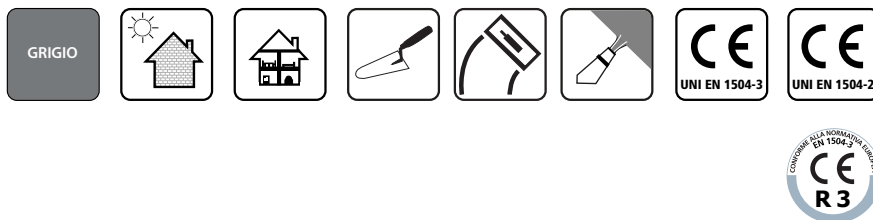


Repair 250 R

Thixotropic, structural, fibre-reinforced polymer-modified quick-setting cement mortar, certified in accordance with the UNI EN 1504-2 standard and classified R3 in accordance with the UNI EN 1504-3 standard, with controlled hygrometric shrinkage, specifically designed for restoration, protection and skim coating of concrete for applications at a thickness of between 3 and 30 mm

Repair 250 R is a thixotropic, polymer-modified quick-setting structural mortar, with controlled hygrometric shrinkage, made with high-resistance hydraulic binders, selected aggregates, special additives and HT fibres. **Repair 250 R** is specifically designed for the reconstruction, protection or skim coating of concrete, applicable at variable thicknesses of between 3 and 30 mm. **Repair 250 R** drastically reduces completion times on concrete restoration work. Formulated in the new **Licata SpA Research and Development Laboratories**, **Repair 250 R** stands out for its easy workability, superior adhesion strength and wetting properties, excellent thixotropy, combined with the speedy development of superior mechanical strength. The controlled hygrometric shrinkage and the shorter setting times minimise the formation of cracks, fissures and peeling.

Repair 250 R also meets the requirements of **UNI EN 1504-2** according to principle **1.3 (C)** and it is also classified **R3** in accordance with **UNI EN 1504-3**.



MAIN AREAS OF APPLICATION

Repair 250 R was formulated to ensure the best performance levels in restoration, protection and restructuring work on the most commonly used cement substrates in construction. **Repair 250 R** can be laid in variable thicknesses of between 3 and 30 mm by hand or by machine, efficiently accommodating all the application requirements of construction sites. The shorter setting times make this product suitable for use even at low temperature.

It is mainly intended for use in:

- Renovating concrete, even with expose metal rebars
- Protection of reinforced concrete works from carbonation
- Local repairs to cement-based flooring
- Repairs on balcony rises, corners, damaged edges, gutters, etc.
- Cement infrastructure in general.

For application on other types of substrates, please contact our engineering department.

CHARACTERISTICS

- Specifically designed to protect concrete. **Repair 250 R**, owing to its special formula, prevents atmospheric CO₂ from penetrating, thus protecting the concrete underneath it against the negative consequences of carbonation.
- Quick setting. The use of special accelerating additives drastically reduces finishing times: **Repair 250 R** can be levelled with a trowel after 20-30 minutes and painted over after 4-6 hours.
- Easy workability. The combined spreadability, easy detachment of tools and simple working are obtained thanks to the use of latest-generation additives, reducing the level of difficulty and any delays in the laying process.
- High adhesion strength. **Repair 250 R** is a polymer-modified mortar (PCC). The adhesion values obtained after exposure to extreme conditions of frost, heat and chemical aggression are proof of its reliability over time in restoration work.
- Mechanical strength. The high-performance hydraulic binders, selected inert materials with constant particle size curve and the pozzolanic additives lend it superior mechanical values. **Repair 250 R** fully meets the bending strength and compression resistance requirements set for class **R3** by the **EN 1504-3** standard.



- Outstanding wetting and thixotropic properties. The special additives contained in **Repair 250 R** make for easy application both vertically as well as over-head.
- Controlled hygrometric shrinkage. the presence of fibres and the special formula of **Repair 250 R** minimise cracking.
- Outstanding styling finish. Thanks to the inert materials selected in a constant particle size curve with a maximum head of < 1.5 mm the finishes accomplished with **Repair 250 R** allow paint or decorative treatments to be achieved even without further working.

APPLICATION METHOD

Preparing the substrate

Mechanically remove all flaking parts or easy to peel off. Clean the area of application thoroughly so that it is free of dust residue from surface treatments such as: detergents, oily substances, mineral or organic greases, waxes, traces of gypsum and salt.

Preparing the mixture

You need 4-4.5 litres of clean water (UNI EN 1008) for every 25 kg bag (i.e. 16-18% in mass).

