

MasterCrete PM 950

A class R3, thixotropic, polymer-modified, two-component cementitious mortar with normal setting time, formulated for concrete repairs and skimming applications ranging from 3 to 20 mm.

Material description

MasterCrete PM 950 is a high-performance, two-component, thixotropic, polymer-modified structural cementitious mortar (class R3 in accordance with EN 1504-3). Component A of **MasterCrete PM 950** consists of high-performance hydraulic binders, selected fine-grained aggregates, special additives and synthetic polyacrylonitrile (PAN) reinforcing fibres, whilst component B (**MasterCrete 900**) consists of polymers in aqueous dispersion to enhance its adhesion and protective properties. **MasterCrete PM 950** is suitable for skimming and structural surface repairs on concrete surfaces, with thicknesses ranging from 3 to 20 mm, in a single coat, even overhead. Furthermore, the special formulation ensures high dimensional stability, minimising the risk of cracking due to hydraulic shrinkage and guaranteeing excellent adhesion to both the old concrete (≥ 2 MPa) and the reinforcing bars.

MasterCrete PM 950 provides high protection against carbonation-induced corrosion for reinforcement, even without a passivating agent, provided that a concrete cover thickness of at least 10 mm is ensured.

Main uses

The thixotropic two-component structural cementitious mortar **MasterCrete PM 950** allows for the skimming and structural repair of concrete surfaces, both horizontally and vertically, ensuring maximum effectiveness and durability. It can be applied manually with a cement trowel or masonry trowel or sprayed using a suitable machine, in thicknesses ranging from 3 to 20 mm.

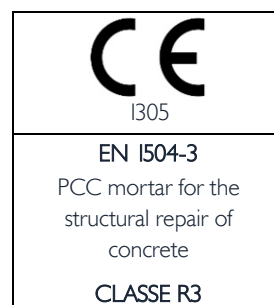
Some examples of application are:

- cortical restoration of concrete infrastructural structures: viaducts, bridges, tunnels, underpasses, etc.;
- cortical restoration and surface reconstruction of structural and non-structural elements and structures in concrete and reinforced concrete;
- cortical restoration and repair of concrete elements and structures of any type and size in civil, industrial, or commercial buildings that exhibit deteriorated concrete, defects, or detachments;
- smoothing of existing concrete surfaces requiring thin surface concrete repair and protection;
- Reconstruction of the concrete cover in reinforced concrete and prestressed concrete structures.

Features

- **Plastic shrinkage crack resistance:** **MasterCrete PM 950** is reinforced with polyacrylonitrile (PAN) synthetic fibres, which reduce the risk of surface micro-cracking during the plastic phase of the product.
- **Resistance to hydraulic shrinkage cracking:** thanks to its special formulation.
- **Excellent adhesion** on properly prepared substrates, both horizontally and vertically, even overhead.
- **Excellent resistance to penetration by aggressive environmental agents**, such as chlorides and sulphates carried in contact water.
- **High resistance to degradation** caused by the cyclic action of freezing and thawing, thereby ensuring greater protection of the reinforcement against corrosion.

In compliance with the European Regulations (EU No. 305/2011 and EU No. 574/2014), the product has the CE marking in accordance with UNI EN 1504-3 (class R3) and the relevant DoP (Declaration of Performance).



Consumption

Approximately 2.0 kg/m² per millimetre of thickness (consumption of mixture A+B).

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Packaging and storage

MasterCrete PM 950 consists of:

Component A (MasterCrete PM 950): 25 kg bags

Component B (MasterCrete 900): 25 kg cans

Keep the product in its original packaging in a dry, protected location at a temperature between +5°C and +35°C. Do not expose to direct sunlight.

Under the above conditions, the product has a shelf life of 12 months.

Preparation and method of application

Preparing the substrates

- The concrete surface to be smoothed or repaired with **MasterJoint 950** must be perfectly clean, solid, without degraded, loose or detached parts, without irregularities that could compromise the application of the product, and free of cement laitance, traces of release agents, or any substance that could affect the adhesion of the product to the substrate.
- Once the above has been verified, you can proceed according to the possible scenarios described below:
 - If it is not necessary to restore degraded areas or repair significant surface irregularities, the substrate must still be made slightly rough by sandblasting, hydro-sandblasting or high-pressure washing;
 - If, on the other hand, the substrate has significant irregularities or is significantly uneven, these must be repaired, after adequate treatment and saturation of the dry substrate surface with water, using **MasterCrete PM 950**;
 - If the substrate shows deterioration with thicknesses to be restored exceeding 20 mm and any exposed reinforcement rods, the latter must be treated with the **MasterCrete** range passivating mortar, while the appropriate **MasterCrete** line product must be used for the volume to be restored, depending on the nature of the work.

