



# ICC Premiscelati

## REPAIR TIXO R3

**FIBROUS CEMENTITIOUS MORTAR, THIXOTROPIC, WITH COMPENSATED SHRINKAGE FOR THE RESTORATION OF STRUCTURAL CONCRETE R3 CLASS.**



### Description:

**REPAIR TIXO R3** è is a special pre-mixed powder, thixotropic, for the restoration of structural concrete. It has compensated shrinkage and high mechanical performance and is composed of special hydraulic binders, selected aggregates, specific additives, and synthetic fibers.

**REPAIR TIXO R3** does not drip and, thanks to its high mechanical performance, is recommended for restoring degraded concrete structures both vertically and horizontally.

**REPAIR TIXO R3** complies with current EN 1504-3 regulations for R3 class mortars of PCC type and meets the principles 3 [CR], 4 [SS], and 7 [RP] defined by EN 1504-9.

### 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 R3** is especially ideal for reconstructing the cover layer of structures damaged by reinforcement 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, loose parts, and dirt in general. Deteriorated or poorly adhered concrete must be removed until reaching solid and resistant material. Do not apply on smooth substrates; in such cases, roughen the surface strongly (shot blasting or scarification is recommended) and, if necessary, add any contrasting iron. In the presence of deteriorating reinforcement, 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 wet the surfaces to be treated with clean water until saturation (wet until water refusal). Before applying **REPAIR TIXO R3**, 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 R3** should be mixed with a concrete mixer. Approximately 4.1 to 4.4 liters of clean water should be added per 25 kg bag, followed by slowly adding the powder. 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 scrape any unmixed parts from the walls. Mixing with a low-speed mixer is only recommended for small quantities of mortar. Manual mixing is always discouraged.

### Application:

**REPAIR TIXO R3** can be applied by hand using a trowel or a spatula without the need for formwork, even in vertical applications. The thickness of each layer should be between 5 mm and a maximum of 30 mm. If a second layer is required, 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 trowel until a flat and closed surface without micro-cracks is achieved. After mixing with water, the mortar should be used within 1 hour\*.

### Consumption:

Approximately 17 kg/m<sup>2</sup> per centimeter of applied thickness.

### TECHNICAL DATA

|  |                                |
|--|--------------------------------|
| Appearance:                                      | Grey powder                    |
| Maximum grain size:                              | 2,5 mm                         |
| Bulk density (powder):                           | 1,4 gr/cm <sup>3</sup> approx. |
| Bulk density (fresh mortar):                     | 1950 kg/m <sup>3</sup> approx. |
| Mixing water per 25kg bag                        | 4,1÷4,4 lt                     |
| Working time:                                    | approx. 1 h*                   |
| Maximum achievable thickness (per single layer): | 30 mm                          |
| Allowed application temperatures                 | from +5°C to +30 °C            |

| FINAL PERFORMANCE                             | According to EN<br>1504-3               | REPAIR TIXO R3                               |
|---|---|--|
| Compressive strength (EN 12190):              | ≥ 25 MPa                                | ≥ 40 MPa                                     |
| Elastic modulus under compression (EN 13412): | ≥ 15 GPa                                | ≥ 15 GPa                                     |
| Adhesion to concrete (EN 1542):               | ≥ 1,5 MPa                               | ≥ 1,5 MPa                                    |
| prevented shrinkage/expansion (EN 12617-4)    | ≥ 1,5 MPa                               | ≥ 1,5 MPa                                    |
| Capillary absorption (EN 13057):              |   | ≤ 0,5 kg/(m <sup>2</sup> ·h <sup>0.5</sup> ) |
| Carbonation resistance (EN 13295):            | $d_k \leq d_{k, control}$<br>[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 sets. Mechanical means may be required for cleaning.

### 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. Avoid breathing dust, ventilate the area during mixing, and protect yourself with gloves, protective clothing, and goggles. Before use, carefully read the instructions on the packaging and consult the Safety Data Sheet.

**Packaging:**

**REPAIR TIXO R3** 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 cementitious mortar, thixotropic, with compensated shrinkage (such as **REPAIR TIXO R3** produced by **Industria Calce Casertana Srl**), to be mixed with water only and applied in thicknesses from 0.5 cm up to 3 cm per layer. After 28 days from application, the compressive strength should not be less than 25 MPa (classified as R3 according to EN 1504-3).

**Warnings:**

Do not apply on sun-exposed surfaces or in the presence of strong winds. 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 finished 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 in this technical sheet, although resulting from laboratory tests conducted and our direct application experiences, are purely indicative due to the infinite variables related to site conditions. 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, assumes full responsibility. We are not responsible for damages to people or property resulting from improper use of the product.*