Pour the product into a clean tub, containing $\frac{3}{4}$ of the mixing water, mix for around 3 minutes with a mixer at low speed, gradually adding the remainder of the water until you achieve an even thixotropic mixture without any lumps. Avoid splitting the packs to perform partial mixtures.

The product stored in open bags and only used in part may no longer meet the technical characteristics listed in this document.

Application

The previously prepared substrate must be wet with water until saturated, so that it is in conditions of Saturated surface dry (SSD).

Apply the product as it is, laying a thinner, well pressed gripping agent before increasing the thickness. Even out using a trowel and compact if necessary. **Repair 250 R** can be levelled with a trowel after 20-30 minutes, painted over after 4-6 hours and it develops its resistance fully after 28 days of curing.

For thicknesses of more than 30 mm, proceed by applying a second coat onto the hardened first coat.

Do not apply **Repair 250 R** on substrates if there is a film of water on the surface, if they are completely dry or in extreme conditions, such as: walls exposed to the midday sun or frozen over.

Make sure the temperature of the room, of the substrate, and of the product during application falls between +5 °C and +35 °C.

PRODUCT INFORMATION

Appearance	grey powder
Particle size	<1.5 mm
Powder consumption	17.5 kg/m ² every 10 mm in thickness
Mixing water	16-18% of powder weight
Workability time at 20 °C	≈ 20 minutes
Application thickness per coat	3 - 30 mm
Application temperature	Between +5 °C and +35 °C
Storage	8 months in a dry, protected place in sealed packs, at temperatures of between +5 °C and +35 °C
Packaging	25 kg
Density	1950-2050 kg/dm ³
Mixture pH	approx. 12

PERFORMANCE LEVELS required according to

Characteristic	Test Method	Normative requirement	Performance
Compression resistance	EN 12190	≥ 25 MPa	> 25 MPa
Chloride ion content	EN 1015-17	$\leq 0.05\%$	$< 0.003\%$
Adhesion strength	EN 1542	≥ 1.5 MPa	> 1.5 MPa
Resistance to carbonation	EN 13295	$dk \leq 45$	NPD
Elastic module	EN 13412	≥ 15 GPa	> 15 GPa
Thermal compatibility of freeze/thaw cycles	EN 13687-1	≥ 1.5 MPa	> 1.5 MPa
Thermal compatibility after thunder shower	EN 13687-2	≥ 1.5 MPa	> 1.5 MPa

PERFORMANCE LEVELS required according to

Characteristic	Test Method	Normative requirement	Performance
Capillary water absorption	EN 13057	≤ 0.5 kg m ⁻² h ^{-1/2}	≤ 0.5 kg m ⁻² h ^{-1/2}
Linear shrinkage	EN 12617-1	$\leq 0.3\%$	$< 0.05\%$
Capillary absorption and liquid water permeability	EN 1062-3	≤ 0.1 kg m ⁻² h ^{-1/2}	≤ 0.01 kg m ⁻² h ^{-1/2}
Thermal compatibility of freeze/thaw cycles	EN 13687-1	≥ 1.5 MPa	> 1.5 MPa
Thermal compatibility after thunder shower	EN 13687-2	≥ 1.5 MPa	> 1.5 MPa
Ageing: 7 days at 70 °C	EN 1062-11	> 1.5 MPa	> 1.5 MPa
Behaviour after artificial exposure to atmospheric elements	EN 1062-11	No visible defect	NPD
Shock resistance	EN ISO 6272-1	Class I, II or III	Class II
Resistance-to-fire Euroclass	EN 13501-1		Class A1

WARNINGS

- Professional-grade product.
- **Repair 250 R** is a quick-setting product so adding water or more powder after the product has been mixed will seriously jeopardise its final performance levels.
- Alkaline material: protect your eyes and skin during application.
- After use, wash tools with water while the mixture is still fresh.
- The room temperature and degree of humidity affect the workability, grip and drying times.
- Monitor the product curing suitably for at least the first 24 hours after laying, protect fresh mortar against rapid drying, against direct sunlight, strong wind and heavy rain.

SAFETY

As regards the information concerning proper product disposal, storage and handling, please consult the relevant Safety Data Sheet.

NOTES

This technical data sheet replaces and cancels all previous versions.

The indications and performance levels provided in this document are based on our current technical-scientific knowledge and in any case should be considered as purely indicative since the conditions of use are in no way under our control. The purchaser must therefore check the suitability of the product for his or her specific needs, assuming all responsibility deriving from its use. Our technical-sales network guarantees a speedy response and is at your disposal for any clarifications or queries regarding the use and processing of **licata SpA** products.

Data Sheet ref.: 110/17.1

