

galileo

TIXO

Thixotropic mortar with offset withdrawal for the structural restoration of elements in reinforced concrete



Product description

GALILEO TIXO is a premixed mortar, cementous, mono-component, with offset withdrawal, reinforced with fibers designed to resist the action of aggressive agents, complies with class R4 according to UNI EN 1504-3.

Supply and Storage

Packaging: 25 kg bag (60 bags pallet - 1500 kg.)

GALILEO TIXO is available in special paper and high-density and thickness polyethylene bags that allow for the product to be stored in a dry place for at least 12 months, without loss of performance characteristics and in particular those related to expansive capacity.



Surface Preparation and Application

Once the degree of concrete deterioration is identified, remove the damaged concrete through high pressure water-blasting or by mechanical means, to be made with pneumatic hammers. The surface roughening is thus a necessary condition to combat the expansion of the material, the mechanism through which the withdrawal compensation is performed. Incorrect preparation of the contact surface could reduce the adhesion characteristics of the product or even promote abnormal behavior. In the presence of outcropping iron reinforcements, it is necessary to clean them of rust by sand-blasting in order to eliminate the degraded and peeled parts of material which might still be present. Once brought to white, cover the reinforcements with a layer of GALILEO PASSIVANTE, specific slurry for reconditioning iron reinforcements. For interventions which require a thickness of GALILEO TIXO less than 2 cm, it is not necessary to apply additional meshes. If the intervention requires a higher thickness (up to 5 cm.), it is necessary to apply an arc-welded reinforcement (Ø5 and 10x10 mesh) needed to ensure the contrast. In particular, the mesh should be firmly fixed to the support at a distance of 1 cm. (by means of spacers), so that the sprayed material may fit between the mesh and the concrete surface. As last preparation, it is necessary to saturate the concrete with water, checking for the presence, and

remove, if any, of areas of stagnation. Humidifying the support is crucial in ensuring a good adhesion between mortar and concrete.

The mixing of GALILEO TIXO must be done in mixer or blender machine sprinkler. It is preferable not to use, for the mixing machines with continuous cycle. For limited interventions it is possible to mix by using a power drill, avoiding the excessive incorporation of air. Always pour the water first (4/5 of total) and then the powder. After a first blending, add the remaining water quantity and mix to obtain a homogeneous mixture, free of lumps with a spread of about 175 mm. GALILEO TIXO should be mixed with water at a rate of approx. 15-16 liters per 100 kg. of powder (approx. 3,9 liters per 25 kg bag).

GALILEO TIXO can be applied by hand trowel or by spraying with a plastering machine. In any case, the surface should be strongly roughening, clean and saturated with water. If there is an arc-welded reinforcement mesh, it must ensure an adequate coverage (2 cm) of the reinforcement. Once the product has reached the condition known as "out of touch", finish with a float. A proper finishing can effectively counteract the appearance of any superficial cracks.

Fields of use

GALILEO TIXO is designed for interventions of structural restoration of large buildings and/or items in deteriorated reinforced concrete. It can be applied with a plastering machine (type M5 or Maltech Turbosol) or, in limited interventions, with a trowel.

Technical data

Classification according to UNI EN 1504-3	R4
Water in the mix	17 % per bag 4 - 5 litres
Spread (in mm)	175 ± 5
Particle size	0 - 3 mm
Resistance to compression UNI EN 196/1	1 day: > 10 MPa 7 days: > 35 MPa 28 days: > 60 MPa
Resistance to flexion UNI EN 196/1	1 day: > 3 MPa 7 days: > 5 MPa 28 days: > 9 MPa
Water impermeability	< 0,5 kg*m ² *h ^{-0.5}
Elastic module UNI 6556 (28 days)	ca. 30.000 MPa
Adhesion to concrete (UNI EN 1542)	> 2 MPa
Contrasted expansion (UNI 8147)	1 day > 0,05%
Contrasted expansion at surface (UNI 8147 modif.)	1 day > 0,03%
CO ₂ penetration by phenolphthaleine coloration method	specification passed
Consumption	approx. 18 kg/m ² per cm thickness

Disclaimers

GALILEO TIXO should be applied at temperatures between 5°C and 30°C; in case of low temperatures (5°C to 10°C), it is recommended to mix the material with warm water (30°C to 40°C). Conversely, if ambient temperatures are high, it is recommended to mix the material with cold water. In the case of low temperatures, mechanical performance may develop somewhat slower.

It is advisable to protect the jet in the early stages of hardening, especially in the presence of forced ventilation and direct exposure to solar radiation, with temperatures > 30°C.

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The reported data refers to Quality Control tests in standard environmental conditions. Practical applications in the construction sites may detect significantly changed data, depending on operating conditions, so the information on the Card is only indicative because the user must always check its suitability for intended use of the product by taking responsibility for the use. Fornaci Calce Grigolin S.p.A. reserves the right to make technical changes of any kind without prior notice.