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SCHEDA TECNICA

MX 300
Tixotropico Plus Rapid

QUICK-SETTING THIXOTROPIC MORTAR IN R4 CLASS

CONFORME ALLA NORMA EUROPEA R4 MX 300 TIXOTROPICO PLUS RAPIDO MALTA DA RIPARAZIONE EN 1504-3

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AICert l'ente di certificazione

PRODUCT
Single-component, fibre-reinforced, quick-setting thixotropic mortar with controlled shrinkage for restoration of concrete structures

CHARACTERISTICS
MX 300 Tixotropic Plus Rapid is a powder product composed of special cements, selected aggregates, additives and synthetic fibers, which mixed only with water, it has an excellent workability and high thixotropy. When cured, MX 300 Tixotropic Plus Rapid has high mechanical strengths, waterproofing properties, excellent adhesion to new or existing concrete surfaces (not smooth ones and previously saturated with water) and reinforcing bars (previously treated with KF 380).

APPLICATION FIELD
Recovery of concrete coverings damaged by corroded reinforcing bars. Suitable for repairing industrial floors and for construction work on roads which need to be quickly reopened to traffic. Fixing urban fixtures, inspection shafts and manholes in place, etc.

SUBSTRATES
Reinforced concrete structures.

CONSUMPTION
18,0 - 19,0 kg/sqm per cm of thickness.

PACKAGING
25 kg bags on pallets of 1500 kg.

STORAGE
MX 300 Tixotropic Plus Rapid can be stored 12 months in a dry place in its original packaging.

ITEM SPECIFICATIONS
Recovery and strengthening of reinforced concrete structures, fixing of concrete elements and repair of industrial and road floors must be made by applying fast-setting and hardening thixotropic mortar with pozzolanic reactivity, such as Edilcol Italia MX 300 Tixotropic Plus Rapid. The product must meet the minimum requirements defined by EN 1504-3 for structural mortars of class R4; mixed only with water, it must have, after 28 days, a compressive strength > 45 N/sqmm.

PREPARATION of the substrate and the mortar

- Remove the degraded and loose concrete until the substrate is solid, resistant and rough.
- Clean the concrete and reinforcing rods until they are free of dust, rust, oils, greases, efflorescences, paint, etc, by sand-blasting.
- Saturate the substrate with water, so remove the excess water or wait for the evaporation.
- For concrete repair, apply with a brush a first layer of passivating mortar for anti-rust treatment of reinforcement irons, KF 380, on the exposed metallic reinforcement; then apply a second layer also on the concrete to recover.
- **In the concrete mixer:** Pour into the mixer approximately 3,5-4,0 liters of water, for each bag, to obtain the required consistency (application with a trowel or spray) and slowly add MX 300 Tixotropic Plus Rapid in a continuous flow. Mix for 1 to 2 minutes, then make sure the mix is well blended. Scrape any unblended powder from the sides of the mixer. Mix again for another 2 to 3 minutes.
- **Manually:** it is recommended to mix small quantities each time pouring in a bucket the amount of required water, about 17% in weight of the dust; slowly add MX 300 Tixotropico Plus Rapid in a continuous flow. Mix for 5 to 6 minutes until obtaining a homogeneous mixture. Mixing by hand can require a larger amount of water which would change several of the mortar's mechanical characteristics.

APPLICATION

- Apply the product by hand (pressing well on support) in layers up to 4 cm thick.
- Smooth off the surface immediately with a finishing trowel.

RECOMMENDATIONS

Do not add other products to the mixture of the MX 300 Tixotropic Plus Rapid and do not mix or add water once the mix has begun to set. Do not use MX 300 Tixotropic Plus Rapid on gypsum-based, painted surfaces or on friable, smooth and not absorbent substrates.
Avoid outdoor application in very hot or windy days, on ice substrates, during the thaw or with risk of frost for the 24 hours following the application and at temperatures lower than +5 °C or higher than + 35 °C.
Protect MX 300 Tixotropic Plus Rapid wetting the treated surfaces, in order to avoid the water evaporating too quickly and causing the formation of surface cracks. Wash working tools after use.

DATI TECNICI

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Appearance:	grey powder	
Composition:	special cements, selected aggregates, synthetic fibers, additives	
Particle size:	≤ 3,0 mm	
Application temperature:	+ 5°C / + 35°C	
Mixing water:	≈ 16%	
Density of fresh mortar:	≈ 2200 Kg/m^3	(EN 1015-6)
Density of hardened mortar:	≈ 1900 Kg/m^3	(EN 1015-10)
Pot life:	< 20 minutes (a 20°C)	
Setting time (start/end) by Vicat needle:	30 minutes/1 hour	
Minimum feasible thickness:	> 1,0 cm	
Maximum thickness achieved:	≤ 4 cm	
Set to light foot traffic:	after 4 hours (also with heavy vehicles)	
Waiting time for smoothing:	> 12 hours (completely dry support)	
Chloride ions content:	≤ 0,05%	(EN 1015-17)
Compressive strength (1 day/7 days/28 days):	> 25,0 / > 30,0 / > 45,0 N/sqmm - Class R4	(EN 12190)
Flexural strength (1 day/7 days/28 days):	> 5,0 / > 7,0 / > 8,0 N/sqmm	(EN 12190)
Modulus of elasticity (28 days):	> 20 GPa	(EN 13412)
Bonding strength to concrete (28 days):	≥ 2,0 N/sqmm	(EN 1542)
Thermal compatibility after freeze-thaw cycles:	≥ 2,0 N/sqmm	(EN 13687-1)
Slip resistance:	Class II	(EN 13036-4)
Resistance to carbonation:	Depth of carbonation (dk) ≤ Depth of carbonation reference of concrete [MC(0,45)]	(EN 13295)
Capillary absorption:	≤ 0,5 Kgm^{-2}h$^{-0,5}$	(EN 13057)
Resistance to fire:	Class A1	
Contribution of smoking:	none	
Hazard classification:	none	(EC 99/45)

edilcol ITALIA
Edilcol Italia srl - Ctr. Piana - Zona Industriale - 86019 Vinchiaturo (CB) - Italy
Tel. +39 0874/340039 - 340007 - Fax +39 0874/340023 - info@edilcol.com - **www.edilcol.com**