

MasterEmaco S 1130 TIX can be applied:

- with a trowel up to 50 mm vertically and overhead as a repair mortar thanks to the Zero Gravity feature which minimizes waste and ensures maximum yield;
- with a metal trowel as a smoothing compound for millimeter thicknesses (≥ 3 mm).



easi LIFE

The easi LIFE project was born to go beyond the consolidated, proposing an innovative approach to sustainability and able to synthesize in the absolute objectivity of a number the real sustainability of a construction solution that takes into account performance, durability and environmental impact:

$$easi\ LIFE = \frac{Performance + Durability}{Environmental\ impact}$$

easi: Empathetic **A**dded **S**ustainability Index

LIFE: Low Impact **F**or **E**nvironment

FEATURES AND BENEFITS

The peculiar characteristics of MasterEmaco S 1130 TIX are:

- resistance to cracking in the plastic phase (short term): to combat microcracking in the plastic phase, MasterEmaco S 1130 TIX contains PAN fibers (in polyacrylonitrile);
- resistance to long-term cracking: this fundamental requirement for the durability of the restoration can be assessed through the O Ring test. MasterEmaco S 1130 TIX does not show any cracks even after long curing;
- resistance to aggressive environmental agents: it is impermeable to water, sulphates and chlorides and is not subject to degradation phenomena due to the cyclic action of freezing and thawing;
- high durability: MasterEmaco S 1130 TIX, thanks to its particular formulation, guarantees effective protection for the reinforcements, avoiding corrosion phenomena due to carbonation and / or in the presence of chlorides;
- high adhesion: it also adheres to simply sandblasted concrete and, especially in overhead applications, minimizes waste (ZERO GRAVITY);
- quick paintability: thanks to the fast setting, it can be protected with water-based acrylic film-forming coatings after only 4 hours from application (at 20 ° C);
- high yield and low consumption: 16 kg / m² with a thickness of 1 cm;

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In compliance with the European Regulation (EU No 305/2011 and EU No. 574/2014) the product is provided with the CE marking according to UNI EN 1504-3 and the relative DoP (Declaration of Performance).

CE 1305
EN 1504-3
Cement based mortar (CC) for structural repair of concrete structures
R3 class

CONSUMPTION

The coverage is about 16.5 kg/m² with a coat that is 1 cm thick.

PACKAGING

MasterEmaco S 1130 TIX is available in 25 kg bags.

STORAGE

Store the product in a dry and sheltered place at a temperature anywhere between 5 and +35°C.



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Technical Information			
1504-3 class		R3	
Typology		CC	
Granulometry		Max 0.8 mm	
Chloride content EN 1015-17		<0.05%	
Colour of mix		Light grey	
Mixing ratio		4.0-4.75 l for bag (16-19%)	
Consistency of mix		Tixotropic	
Temperature of application		From 5°C to 35°C	
Packaging		25 kg bag	
Consumption		16.0 kg/m ² for 1 cm	
Workability time (at 20°C)		30 minutes	
Minimum thickness		3 mm	
Maximum thickness in single layer		50 mm	
Essential characteristic in accordance to 1504-3 with a dosage of water of 19%		Limits and classes	Performances
Adhesion to concrete	UNI EN 1542 on MC 0.40 substrate (with w/c ratio = 0.40) according to UNI EN 1766	≥ 1,5 MPa	≥ 2,0 MPa
Resistance to freezing-thawing cycles with deicing salts measured as adhesion	UNI EN 1542 after cycles UNI EN 13687/1 on MC 0.40 substrate	≥ 1,5 MPa	≥ 2,0 MPa
Resistance to thunder shower cycles measured as adhesion	UNI EN 1542 after cycles UNI EN 13687/1 on MC 0.40 substrate	≥ 1,5 MPa	≥ 1.5 MPa
Resistance to thermal cycles without deicing salts measured as adhesion	UNI EN 1542 after cycles UNI EN 13687/1 on MC 0.40 substrate	≥ 1,5 MPa	≥ 1.5 MPa
Resistance to accelerated carbonation	UNI EN 13295	Carbonation depth ≤ that of reference concrete MC 0.45 (with w/c ratio = 0.45) according to UNI EN 1766	Specification obsolete
Water impermeability measured as capillary absorption coefficient	UNI EN 13057	≤ 0,5 kg·m ⁻² ·h ^{-0,5}	≤ 0,5 kg·m ⁻² ·h ^{-0,5}
Elastic modulus	UNI EN13412	a 28 gg ≥ 15.000 MPa	22000 MPa
Crack test (O Ring test)	-	-	No crack after 180 days
Compression strength	UNI EN 12190	a 28 gg ≥ 25 MPa	1 g > 10MPa 7 gg > 20 MPa 28 gg > 35 MPa
Tensile strength in bending	UNI EN 196-1	-	1 g > 2 MPa 7 gg > 4 MPa 28 gg > 6 MPa
Test to determine the thixotropy characteristics - brick test	-	-	Test passed successfully

