

G•RP 4250

**non-shrink
castable
cementitious
grout**

class R4

- Class CC R4
according to EN 1504-3
- Shrinkage compensated formula
- High fluidity without segregation
or bleeding
- Fast early strength development
- Pumpable



G•RP 4250

non-shrink castable cementitious grout

DESCRIPTION

G•RP 4250 is a cement-based, shrinkage-compensated, highly flowable grouting mortar, for anchoring, grouting and filling cavities in concrete elements.

It exhibits very high initial and final mechanical strengths, shrinkage compensation, no bleeding and segregation, high fluidity and low water permeability. Classified as grouting mortar according to EN 1504-6 and as class CC R4 cementitious mortar for the repair of concrete structures according to European standard EN 1504-03.

APPLICATIONS

G•RP 4250 is used to repair structures where the state of deterioration requires the use of highly flowable mortars and wherever a high performance non-shrinking grout is necessary.

Indicative applications:

- Precision grouting of machinery.
- Grouting underneath structural steelwork.
- Filling voids and cavities.
- Repairs of concrete elements by casting using formworks.
- Anchoring of steel reinforcement.

PROPERTIES / ADVANTAGES

- Shrinkage compensated formula.
- High early and final mechanical strength.
- Very fluid consistency.
- No segregation or bleeding.
- Excellent pumpability.

HARMONIZED STANDARDS / REGULATIONS

- EN 1504-3: Concrete repair product for structural repair CC mortar (based on hydraulic cement), class R4. DoP no.: GRP4250/CPR-7-13/044-1/10-2013.
- EN 1504-6: Product for anchoring of reinforcing steel bar. DoP no.: GRP4250/CPR-7-13/044-2/10-2013.

APPLICATION INSTRUCTIONS

Surface preparation

- Deteriorated and loose concrete must be removed until the substrate is solid, strong and rough.

- Concrete and reinforcing rods must be cleaned until free of dust, rust, cement residue, grease, oils and previously applied paints by sand-blasting to Sa 2½ (ISO 8501-1).
- Cavities and holes for structural fixings must also be cleaned of debris.
- The concrete pull off strength should be at least 1.5 N/mm².
- Formwork must be of adequate strength, treated with a release agent and properly sealed to avoid leakage during pre-wetting and grouting.
- Soak the substrate with water. Allow excess water to evaporate or remove it using compressed air.

Mixing

- The content of the bag (25kg) is added into 3.5-4.0 kg of clean water, under constant stirring for at least 3 minutes, until a homogenous mixture is formed having the desired consistency. It is recommended to use a low speed electric mixer (300rpm) taking care not to entrap air during mixing.
- Avoid manual mixing as it requires greater quantities of water which are detrimental to some characteristics of the product, such as mechanical strength and shrinkage.
- Always use the complete content of the bag of G•RP 4250 in order to ensure stable product performance.

Application

- Pour G•RP 4250 immediately after mixing into the header box or hopper ensuring continuous grout flow during the complete grouting operation to avoid trapping air.
- G•RP 4250 can be applied in thickness up to 100mm per layer. In order to increase grouting volume or layer thickness apply G•RP 4250 in consecutive layers or mix the 25kg bag with clean and saturated surface-dry (SSD) aggregates of 3-8mm grain size at 30-50% by weight. Afterwards, new initial testing should be performed to ensure proper product's workability and performance.
- In order to apply in consecutive layers, the previous layer must have started to set and mortar temperature to be equal to the ambient, before applying the next layer.

Curing

- After the grout has hardened, remove formwork and

cure all exposed edges properly to maintain proper hydration and constant temperature.

- Appropriate curing methods are: moistening with water, water-based curing compounds like **FINOCURE•W**, wet burlap covered with white polyethylene film, etc.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.

RECOMMENDATIONS

- Temperature during application should be between +5°C and +35°C.
- Do not mix the product with dirty or salty water.
- Don't use excess water for mixing as it will affect the performance of the product.
- Do not use vibrating devices.
- Do not apply when there is a risk of frost.
- Pour from one side only to avoid trapping air.
- Do not add water when the mixture begins to set.

TECHNICAL CHARACTERISTICS

PRODUCT CHARACTERISTICS

Appearance	cementitious powder
Colour	grey
Bulk density	1.40 ±0.05 kg/lt
Chloride ion content (EN 1015-17)	< 0.05%
Maximum aggregate grain	3.5 mm

APPLICATION CHARACTERISTICS (+23°C / 50% R.H.)

Mixing ratio	14-16% b.w. (3.5-4.0 kg water / 25kg bag)
pH	> 11
Density	2.25 ±0.05 kg/lt
Pot life	60 minutes (25°C)
Application temperature	minimum: +5°C / maximum: +35°C
Application thickness per layer	≤ 100 mm
Demolding time	24 hours
Consumption/yield	25kg of dry material yield approx. 12.5lt of volume

PERFORMANCE CHARACTERISTICS

Hardened density		2.10 ±0.05 kg/ltr
Compressive strength (EN 12190)	after 24 hours	≥ 32.0 N/mm ²
	after 7 days	≥ 57.0 N/mm ²
	after 28 days	≥ 65.0 N/mm ²
Flexural strength after 28 days (EN 196-1)		≥ 8.0 N/mm ²
Capillary water absorption (EN 13057)		≤ 0.4 kg·m ⁻² ·h ^{-0.5}
Modulus of elasticity in compression after 28 days (EN 13412)		≥ 26.0 GPa (class R4 requirement: ≥ 20 GPa)
Adhesive bond (EN 1542, MC 0,40)		≥ 2.0 N/mm ²
Carbonation resistance (EN 13295)		d _k ≤ control concrete (MC 0,45)
Restrained shrinkage/expansion (EN 12617-4, MC 0,40)		≥ 2.0 N/mm ²
Thermal compatibility Part 1, Freeze-thaw (EN 13687-1, MC 0,40)		≥ 2.0 N/mm ²

Note: Measurements were conducted in a laboratory environment. The varying conditions present on-site (temperature, humidity, ventilation, substrate absorbency) may affect the material's properties.

SAFETY PRECAUTIONS

- The product contains cement which has an alkaline reaction with water and is classified as irritant.
- Always wear appropriate personal protective equipment for eyes and skin (protective clothing, gloves and goggles).
- If skin contact occurs, rinse well with plenty of clean water.
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

- Consult product's Safety Data Sheet for further instructions on safety handling.
- **PRODUCT FOR PROFESSIONAL USE.**

PACKAGING - STORAGE

Available in:

- 25kg paper bags.

Storage: 12 months from production date in original, sealed packaging, protected from direct sunlight and moisture.

LEGAL NOTICE

The technical characteristics and recommendations for the use and application of the **FINOMIX** range of products are based on the knowledge and experience of the company. The above information shall be considered merely indicative and subject to confirmation after long-term practical application. For this reason, anyone who intends to use the product must

ensure that it is suitable for the envisaged application. Since the specific site conditions during the applications are beyond the control of our company, the user alone is fully responsible for any consequences deriving from the use of the product. **FINOBETON S.A. (FINOMIX)** has the right to modify the properties of its products without prior notice. This release voids any previous publications issued for this technical specifications sheet.