



MORCEMREST® MH

High-viscosity micro-concrete reinforced with fibers with high strength and balanced retraction



DESCRIPTION

Self-compacting high-resistance fluid mortar and balanced retraction.

TECHNICAL CHARACTERISTICS

Product made with special cements, selected aggregates and special additives.

ADVANTAGES AND USES

- Suitable for concrete repair jobs, structural reinforcement in concrete and conserving or restoring the passivation according to UNE-EN-1504-3.
- Repairs of concrete in areas that are difficult to access.
- Repairs in concrete structures with a high density of reinforcement.
- Repair of various structural elements such as pillars, walls, beams, concrete slabs.
- Repair of small potholes in floors.
- Reinforcement of structural elements that are in a poor condition or for a change in the functional nature of the building (increased load capacity).
- Balanced retraction.
- Minimizes the risk of cracking.
- Self-compacting.
- Fluid consistency: easy application by pouring or pumping.
- Applications of 20 to 100 mm.
- Absence of segregation.
- Its high strengths and low permeability provide the maximum protection against carbon dioxide (carbonatization) and chloride ions.

SUITABLE SUBSTRATES

- The substrates / surfaces to be repaired, as well as being clean, should be free of any weak products (cement paste, fine sand) and loose particles that would reduce the adhesion between the base material and the repair material. The important thing is to have a clean, firm and rough surface.
- Mechanical means are recommended for removing damaged concrete and preparing the substrate; chipping, needle guns, bush hammering, brushing, milling, sandblasting, grit-blasting, stripping.
- The surfaces should be structurally solid. Remove the damaged concrete to clear the damaged reinforcement up to about 20 mm so as to avoid premature failure of the repair.
- The reinforcements on which the repair material is going to be applied, should be free of dust, dirt, oil, grease, oxide or any pollutant, in order to ensure adequate adhesion between the metal and the new material.
- Corrosion of reinforcements is one of the most common causes for which surface preparation is required. The type and degree of cleaning, although it is always recommended that it should be as comprehensive as possible, can vary slightly depending on the degree of oxidation (depletion of the section of reinforcements) type of attack (general or localized) and the cause of the corrosion (carbonatization or chlorides).
- It is recommended that the reinforcement is protected afterwards with IMPAREST C.

CONCRETE REPAIR

MORCEMREST® MH

APPLICATION PROCEDURE

Mixing the mortar:

- Add 2,75 to 3,25 litres of water to the product in the following way: first add the product to 2/3 parts water.
- Mix while adding the rest of the water gradually at low speed for about 3-4 minutes (400-600 rpm) until the consistency is fluid with no lumps.
- Let it stand for 5 minutes and remix again.

Application:

- Wet the surface with water before pouring the product.
- After mixing proceed with filling the prepared hole.
- Apply MORCEMREST MH by pumping or pouring. If pouring the product, stirring with a rod is recommended to avoid settling.
- Moisten the media to avoid water loss.

Curing process:

- If filling a mold wait 48 hours before releasing from the mold.
- Once poured, the product should be protected from the sun and wind to facilitate the curing process.
- In cold, rainy or icy conditions, protect the repaired area until it is cured.

NOTE: For applications with thicknesses greater than 150 mm, it can be mixed with the 6 - 12 mm aggregate of Triturados Macael (special aggregate) in a proportion of 20%.

RECOMMENDATIONS

- Do not add more than the recommended amount of water to the mortar and do not remix.
- Do not apply at temperatures below +5°C or above +30°C.
- Do not add cement, sand or other substances that may affect the properties of the material.
- The product can be painted over from the seventh day.
- The surfaces where MORCEMREST MH is applied should always be confined.
- The mold used should be sufficiently rigid and should not absorb water from the MORCEMREST MH. It should also have drainage points, points for pouring or pumping the MORCEMREST MH and air outlets.
- Consult the Technical Department for any application not specified in this Technical Datasheet.
- For further information regarding the safe handling, transport, storage and use of the product, check the label and the latest version of the Product Safety Datasheet.
- If applied manually ensure the coats are strongly compacted; in areas of difficult compaction it is recommended its mechanical application.
- For further information on how to prepare concrete or steel framework; consult the recommendations given by the UNE-EN-1504-10 guideline.
- When applying the repair mortar without a bonding bridge, the foundation of concrete must be rough, clean and well moistened before, but the surface must be free of water at the time of application, that is, the foundation must not be waterlogged. The repair mortar must be applied making it penetrate into the foundation previously prepared and must be compacted avoiding the inclusion of air in order to obtain the required strength, and to protect the reinforcement from corrosion.