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APPLICATION SHEET

PREPARING THE SUBSTRATE

All necessary precautions must be taken to avoid damage to the structures. When the degradation is superficial (millimeter thickness) the preparation of the support must be done by sandblasting or hydro-sandblasting. For interventions of centimeter thickness, the removal of degraded concrete can be done by mechanical chiselling performed with light breakers or by hydrodemolition ensuring a high roughness of the substrate (+/- 5 mm). The edges of the intervention area must be at right angles or dovetail, avoiding "V" finishes. Define the intervention area with a clean cut of the same for a depth of at least 3 mm. Any inconsistent or contaminated concrete must be removed using an appropriate technique.

CLEANING REINFORCED BARS

In the presence of corroded reinforcing bars, after having completely freed and cleaned them by metal brushing or sandblasting to eliminate the rust, the Designer / Works Manager, at his discretion, can decide whether to apply the MasterEmaco P 5000 AP protective iron before proceed with the reconstruction of the section with MasterEmaco S 1130 TIX mortar. In fact, this treatment is not strictly necessary using MasterEmaco S 1130 TIX mortar since, thanks to the innovative formulation, it guarantees complete protection of the bars (Steel Protection: dk = 0) as long as the minimum concrete cover thickness is at least 10 mm.

CLEANING AND SATURATION OF CONCRETE

Cleaning and saturation of the substrate concrete must be carried out with pressurised water (80 ÷ 100 atm and using hot water in winter). This operation is crucial in order to prevent the concrete substrate to steal water from the mixture. Inaccurate saturation leads to the loss of adherence and to the cracking of the added material. The use of pressurised water also guarantees effective cleaning of the surfaces in order to remove dust and small inconsistent parts that may be present after the milling of the concrete. The cleaning and saturation of the surfaces are crucial operations for obtaining high adherence values between the substrate and the added material.

APPLICATION TEMPERATURE

MasterEmaco N 1130 TIX can be applied when the ambient temperature is between +5°C and +35°C. When the temperature is between 5 ÷ 10°C mechanical resistances develop more slowly. We therefore recommend storing the bags in a heated environment and applying the mortar in the mid-hours of the morning.

PREPARING THE MIXTURE

The mixing must be carried out with a drill with a whisk at low speed, in order not to favour the incorporation of air into the mortar. The mixing must last until a plastic, homogeneous and lump-free mixture is obtained by gradually adding the water to the powder at a rate of 4.0-4.75 liters per bag. Let the dough rest for about 2-3 minutes, then stir it quickly. Hand mixing is not recommended.

APPLICATION

Apply MasterEmaco S 1130 TIX with a thixotropic consistency until the desired thickness is reached. If the reinforcing bars are protected with the passivating agent MasterEmaco P 5000 AP, follow the application instructions in the product data sheet

FLOATING

Proper floating is essential to effectively counter the formation of micro-cracks resulting from plastic shrinkage. Floating must be applied with a sponge float after sufficient time has elapsed following the application, depending on the weather.

The time interval between the application and the float finish depends on the first hardening phase of the mortar, which is determined by placing your hand on the surface and your fingers do not sink but leave a light mark on the mortar.

HARDENING

It is always advisable to carry out a correct wet maturation of the surfaces exposed to the air. In the case of particularly adverse conditions characterized by low relative humidity and high ventilation, both in hot and cold climates, in the absence of humid ripening, we recommend using the products of the MasterKure line.

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PROTECTION

To lengthen the useful life of the structure, enhancing durability even in areas which require no maintenance, it is always recommended to apply a protective system of the MasterProtect line on the entire structure. This acts as a barrier to the entrance of aggressive environmental agents, also improving the aesthetic appearance of the structure.

SAFETY INSTRUCTION

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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This version supersedes all the previous ones.