

## Grout 6 HP SFR

Castable, structural concrete with controlled shrinkage for super anchorage



Grout 6 HP SFR is a fibre-reinforced high-performance castable mortar, equipped with mechanical compressive and flexotraction resistance far superior to normal structural mortars. It is used for repairs, replenishments, strengthening concrete reinforcement and special works in FRC. The mix of special metal fibres (Readymesh MM-150) and synthetic fibres (Readymesh PM-060) is able to drastically reduce or even eliminate plastic-hygrometric shrinkage and the development of exceptional characteristics of ductility, fracture energy, resistance to shock and dynamic stress.

**CUSTOMS CODE:** 3824 5090

**COMPONENTS:** Single-component

**APPEARANCE:** Powder

**AVAILABLE COLORS:** Gray

**PACKAGING AND DIMENSIONS:** Bag 25 kg - Pallet: 50 x (Bag 25 kg)

### OBTAINED CERTIFICATIONS AND REGULATIONS



### FEATURES AND BENEFITS

With very low water-binder ratios, Grout 6 HP SFR makes it possible to achieve compacting and hyperfluid rheologies that favour the movement of the mortar and the perfect filling of reinforced sprays, even with narrow spaces between the bars. The microsilica with pozzolanic activity increases the cohesion of the mixture with typical anti-segregating and anti-run-off effect. The particular fineness of the hydraulic binders contained in the formula promotes adherence to the substrate and has an effect of enlarging the fibrous components. The fibre mix offers strong ductility, toughness and flexotraction resistance to the castings performed with Grout 6 HP SFR. With regard to the ANTICORROSIVE and PROTECTIVE FUNCTION ON THE REINFORCEMENT BARS, the main features of Grout 6 HP SFR are:

- the mix of high-strength superfine binders, combined with very fine silicas with pozzolanic activities, to render the mortars intrinsically impermeable to water at the end of the hardening process;
- The strongly alkaline pH (> 12) protects the reinforcement bars from triggering corrosion;
- The negligible breathability of the carbon dioxide ensures hardened mortars with extremely prevalent anti-carbonation characteristics.

Overall, these anticorrosive specificities render the classic treatment of reinforcement bar passivation, preparatory to the pouring of castable mortar UNNECESSARY, provided that not too much time passes between the white metal cleaning operations and the castings of pourable mortar, at the risk of new oxidative processes being triggered. Thus, only in the event that long exposure times are foreseen between the bar-cleaning operations and the pouring of castable mortar is it advisable to treat with passivating slurry (Repar Monosteel or Repar Steel), applied by brush and only on the reinforcing bars.

### FIELDS OF APPLICATION

On-site castings or pumping carried out for any kind of structural replenishment of reinforced concrete, seismic reinforcement and adjustment, increases in cross-sectional resistance of concrete structures and masonry, anchorages of large-scale machinery (especially in the presence of significant dynamic stresses), anchoring of port bollards, deep-drawing and reinforcement works, restoration of highly-stressed industrial flooring both from a static and dynamic perspective, restoration of degraded foundations on bridges and viaducts especially whereby necessitating rapid reopening to vehicle traffic, construction of structures designed with HPC (High Performance Concrete) needs.



## ALLOWED SUPPORTS

Concrete - Mixed walls (bricks and stones) - Brickworks - Stone walls - Rusty reinforcement rods

## PREPARATION OF SUPPORTS

Application surfaces must be clean, free of dust, contamination, crumbling, inconsistencies, etc., and adequately saturated-surface-dry with water. An adequate roughening of the surfaces by scarifying, sandblasting etc. is always necessary in order to obtain the maximum adhesion values to the substrate. The optimal values are obtained with high pressure hydro-scarification. Bare the irons undergoing disruptive oxidation or deeply oxidized, removing the rust of the exposed irons (by sandblasting or abrasive brushes).

## MODE OF USE

Mix the entire content of a bag of Grout 6 HP SFR with effective vertical-axis mixers for at least 6 minutes, initially introducing a slightly reduced amount of water (9% = 2.25 litres/25 kilograms bag) compared to the required total water permitted (10%-12% = 2.5litres — 3.0 litres/25 kilogram bag) whilst mixing for at least 4 minutes. After this mixing time, evaluate the consistency of the mixture and, if necessary, gradually add in the last of the water until achieving the desired workability, without exceeding the limit of 12% (3.0 litres/25-kilogram bag), mixing at high RPM for at least another two minutes. For thick casting sections, it is advisable to add Ghiaietto 6.10 (consult the relevant technical data sheet or ask for more information on the appropriate dosage of Ghiaietto 6.10 from our technical service). Given the self-levelling properties of the product and its self-compacting capacity, paying due attention to the vibration phase is recommended. Excessive zeal in the vibration operation can worsen the aesthetic rendering of the end result. Do not use in the absence of suitable lateral containment. Ensure exposed surfaces are protected and wet-cured. Adopt casting procedures to ensure the absence of voids and discontinuities. Only pour the mortar from one part of the casting perimeter to avoid air pockets.

## APPLICATION METHODS

Pour out

## TOOL CLEANING

Water

## KEY FEATURES

↔ Max. recommended thickness: 20 cm

→← Min. recommended thickness: 2.5 cm

⌚ Pot-life: 30 min

🌡 Temperature of use: +5 / +35 °C

⊘ Maximum diameter of aggregate: 6 mm

🌀 Mix with water: 10-11 %

🕒 Shelf-life: 12 months



## TECHNICAL SPECIFICATIONS

UNI EN 12190

Compressive strength after 1 day > **50 N/mm<sup>2</sup>**

UNI EN 12190

Compressive strength after 28 days > **105 N/mm<sup>2</sup>**

UNI EN 196/1

Flexural strength after 7 days > **13 N/mm<sup>2</sup>**

NTC 2018 § 11.2.10.2

Breaking load longitudinal > **5 N/mm<sup>2</sup>**

UNI EN 13295

Resistance to carbonatation **0.5 mm**

UNI EN 1015-17

Chloride content <**0.01 %**

EN 13412

Static elastic modulus **35000 N/mm<sup>2</sup>**

UNI EN 13057

Capillary absorption < **0.5 kg•h<sup>0.5</sup>/m<sup>2</sup>**

UNI EN 12190

Compressive strength after 7 days > **90 N/mm<sup>2</sup>**

UNI EN 196/1

Flexural strength at 1 day > **8 N/mm<sup>2</sup>**

UNI EN 196/1

Flexural strength after 28 days > **14 N/mm<sup>2</sup>**

EN 12390-6

> **6 N/mm<sup>2</sup>**

EN 13501-1

Reaction to fire **A1**

UNI EN 1015-6

Density **2370 kg/m<sup>3</sup>**

UNI EN 1542

Bonding force **3 N/mm<sup>2</sup>**

## CONSUMPTION

Approximately 21.00 kilograms/square metre of Grout 6 HP SFR per centimetre of thickness to be realised (about 2100 kilograms per cubic metre).

## STORAGE AND CONSERVATION

Store the product in its original packing, in a fresh and dry environment, avoiding frost and direct sunlight. Inadequate storage of the product may result in a loss of rheological performance. Protect from humidity.

## PHOTO GALLERY



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## ADDITIONAL CONTENT



## WARNINGS AND PRECAUTIONS

The general information, along with any instructions and recommendations for use of this product, including in this data sheet and eventually provided verbally or in writing, correspond to the present state of our scientific and practical knowledge. Any technical and performance data reported is the result of laboratory tests conducted in a controlled environment and thus may be subject to modification in relation to the actual conditions of implementation.

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