

# RC 220

## One component multipurpose repair and levelling mortar

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- ▷ **Excellent workability**
  - ▷ **High mechanical strength**
  - ▷ **High adhesion on concrete and primed tiles**
  - ▷ **Thixotropic, easy application even on ceilings**
  - ▷ **High resistance to ageing**
  - ▷ **Application thickness 2 - 20 mm**
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### Description

RC 220 is a ready to use cement based mortar with selected aggregates, modified polymers and special additives. It can be easily applied on horizontal and vertical surfaces for nonstructural concrete repairs providing a smooth finish. RC 220 can be used as substrate levelling compound prior to the application of coverings such as ceramic tiles or PLANOCOLOR decorative coatings on floors, walls and ceilings.

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### Certifications

Meets the requirements claimed by EN 1504-3 for non structural repair mortar class R2 with Declaration of Performance (DoP) C08169-CPR-1620100 (grey) and C08169-CPR-1620600 (white) certified by notified body 1128 and issued the certificates of conformity of the factory production control No. 1128-CPR-0416/2.

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### Uses

RC 220 is suitable for:

- Concrete restorations, Principle 3, Method 3.1 & 3.3 of EN 1504-9
- Levelling ceilings, horizontal or /and vertical surfaces in a thickness of 2 – 20 mm in one single layer
- Spot restorations up to 50 mm – filling gaps and minor defects
- Repairing cracks in wall masonry
- Formation of rigid joints
- Substrate levelling prior to the application of PLANOCOLOR decorative coatings

## Technical Data

### Product Identity

Form	Powder
Color	White or grey
Chemical substance	Portland cement, aggregates, special additives
Granulometry	$D_{max} : 0,6 \text{ mm}$
Bulk density	$1,5 \pm 0,1 \text{ kg/L}$
Storage	12 months on dry area in the original sealed packaging

### Application data (+23°C & 50% R.H.)

Mixing ratio	4,25 - 4,75 lt of water for 25kg	
Specific gravity of the mix	$1,9 \pm 0,1 \text{ kg/l}$	
Application temperature	from +5°C up to +35°C	
Pot life	$\approx 2 \text{ hours at } +20^\circ\text{C}$	
Walkability	after 3-4 hours	
Residual humidity depending on thickness <sup>a</sup> :	<4,5%	<4%
- 5 mm	$\approx 12 \text{ hours}$	$\approx 18 \text{ hours}$
- 10 mm	$\approx 36 \text{ hours}$	$\approx 2 \text{ days}$
- 20 mm	$\approx 2 \text{ days}$	$\approx 3 \text{ days}$

### Final performance according to EN 1504-3 Class R2

	Performance	Requirement	Method
Compressive strength	$\geq 35 \text{ N/mm}^2$	$\geq 15 \text{ N/mm}^2$	EN 12190
Flexural strength	$\geq 12 \text{ N/mm}^2$	No requirement	EN 12190
Chloride content	$\leq 0,02 \%$	$\leq 0,05 \%$	EN 1015-17
Adhesion	$\geq 1,5 \text{ N/mm}^2$	$\geq 0,8 \text{ N/mm}^2$	EN 1542
Thermal Compatibility Part 1: Adhesion after freeze and thaw cycles	$\geq 1,2 \text{ N/mm}^2$	$\geq 0,8 \text{ N/mm}^2$	EN 13687-1
Capillarity absorption	$\approx 0,3 \text{ kg /m}^2 \sqrt{\text{h}}$	$\leq 0,5 \text{ kg /m}^2 \sqrt{\text{h}}$	EN 13057
Dangerous substances (Cr6+)	conformity with 5.4		EN 196-10
Resistance to fire	F	Class	EN 13501

a: Determination by drying method

## Application Procedure

### Substrate Preparation

Remove deteriorated and loose concrete parts until the substrate is solid, strong and rough with a minimum tensile strength of 1,5 N/mm<sup>2</sup>. Surfaces must be clean, free of dust, dirt, oil, grease, rust and other elements that might compromise adhesion. Soak the substrate with water and remove excess by means of a sponge or air. Existing tiled floors should be primed first with PLANO CONTACT.

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### Preparation of the mix

Mix the content of the 25kg paper bag containing RC-220 with 4,25 - 4,75 liters of clean and fresh water by means of appropriate electrical stirrer at low speed (500 rpm) for 3 min, until a uniform mortar free of lumps is obtained. The mix has a pot life of 2 hours. During hot periods and in general, it is recommended to avoid direct sunlight exposure of the materials (in powder or liquid form) before use, otherwise the working time is reduced. For small quantities mixing can be performed also by hand.

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### Application

The mixture is applied by means of a flat trowel, in horizontal and vertical surfaces. The maximum application thickness is 20 mm per layer and for ceilings is 15 mm. When higher thickness is required, apply subsequent coats when the preceding layer starts to harden.

The mortar should be applied within 2 hours from the start of mixing under normal conditions. After this period, do not try to mix again with water. Low temperatures extend the life of the mortar while high temperatures drastically reduce workability. After application of RC 220 it should be left to cure in a relatively moist environment. Protect the fresh mortar from rapid drying by suitable means. For smoothing surfaces prior to the application of PLANOCOLOR MICROCEMENT or PLANOCOLOR GRANIT coatings it is recommend waiting 18hours - 3 days depending on the application thickness. For applications of humidity stable coverings such as ceramic tiles usually 24-48 hours is enough.

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### Recommendations

- Avoid applications during direct sunlight exposure and/or strong wind and rain
- Apply only upon solid and well prepared rough substrate
- Do not add water or additives once the mix starts to set
- Do not apply upon existing expansion or movement joints of the substrate
- Do not add cement, gypsum, lime or other materials that might affect the properties of the mortar
- Do not apply upon substrates subjected to rising humidity
- Do not exceed 20 mm in thickness per layer and 15 mm in case of applications on ceilings
- Do not apply when temperature of the substrate and environment is lower than +5°C and higher than +35°C

- Do not apply upon anhydrite based substrates, metal surfaces or resilient substrates
- Always ensure that that humidity level is lower than what the covering requires
- Application must be done by professional applicator

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### Consumption

Consumption of RC 220 is 1,5 kg/m<sup>2</sup>/mm thickness.

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### Cleaning

Tools, buckets, tiles etc. can be cleaned with fresh and clean water as long as RC 220 mix is still fresh. After hardening occurs, cleaning can take place by mechanical means.

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### Storage

RC 220 remains stable for 12 months from production date inside its original sealed packaging, stored in protected dry area in temperature between +5°C and +35°C.

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### Packaging

Multi-layer paper bags of 25 kg in pallets of 1.250 kg

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### Safety Instructions

For further information refer to the Safety Data Sheet of the product

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### Warning

The technical data and recommendations contained in this leaflet correspond to the best of our knowledge and experience. All the above mentioned information in any case should be considered as merely indicate and subject to confirmation after long term practical applications. For this reason anyone interested of using the product must be sure before hand that the product is suitable for the envisaged application. In every case the user alone is fully responsible for any consequences deriving from the use of the product. We retain the right of renewal of the data of the leaflet without warning. For the latest and valid version of the Technical Data Sheet refer to use website [www.novamix.gr](http://www.novamix.gr) or directly to the following QR code of the product.



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