

WRM 525

HIGH STRENGTH, FIBER REINFORCED, REPAIRING MORTAR

Category R4 ACCORDING TO
EN 1504-3

DESCRIPTION

WRM 525 is a one-component, fiber reinforced, cement based, repairing material for concrete. It consists of cement, quartz aggregates and special admixtures. It is a non shrinkable material with high adhesion strength to the concrete, frost and moisture resistance. When it is

mixed with water a paste is produced which can be applied using a trowel or a metallic spatula on the surface to be repaired. It is suitable for interior and exterior surfaces. It is classified as a PCC concrete repair mortar R4, according to EN 1504-3.

FIELDS OF APPLICATION

- It is suitable for repair and restoration of old and new, reinforced or unreinforced concrete.
- Use in large construction projects such as docks, bridges foundations, columns.
- Marine/sea structures.
- Water and sewage treatment constructions.
- Restoration of damages on concrete deriving from constructional defects, wear, impact, etc.
- Repairs of steps, parapets, pre-constructed and other concrete elements.

ADVANTAGES - CHARACTERISTICS

- Non shrinkable with high adhesion strength to the concrete.
- Rapid strength development.
- Applied by trowel.
- Application thickness up to 8cm for localized repairs.
- Resistance to humidity.
- Resistance to abrasion.

SUBSTRATE PREPARATION

Firstly, make sure that the surface is clean from unstable materials and corroded or carbonated parts of concrete using a hammer, chisel, water or sand blaster. In case of existing reinforcement, this needs to be exposed peripherally in order for the material to penetrate and roughen the concrete surfaces it will come in contact with. Remove all residues with water under pressure and

remove any excess water. It is recommended to pre-coat the substrate and the metallic reinforcement with the primer **WRM 510** before the application of the product, in order to ensure the optimum adhesion of the material to the substrate. The substrate must be slightly wet.



APPLICATION

In a clean container add 4.6-4.75 litres of clean water and gradually empty the content of the bag (25Kg) while mixing continuously, in order to produce a homogenous mass of mortar. Leave the mixture to mature for 5 min and mix again briefly. It is also recommended to periodically mix the mixture for as long as the repair lasts. Do not add additional water to correct the workability of the mortar. This shall lead to a decrease of resistances and to the increase of its shrinkage. Wherever necessary cast the part of concrete to be repaired and then place the **WRM 525** repairing mortar taking care that there is a careful layering and covering of all voids. Make sure that all the air cavities are removed and there

are no voids. The thickness of the mortar can reach up to 8cm for localized repairs. To obtain uniform strengths and to avoid cracks the final surface must be retained wet for the first few days following the application and rapid drying must be prevented by way of a suitable wet cover. Special care must be taken during the summer months, and for surfaces exposed to strong sun. The product must be applied when the ambient temperature is between +5°C and +35°C and not under rain. When the temperature is high, the strength develops faster, while the workability of the material decreases. In low temperatures, the strength development is delayed. The wooden casts must be well saturated but without forming water pools.

CONSUMPTION

Approximately 17,5 kg/m²/cm layer thickness.

PACKAGING - STORAGE

The product is packaged in 5Kg plastic bags and in 25Kg paper valve bags. It is stored sealed in a dry environment with temperature above 0 °C for 12 months from the production date.

CLEANING OF TOOLS AND MACHINES

With plenty of water immediately after use.

NOT RECOMMENDED

The application of the product is not allowed:

- When there is a frost forecast for the 24 hours following the application of the product
- Under wet conditions (like rain).
- On substrates directly exposed to intense solar radiation or on warm substrates

PRECAUTIONS

WRM 525 product contains cement and reacts with water to produce an alkaline solution. For this reason protect your eyes and skin. In case of contact rinse with plenty of water. In case of contact with eyes seek medical advice immediately. Read the information on

the label and in the product's Technical Brochure before use. Wear appropriate protective clothing and gloves. The product's Safety Sheet is available to professionals upon request.

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TECHNICAL CHARACTERISTICS	UNITS	STANDARD	VALUE
Appearance			dry powder
Color			Grey
Reaction to fire	(CATEGORY)	EN 13501-1	A1
Maximum thickness of application (locally in a single layer)	(cm)		8
Strength temperature	(°C)		-30 to +90
Maximum grain size	(mm)		4
Workable time (20°C)	(h)	EN 1015-9	2
Bulk density of dry mortar	(Kg/l)	EN 1097-3	1,15±0,10
Compressive strength	(MPa)	EN 12190	≥ 45
Flexural strength	(MPa)	EN 12190	≥ 5
Modulus of elasticity	(GPa)	EN 13412	≥ 20
Resistance to carbonation	(Pass/Fail)	EN 13295	Passes
Content in chlorides	(%)	EN 1015-17	≤ 0,05
Thermal compatibility - Part 1 freeze-thaw	(MPa)	EN 13687-1	≥ 2,0
Adhesion to substrate	(MPa)	EN 1542	≥ 2,0
Capillary water absorption	(Kg·m ⁻² ·h ^{-0,5})	EN 13057	≤ 0,5
Shrinkage			No

Note: The measurements were taken in laboratory environment under a temperature of +23°C, Relative humidity 50 % and without ventilation. It is possible for them to vary depending on the conditions prevailing at the worksite, such as temperature, humidity, ventilation, absorbability of the substrate.