



# ICC Premiscelati

## REPAIR TIXO R4 RAPID

FIBER-REINFORCED TIXOTROPIC SHRINKAGE-COMPENSATED  
MORTAR FOR CONCRETE RESTORATION WITH RAPID SETTING AND  
HARDENING CLASS R4



### Description:

**REPAIR TIXO R4 RAPID** is a special pre-mixed powder mortar for the rapid repair of structural concrete. Highly thixotropic, with compensated shrinkage, rapid setting and hardening, and high mechanical performance, it is composed of special hydraulic binders, selected aggregates, specific additives, and synthetic fibers. **REPAIR TIXO R4 RAPID** does not drip and, thanks to its exceptional mechanical characteristics, it is recommended for quickly restoring degraded concrete structures, both vertically and horizontally.

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

### Application fields:

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

### Preparation of mortar:

Ensure that the substrates are solid and consistent, free from oils, disarming agents, dust, traces of plaster or efflorescence, loose parts, and general dirt. Deteriorated or poorly adhered concrete must be removed until reaching solid and resistant material. Do not apply on smooth substrates; in such cases, strongly roughen the surface (shot blasting or scarification is recommended) and, if necessary, add any contrasting iron. In the presence of deteriorating reinforcements, it is necessary to remove the oxidized part (rust) with appropriate 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 saturate the surfaces to be treated with clean water (wet until water refusal). Before applying **REPAIR TIXO R4 RAPID**, ensure that no water is left on the surface; if so, dry the surface with rags or compressed air jets.

### Preparation of mortar:

**REPAIR TIXO R4 RAPID** should be mixed using a low-speed mechanical stirrer. Add the powder to approximately 15-16% clean water (around 3.5-4 liters per 25 kg bag). Mix slowly until a homogeneous and lump-free mortar is obtained. The product sets rapidly, so it is not suitable for mixing in a concrete mixer. After mixing with water, the mortar remains usable for approximately 30 minutes\*.

### Application:

Apply **REPAIR TIXO R4 RAPID** by hand, using a trowel or spatula, without the need for formwork, even vertically, in thicknesses ranging from 5 to a maximum of 30 mm per layer. If a second layer is required, do not smooth the first layer and apply the second layer before the previous layer has fully set (within 4 hours). In the final phase, smooth the surface using a plastic trowel until a flat and closed surface is achieved, free of micro-cracks.

### Consumption:

Approximately 19 kg/m<sup>2</sup> for every centimeter of applied thickness.

### TECHNICAL DATA

Aspetto:	Grey powder
Maximum grain size	1,25 mm
Bulk density (powder):	1,4 gr/cm <sup>3</sup> approx.
Bulk density (fresh mortar):	2100 kg/m <sup>3</sup> approx.
Mixing water per 25 kg bag:	3,5÷4 liters
Working time:	approx. 30 minutes*
Maximum achievable thickness (per single layer):	30 mm
Allowed application temperatures	from +5°C to +30 °C

FINAL PERFORMANCE	According to EN 1504-3	REPAIR TIXO R4 RAPID
Compressive strength (EN 12190):	≥ 45 MPa	≥ 45 MPa
Elastic modulus under compression (EN 13412):	≥ 20 GPa	≥ 20 GPa
Adhesion to concrete (EN 1542):	≥ 2 MPa	≥ 2,8 MPa
prevented shrinkage/expansion 12617-4)	≥ 2 MPa	≥ 2,5 MPa
Capillary absorption (EN 13057):		≤ 0,5 kg/(m <sup>2</sup> ·h <sup>0.5</sup> )
Carbonation resistance (EN 13295):	$d_k \leq \text{cls di controllo}$ [MC(0,45)]	Prova superata
Fire reaction:		Euroclass A1

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

### Equipment cleaning:

Wash hands and equipment thoroughly with plenty of clean water before the product starts to set; afterwards, mechanical means may be required.

### Hygiene and safety:

EUH 208 Contains cement. May cause an allergic reaction. The cement in the product can cause skin irritation and severe eye damage. Avoid breathing dust, ventilate the area during mixing, and protect yourself adequately with gloves, protective clothing, and goggles. Before use, carefully read the instructions on the packaging and consult the Safety Data Sheet.

### Packaging:

**REPAIR TIXO R4 RAPID** 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 lower than 2 ppm. The properly stored product should be used within 6 months from the packaging date stamped on the bag.

**Capitolato Specifications:**

The rapid 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 rapid-setting and hardening, thixotropic, and compensated shrinkage fiber-reinforced cement mortar (type **REPAIR TIXO R4 RAPID** produced by **Industria Calce Casertana Srl**). Mix the product with water only and apply in thicknesses ranging from 0.5 cm up to 3 cm per layer. After 28 days from application, the compressive strength should be no less than 45 MPa (classified as R4 according to EN 1504-3).

**Warnings:**

Do not apply on sun-exposed surfaces or in strong winds. It is always necessary to wet the surfaces with water until refusal one hour before starting the application. Do not leave the bags exposed to sunlight before use. Do not apply on surfaces at risk of freezing in 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 misted 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 information provided on 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, should 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, in the specific hygrothermal and application conditions foreseen at the time of use, and in any case, the user assumes full responsibility. We are not responsible for damages to people or property resulting from improper use of the product.*