



ICC Premiscelati

REPAIR TIXO R4

**FIBER-REINFORCED TIXOTROPIC WITH COMPENSATED SHRINKAGE
FOR THE RESTORATION OF STRUCTURAL CONCRETE CLASS R4.**



Description:

REPAIR TIXO R4 is a special pre-mixed powder mortar, thixotropic, for the restoration of structural concrete. It has compensated shrinkage and high mechanical performance, composed of special hydraulic binders, selected aggregates, specific additives, and synthetic fibers. **REPAIR TIXO R4** does not drip and, thanks to its high mechanical performance, it is recommended for restoring degraded concrete structures both vertically and horizontally.

REPAIR TIXO R4 complies with the current EN 1504-3 standard for R4 class mortars of PCC type and meets the principles 3 [CR], 4 [SS], and 7 [RP] defined by the EN 1504-9 standard.

Application fields:

Structural restoration of degraded concrete structures. It can be used indoors and outdoors, vertically and horizontally, on floors, walls, ceilings, columns, pillars, beams, balcony fronts, cornices, industrial flooring, etc. **REPAIR TIXO R4** is especially ideal for reconstructing the rebar cover layer in structures damaged by rebar oxidation and for general concrete structure reconstruction.

Preparation of substrates:

Ensure that the substrates are solid and consistent, free from oil, release agents, dust, traces of plaster or efflorescence, detached parts, and general dirt. The deteriorated or imperfectly adhered concrete must be removed until reaching solid and resistant material. Do not apply on smooth substrates; in this case, roughen the surface strongly (shot blasting or scarification is recommended) and, if necessary, add any contrasting steel bars. In the presence of deteriorating reinforcement bars, it is necessary to remove the oxidized part (rust) with suitable tools (metal brush or sandblasting) and coat the metal with the anti-oxidant and protective mortar **PASSIVANTE ICC**. Remove dust with compressed air or a pressure washer, then wet the surfaces to be treated with clean water until saturation (wet until water refusal). Before applying **REPAIR TIXO R4**, ensure that no water stagnation remains on the surface; if so, dry the surface with rags or compressed air jets.

Preparation of mortar:

REPAIR TIXO R4 should be mixed with a concrete mixer. Approximately 4.6-4.9 liters of clean water should be added per 25 kg bag, and then the powder should be added slowly. The mixture should be thoroughly mixed until a homogeneous and lump-free mortar is obtained. It is recommended to turn off the concrete mixer and remove any unmixed parts from the walls. Mixing with a low-speed mixer is only recommended for small quantities of mortar, and manual mixing is always discouraged.

Application:

REPAIR TIXO R4 can be applied by hand using a trowel or spatula, without the need for formwork, even in vertical applications. The thickness of each layer should be between 5 and a maximum of 40 mm. If a second layer is needed, the surface of the first layer should not be smoothed, and the second layer should be applied before the previous layer has fully set (within 4 hours). In the final stage, the surface should be smoothed using a plastic float until a flat and closed surface without micro-cracks is achieved. After mixing with water, the mortar remains usable for approximately 1 hour*.

Consumption:

Approximately 19 kg/m² for every centimeter of applied thickness.

TECHNICAL DATA

Appearance:	Grey powder	
Maximum grain size:	1,25 mm	
Bulk density (powder):	1,5 gr/cm ³ approx.	
Bulk density (fresh mortar):	2300 kg/m ³ approx.	
Mixing water per 25 kg bag:	4,6÷4,9 liters	
Working time:	approx. 1 h*	
Maximum achievable thickness (per single layer):	40 mm	
Allowed application temperatures	from +5°C to +30 °C	
FINAL PERFORMANCE	According to EN 1504-3	REPAIR TIXO R4
Compressive strenght (EN 12190):	≥ 45 MPa	≥ 50 MPa
Elastic modulus under compression (EN 13412):	≥ 20 GPa	≥ 20 GPa
Adhesion to concrete (EN 1542):	≥ 2 MPa	≥ 2MPa
prevented shrinkage/expansion (EN 12617-4)	≥ 2 MPa	≥ 2 MPa
Capillary absorption (EN 13057):		≤ 0,5 kg/(m ² ·h ^{0.5})
Carbonation resistance (EN 13295):	$d_k \leq$ cls of control [MC(0,45)]	Passed test
Fire reaction :	Euroclass A1	

*Data expressed at (20±2)°C and (65±5)% relative humidity. Lower temperatures prolong maturation and hardening times.

Equipment cleaning:

Hands and tools should be washed with plenty of clean water before the product begins to set. Mechanical means may be required for cleaning afterward.

Hygiene and safety:

EUH 208 Contains cement. May cause an allergic reaction. The cement in the product can cause skin irritation and serious eye damage. Do not breathe in the dust, ventilate the area during mixing, and protect yourself properly with gloves, protective clothing, and goggles. Before use, read the instructions on the packaging carefully and consult the Safety Data Sheet.

Packaging:

REPAIR TIXO R4 is supplied in 25 kg paper bags on wooden pallets weighing 1500 kg.

Storage:

Store the product in intact original packaging in cool and dry areas. Do not disperse the powders. The product complies with DM 10/05/2004. Chromium VI content is less than 2 ppm. The properly stored product must be used within 6 months from the packaging date stamped on the bag.

Capitolato Specifications:

The reconstruction of missing parts of degraded reinforced concrete beams or pillars and the restoration of deteriorated parts of floors, steps, cornices, balconies, and fronts, both indoors and outdoors, will be carried out using the fibrous cement mortar, thixotropic, with compensated shrinkage (such as **REPAIR TIXO R4** produced *by Industria Calce Casertana Srl*), to be mixed with water only and applied in thicknesses from 0.5 cm up to 4 cm per layer. After 28 days from application, the compressive strength should be not less than 45 MPa (classified as R4 according to EN 1504-3).

Warnings:

Do not apply on sunlit surfaces or in strong wind conditions. It is always necessary to wet the surfaces with water until saturation one hour before starting the application. Do not apply on surfaces at risk of freezing within the next 24 hours. In hot weather, to avoid possible cracking or detachment, it is important to protect the surfaces from rapid drying by repeatedly wetting them with sprayed water. Protect the completed work from rain, washouts, freezing, and direct sunlight. It is recommended not to add foreign products.

PRODUCT FOR EXCLUSIVE PROFESSIONAL USE

All data and indications provided in this technical data sheet, although resulting from laboratory tests carried out and our direct application experiences, due to the infinite variables related to site conditions, are to be considered purely indicative in any case. Therefore, before applying the product, the user is required to determine if it is suitable for the intended use, under the specific hygrothermal and application conditions expected at the time of use, and in any case, they assume full responsibility. We are not responsible for any damage to people or property resulting from improper use of the product.