



ICC Premiscelati

REPAIR COMPLETE 40

FIBER-REINFORCED SHRINKAGE-COMPENSATED THIXOTROPIC
MORTAR FOR REINFORCEMENT PASSIVATION AND RESTORATION OF
CONCRETE - RAPID-SETTING AND RAPID-HARDENING CLASS R4.



Description:

REPAIR COMPLETE 40 is a special rapid-setting and fast-hardening mineral mortar, designed to perform both the passivation of reinforcement bars and the complete restoration of concrete, including structural elements. Its extremely fine granulometry allows for surface smoothing as well. Highly thixotropic, with high mechanical performance and compensated shrinkage, it is composed of special hydraulic binders, selected aggregates, specific additives, and synthetic fibers. **REPAIR COMPLETE 40** does not drip and, thanks to its exceptional mechanical characteristics, it is recommended for quickly restoring (complete cycle within 24 hours) deteriorated concrete structures, both vertically and horizontally, without the need for prior passivation of the reinforcement bars.

Application fields:

Passivation and rapid structural restoration of deteriorated concrete structures. Suitable for use indoors and outdoors, vertically and horizontally, on floors, walls, and ceilings, in columns, pillars, beams, balcony facings, cornices, industrial flooring, etc. **REPAIR COMPLETE 40** is 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 oils, release 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; roughen the surface strongly (roughness ≥ 5 mm) by shot blasting or scarifying and, if necessary, add any contrasting reinforcement bars. Remove all oxidized parts (rust) from the reinforcement bars using appropriate tools (metal brush or sandblasting). 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 COMPLETE 40**, make sure there is no remaining water stagnation on the surface; if so, dry the surface with rags or compressed air jets.

Preparation of mortar:

REPAIR COMPLETE 40 is mixed using a low-speed mechanical stirrer, adding the powder to approximately 19-21% clean water (approximately 4.8-5.2 liters per 25 kg bag). Mix until a homogeneous and lump-free mortar is obtained. The product sets quickly, 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 COMPLETE 40** 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 one has fully set (within 4 hours). In the final phase, smooth the surface using a plastic trowel until a flat and closed surface is obtained, free from micro-cracks.

Consumption:

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

TECHNICAL DATA

Aspect	White or grey powder
Maximum grain size	0,5 mm
Bulk density (powder)	1,4 gr/cm ³ approx.
Bulk density (fresh mortar)	1800 kg/m ³ approx.
Mixing water per 25 kg bag	4,8÷5,2 lt
Working time	approx. 30 minutes*
Maximum achievable thickness (per single layer)	30 mm
Allowed application temperatures	from +5°C to +30 °C

FINAL PERFORMANCE

Compressive strength (EN 12190)	≥ 45 MPa
Modulo Elastico a compressione (EN 13412)	≥ 20 GPa
Adhesion to concrete (EN 1542)	≥ 2 MPa
Shrinkage/expansion prevented (EN 12617-4)	≥ 2 MPa
Carbonation resistance (EN 13295)	Passed test
Protection against corrosion(EN 15183)	Passed test
Fire reaction	Euroclass A1

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

Cleaning of equipment:

Wash hands and equipment with plenty of clean water before the product begins to set.

Hygiene and safety:

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

Packaging:

REPAIR COMPLETE 40 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 passivation of reinforcement bars and the rapid reconstruction of missing parts of deteriorated concrete beams or pillars, as well as the restoration of damaged parts of floors, steps, cornices, balconies, and front panels, both indoors and outdoors, will be carried out using a rapid-setting and rapid-hardening, thixotropic, and shrinkage-compensated cementitious mortar (such as **REPAIR COMPLETE 40** produced by **Industria Calce Casertana Srl**). Mix the product with water only and apply in thicknesses ranging from 0.5 cm to 3 cm per coat. 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 use the product if the bag has been improperly stored or has already been opened for days. Do not apply on sun-exposed surfaces or in windy conditions. 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. The temperature of the mixing water can greatly affect the setting time: in summer, use only fresh water. Do not apply on frozen surfaces or surfaces at risk of freezing within the next 24 hours. In hot weather, to prevent 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. Only the latest updated version of this technical data sheet available on the website www.calcecasertana.it is considered valid.

PRODUCT FOR EXCLUSIVE PROFESSIONAL USE

All data and information provided in this technical data sheet, although resulting from laboratory tests and our direct application experiences, are purely indicative due to the infinite variables related to site conditions. Therefore, before applying the product, the user must determine if it is suitable for the intended use, considering the specific hygrothermal and application conditions expected at the time of use, and assumes all responsibility. We are not liable for any damage to people or property resulting from improper use of the product.