- Any structural joints, expansion joints or discontinuities subject to continuous dynamic stress must be adequately treated using elastic strips or sealants from the **MasterJoint** range.
- Before applying **MasterCrete PM 950**, ensure that the substrate is also dust-free and saturated with water but with a dry surface; in any case, there should be no traces of water on the surface, which should be removed with compressed air or absorbent sponges if necessary.

Preparation of mortar

Gradually add component A to the previously poured component B and mix **MasterCrete PM 950** for approximately 3–4 minutes in a concrete mixer or in a bucket using a whisk fitted to a low-speed drill, until a homogeneous mixture is obtained (follow the mixing ratios specified in the technical data sheet).

In the event of specific construction or site requirements that necessitate a reduction in setting and/or curing time (for example, in cold weather), one of our liquid setting accelerators may be added to the mixture with **MasterCrete PM 950**. In that case, please contact the Master Builders Solutions technical support team.

Laying and trowelling

For manual application of **MasterCrete PM 950**, use a cement trowel or masonry trowel to apply a layer of a thickness between 3 and 20 mm.

For smoothing, use a smooth trowel to apply a thin layer, exerting constant pressure to promote adhesion of the product to the substrate, then complete with a second coat of product on the first layer while it is still fresh, to achieve the desired final thickness.

The product can also be applied by spraying using a suitable non-continuous-cycle plastering machine, such as a screw-type or auger-type machine, and must always be applied by spraying to a maximum thickness of 20 mm.

The finished surface should then be trowelled using a sponge trowel as soon as the mortar begins to set. The waiting time before trowelling depends on the weather conditions.

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Ageing and maturation

It is always recommended to cure surfaces exposed to the air for the first 24 hours using a wet method or by spraying a curing and anti-evaporation agent from the **MasterKure** range. This solution is particularly recommended in environments characterised by low relative humidity and high ventilation.

Application temperatures

Application environment temperature needs to be between +5°C and +35°C.

Warnings

- Do not apply directly on plaster, crumbly, mixed or painted surfaces.
- Do not apply **MasterCrete PM 950** on smooth substrates; a mechanical roughening is necessary.
- Do not add additional water or fresh mortar to the mixture that has already begun to set.
- Do not add water beyond the dosage recommended in the technical data sheet.

Technical data

Product identification data		
Component ID	Component A (MasterCrete PM 950)	Component B (MasterCrete 900)
Texture	Powder	Liquid
Colour	Grey	White
Maximum size of the aggregate	1 mm	-
Mixing ratio (by weight):	Medium: Comp. A: Comp. B = 13: 2,5 Dosage range of Comp. B: 19% - 20%	
Consumption	2.0 kg/m ² per mm of thickness	
Mixture consistency	Plastic - Thixotropic	
Workability time (+20°C)	60 minutes	
Application environment temperature	5°C to 35°C	
Class (EN 1504-3)	R3	
Type	PCC cementitious mortar	
Chloride ion content (EN 1015-17) – minimum requirement ≤0.05%	< 0.05%	
Applicable layer thickness (minimum/maximum)	3 mm / 20 mm	

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Performance

(The performance data shown below was obtained in accordance with UNI EN 1504-3 with a component B content of 19.5%)

Feature	Test method	Regulatory requirement	Product performance
Compression strength	UNI EN 12190 UNI EN 196-1	≥ 25 MPa at 28 days	1 days > 10 MPa 7 days > 27 MPa 28 days > 38 MPa
Flexural strength	UNI EN 196-1	none	1 days > 2 MPa 7 days > 5 MPa 28 days > 7 MPa
Elastic modulus	UNI EN 13412	≥ 15,000 MPa at 28 days	> 15,000 MPa
Adhesion to concrete	UNI EN 1542 (MC 0.40 substrate – UNI EN 1766)	≥ 1.5 MPa	> 1.5 MPa
Resistance to freeze-thaw cycles with de-icing salts	UNI EN 1542 after the UNI EN 13687/1 cycles on an MC 0.40-type substrate.	≥ 1.5 MPa	> 1.5 MPa
Resistance to accelerated carbonation	UNI EN 13295	Carbonation depth ≤ compared to that of the reference concrete type MC 0.45 (with a/c ratio = 0.45) according to UNI EN 1766	Specification superseded
Capillary absorption coefficient	UNI EN 13057	≤ 0.5 kg·m ⁻² ·h ^{-0.5}	< 0.5 kg·m ⁻² ·h ^{-0.5}
Reaction to fire (Euroclass)	EN 13501-1	-	A2, s1 d0

Safety instructions

For guidance on the correct and safe use, transport, storage and disposal of the product, please see the latest Safety Data Sheet (SDS).

Other services

For additional technical information, brochures, references, technical reports and technical assistance please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical sheet and any additional documentation.



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Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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