



# ICC Premiscelati

## REPAIR COLABILE R4

HIGH-FLOW BONDING MORTAR FOR THE REPAIR OF  
STRUCTURAL CONCRETE AND THE CREATION OF  
ANCHORS R4 CLASS.



### Description:

**REPAIR COLABILE R4** is a special pre-mixed powder mortar, with variable fluidity depending on its use, but without separation phenomena (bleeding), for the structural reinforcement of concrete by casting in formwork, also with the use of integrated reinforcement. Composed of Portland cement, selected aggregates, and specific additives, it develops high mechanical performance and allows for the restoration and consolidation of degraded areas of structural concrete and the reconstruction or enlargement of reinforced concrete structures. When mixed to a superfluid consistency, it allows for the penetration and subsequent filling of hard-to-reach spaces.

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

### Application fields:

**Fluid consistency mixture:** restoration of the cover layer, structural reinforcement, enlargement, and consolidation of concrete structures. Reinforcement with integrated support reinforcement.

**Superfluid consistency mixture:** anchoring and encasing of metal structures (minimum thickness 1 cm) and filling of hard-to-reach spaces.

### Preparation of substrates:

Ensure that the substrates are solid and consistent, free from oils, release agents, dust, traces of plaster or efflorescence, detached parts, and dirt in general. Deteriorated or imperfectly adhered concrete must be removed until reaching solid and resistant material. Do not apply on smooth substrates; in this case, strongly roughen the surface (shot blasting or scarification is recommended) and, if necessary, add any contrasting reinforcement bars. In the presence of deteriorating reinforcement, 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 COLABILE R4**, remove any remaining water: dry the surface with rags or compressed air jets.

**Preparation of mortar:**

**REPAIR COLABILE R4** is mixed with a concrete mixer: add about 3 liters of clean water per 25 kg bag and then slowly add the powder. Mix until the mortar reaches a good homogeneity and there are no lumps, then add the necessary amount of water to achieve the desired consistency. It is recommended to add the minimum amount of water necessary to obtain the required consistency. Mixing with a low-speed mixer is only recommended for small quantities. Manual mixing is always discouraged. After mixing with water, the obtained mortar remains usable for about 1 hour\*.

**Applicazione:**

Since **REPAIR COLABILE R4** is a fluid mortar, it should be applied by pouring it into formwork previously treated with a form release agent. During pouring, ensure complete air escape and complete filling of the formwork using metal rods. The maximum allowed thickness is 50 mm. For applications that require greater thicknesses, up to 100 mm, washed gravel with a particle size of 6 - 12 mm can be added to the mixture in a proportion of 30% by weight of REPAIR COLABILE R4. If reinforcement bars need to be added, they must be fixed to the structure using suitable connectors, and the cover layer must have a thickness of at least 1.5 cm.

To anchor machinery or fill spaces between metal plates, the product should be prepared to a superfluid consistency and poured into the cavity to be filled, ensuring a continuous flow, possibly aided by flexible rods. It is recommended to pour the product from one side to avoid trapping air under the plates. In the case of large base plates, holes should be provided in the plates to allow air escape.

**Consumption:**

Approximately 21 kg/m<sup>2</sup> for each centimeter of applied thickness.

**TECHNICAL DATA**

Appearance:	Grey powder
Maximum grain size:	2,5 mm
Bulk density (powder):	1,3 gr/cm <sup>3</sup> approx.
Bulk density (fresh mortar):	2240 kg/m <sup>3</sup> approx.
Mixing water per 25 kg bag:	3,5 lt approx.
Working time	approx. 1 h*
Maximum achievable thickness (per single layer):	50 mm
Allowed application temperatures	from +5°C to +30 °C

FINAL PERFORMANCE	Requisiti secondo EN 1504-3	REPAIR COLABILE R4
Compressive strength (EN 12190):	≥ 45 MPa	≥ 65 MPa
Elastic modulus under compression (EN 13412):	≥ 20 GPa	≥ 20 GPa
Adhesion to concrete (EN 1542):	≥ 2 MPa	≥ 2,5 MPa
prevented shrinkage/expansion (EN 12617-4)	≥ 2 MPa	≥ 3 MPa
Capillary absorption (EN 13057):		≤ 0,5 kg/(m <sup>2</sup> ·h <sup>0.5</sup> )
Carbonation resistance (EN 13295):	$d_k \leq d_{k, control}$ [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:**

Wash hands and equipment with plenty of clean water before the product starts setting; mechanical means should be used afterwards.

**Hygiene and safety:**

EUH 208 Contains cement. May cause an allergic reaction. The cement contained in the product can cause skin irritation and severe eye damage. Do not breathe 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 COLABILE R4** è 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 powder. Product compliant with DM 10/05/2004. Cr VI content lower than 2 ppm. The properly stored product must be used within 6 months from the packaging date stamped on the bag.

**Capitolato Specifications:**

Restoration and reinforcement of reinforced concrete structures and precision anchoring of machinery and encasing of metal structures will be carried out using a highly fluid cementitious mortar (such as **REPAIR COLABILE R4** produced by **Industria Calce Casertana Srl**), to be mixed with water only, with a compressive strength at 28 days not less than 45 MPa (classified as R4 according to **EN 1504-3**).

**Warnings:**

Apply only at temperatures between 5 and 35°C. Low temperatures prolong setting and hardening times. If the temperature exceeds 30°C, use cold water for mixing. The surfaces to be treated must be rough and saturated with water. Protect the newly formed surfaces from rapid drying by repeatedly wetting them with misted water.

Protect the completed work from rain, washing, or freezing and direct sunlight.

Do not add water to the product during setting. 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.*