PACKAGING AND STORAGE

25 kg sac.

Shelf life: 12 months in its sealed original packaging, sheltered from weather conditions and humidity.

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TECHNICAL DATA

(Statistical data obtained under standard conditions)

	R4 REQUIREMENTS	PRODUCT DATA
Appearance		GREY powder
Density of product in paste form		2.3±0.1 gr/cm ³
Granulometry		Dmax 4 mm
Compressive strength 28 days (EN 12190)	≥ 50 N/mm ²	≥ 50 N/mm ²
Chloride content (EN 1015)	≤ 0.05%	≤ 0.02%
Adhesion (EN 1542)	≥ 2 N/mm ²	≥ 2 N/mm ²
Resistance to carbonation (EN 13295)	dk ≤ Control concrete (MC(0.45))	Pass
Elasticity modulus (EN 13412)	≥ 20 GPa	≥ 20 GPa
Capillary absorption (EN 13057)	≤ 0.5 kg / m ² x h ^{1/2}	≤ 0.06 kg / m ² x h ^{1/2}
Thermal compatibility part 1 (EN 13687-1)	≥ 2 N/mm ²	≥ 2 N/mm ²
Sudden cooling cycles after high temperatures (50 cycles) (EN 13687-2)	≥ 2 N/mm ²	≥ 2 N/mm ²
Thermal compatibility part 4: Dry thermal cycle (50 cycles) (EN 13687-4)	≥ 2 N/mm ²	≥ 2 N/mm ²
CURVE RESISTANCE		
Compression: (EN 12190)		
1 day		≥ 25 N/mm ²
7 days		≥ 40 N/mm ²
28 days		≥ 50 N/mm ²
Flexural strength: (EN 12190)		
28 days		≥ 7 N/mm ²
Minimum coat thickness		20 mm
Maximum coat thickness		100 mm
Pot life of mixture		30 minutes
Mixing water		12±1%
Paste yield		2.1 Kg/m ² mm thickness
Classification according to EN 1504-3:2006		R4
Type		CC

Rev. 24_04 - This revision cancels all previous ones. Please, obtain the latest version from our web site - www.grupopuma.com - (+34) 957 76 40 40

CONCRETE REPAIR

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CE MARK

	
GRUPO PUMA ESPAÑA SL Avd. Agrupación Córdoba, Núm.17 14014 (Córdoba) 24 Nº: 210306	
0370-CPR-2578	
EN-1504-3 MORCEMREST MH	
Product for structural reparation of the concrete with CC mortar. For repairing the concrete in areas of difficult access, screeds or for regenerating structural elements of the concrete. (based on hydraulic cement).	
Resistance to compression	R4 Class
Chloride ion content	≤ 0.05%
Adherence	≥ 2 MPa
Resistance to carbonatation	Pass
Elasticity module	≥ 20 GPa
Thermal compatibility part 1	≥ 2 MPa
Capillary absorption	≤ 0.5 kg.m ² h ^{0.5}
Reaction to fire	A1

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Cement based mortar prepared with aggregates that are supplied close to the production center, which reduces the greenhouse gas emissions that would otherwise arise from their transport. Manufactured in production centers with an Environmental management certified system following ISO 14001 regulation, offering a firm promise of sustainability and respect for the environment.

Cement based mortar with type III ecological label (the most strict) Environmental Product Declaration verified externally by AENOR.

LEGAL DISCLAIMER

The instructions for use are given according to our tests and knowledge and do not imply any commitment by GRUPO PUMA nor free the consumer from the examination and verification of the products for their correct use. Claims must be accompanied by the original packaging to allow a proper traceability.

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