

MasterEmaco P 5000 AP

Single component, cement based, multi-use, bonding and active protective primer

DESCRIPTION

MasterEmaco P5000 AP active primer, not only reinstates a high pH environment it also contains active corrosion inhibiting additives for the protection of reinforcement steel. It can also be used as an adhesive bonding slurry for subsequent repair mortars.

MasterEmaco P5000 AP is a ready-to-use material that contains portland cement, well graded fine fillers, re-dispersible powder and special additives.

When mixed with water, it forms a slurry that can be applied by brush to the clean exposed reinforcement, or directly on the dampened, prepared concrete substrate when used as a bonding coat.

FIELD OF APPLICATION


MasterEmaco P5000 AP is used for the protection of reinforcement steel:

- When steel is visible and the available depth of cover is less than 10mm
- When concrete is contaminated with chlorides
- In critical environments when extra protection is specified
- With MasterEmaco N5200 repairs when steel is visible
- When the timing at the jobsite does not allow for the repair mortars to be applied immediately after cleaning the steel

MasterEmaco P5000 AP can also be used to aid bond and application properties of hand applied repair mortars in extreme thicknesses and conditions.

FEATURES AND BENEFITS

- Meets all major national and international norms for steel priming in concrete repair systems
- Excellent rust inhibiting properties as it reinstates a high pH environment
- Contains active corrosion inhibitors to further protect the steel
- Polymer modified for additional adhesive bond to the steel
- Does not affect the pull out strength of reinforcement steel
- Perfect compatibility with steel rebars and concrete or repair mortars
- Fast curing to save time and money
- Simply mixed with water
- Multi-use: can also be used as a bonding slurry to improve bond and application thicknesses of Emaco repair mortars on prepared concrete surfaces
- Light grey/off white colour for easy site control of reinforcement coverage
- Supplied in re-usable air-tight containers
- Low chromate (Cr[VI] < 2ppm)

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BASF Belgium Coordination Center Comm. V. Business Belux - Construction Chemicals Nijverheidsweg 89, B-3945 Ham	
11 BE0058/01	
EN 1504-7 Products and systems for the protection and repair of concrete structures Reinforcement corrosion protection products and systems EN 1504-7 Principles 11.1 / 11.2	
Corrosion protection EN 15183	Coated zones of the steels are free of corrosion and if rust creep at the ground plate edge < 1 mm
Shear adhesion (coated steel to concrete) EN 15184	Bond stress at a displacement of $\Delta = 0,1$ mm The bond stress determined with the coated bars is in each case at least 80% of the ref. bond stress determined for the uncoated bars

APPLICATION METHOD

(a) Surface Preparation Steel reinforcement

All corrosion and its by-products must be removed from. The preparation should meet the requirements of ISO 8501-1/ISO 12944-4 class SA 2 for the full 360° circumference of the steel reinforcement to be coated.

Concrete

When used as a bond coat on concrete, the surface must be completely clean and structurally sound. Remove deteriorated or contaminated concrete or mortar, e.g. by grit or high pressure water blasting. Saturate the concrete surface with water but remove excess before application.

(b) Mixing

In a suitable container, mix MasterEmaco P 5000 AP with a paddle mounted on a slow-speed drill, or by hand, until a smooth, thick consistency is achieved. Use only clean, uncontaminated water.

Mixing water needed: 0.22 to 0.26 litres per kg of powder, depending upon consistency required.

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Leave to stand for approx. 5 minutes and re-mix briefly before use, adjusting the consistency when required, without exceeding the maximum water demand.

(c) Application of Slurry

Substrate temperatures must be a minimum of +5°C and a maximum of +35°C. The minimum temperatures must be maintained during application and for at least 24 hours thereafter for optimum curing of the product.

As a reinforcement primer:

Apply the mixed material in an even layer at least 1mm thick (approx 1.5kg/m²) to the full circumference of the prepared reinforcement using a soft paint brush. When the first coat has hardened sufficiently, (approx. 30-90 minutes) apply a second coat also 1mm thick.

It is important that this second layer has sufficiently hardened before the repair mortar is applied. When applying the repair mortar by hand this can be done after approximately 2 hours. However, when spraying a repair mortar the priming coat must be left to dry completely (min. 8 hours @ 20°C).

As a bonding slurry: Work the mixed material well into the prepared and pre-soaked, damp surface by using a suitable brush (e.g. the Emaco Nanocrete brush).

Typical application rates are 2-3kg per m².

Apply the repair mortar wet in wet. Never allow the slurry bond coat to dry out!

COVERAGE

Approx. 1.5kg of dry powder per m² and mm layer thickness. Product Yield 8.3 litres per 15kg pack (120 packs per m³)

This consumption is theoretical and depends on the roughness of the substrate. It should be verified on each particular job by means of "in situ" tests.

FINISHING AND CLEANING

While still wet clean with water. Once dry/cured the material can only be removed mechanically.

CURING

Curing times are dependent on the environmental conditions. Protect from rainfall until finally set.

PACKAGING

MasterEmaco P 5000 AP is available in 15kg re-sealable plastic pails.

STORAGE

Store in cool and dry warehouse conditions. Shelf life in these conditions is 12 months in unopened original sacks.

SHELF LIFE

12 months if stored at above mentioned storage conditions.

WATCH POINTS

- Do not apply at temperatures below +5°C nor above +35°C
- Do not add cement, sand or other substances that could affect the properties of the material
- Never add water or fresh mortar to a mortar mix which has already begun to set
- Contact Technical Department of your local Master Builders Solutions UK Ltd office regarding any information required not mentioned here

HANDLING AND TRANSPORT

Usual preventive measures for the handling of chemical products should be observed when using this product, for example do not eat, smoke or drink while working and wash hands when taking a break or when the job is completed.

Specific safety information referring the handling and transport of this product can be found in the Material Safety Data Sheet. For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

Disposal of product and its container should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

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CONTACT DETAILS

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Product Data			
Property	Standard	Data	Unit
Appearance	-	Light Grey Powder	-
Layer thickness	-	2mm in two layers	-
Density	-	approx. 1.8	g/cm ³
Mixing water	-	Approx. 0.22 – 0.26	l/kg
Working time	-	Approx. 60 minutes	minutes
Temperature for application (support and material)	-	Between +5 and +35	°C
Pull out strength of coated rebar	Comparison vs. uncoated	≥ 80	%
ZTV-Sib90 compliance testing	TL BE-PCC		
- total halogen content	-	≤ 0.05	Weight %
- corrosion stimulation	-	≤ 10	µA/cm ²
- corrosion resistance	-	≤ 1 (migration of rust underneath the coating starting from uncoated edge)	mm
- accelerated weathering - 10 cycles DIN 50017 - 10 cycles DIN 50018 - 120 hours DIN 50021	-	No corrosion/No delamination/max. crack width ≤ 0.1mm	-

Note: Hardening times are measured at 21°C ± 2°C and 60% ±10% relative humidity. Higher temperatures will reduce these times and lower temperatures will extend them.

Technical data shown are statistical results and do not correspond to guaranteed minima. Tolerances are those described in appropriate performance standards.

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Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Solvent Based Products

Use in well ventilated areas; avoid inhaling. Suitable respiratory equipment may be needed, eg when spraying. Can cause skin, eye irritation. Wear protective eye shields and gloves during use. Do not smoke or allow sparks or naked lights when stored or in use.

Resin Products

Can cause irritation, dermatitis or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

Spillage

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"Master Builders Solutions UK Ltd" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.