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The Chemical Company

EMACO® NANOCRETE AP

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

DESCRIPTION

EMACO NANOCRETE 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. 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.

RECOMMENDED FOR

EMACO NANOCRETE AP is used for the protection of reinforcement steel:

- When steel is visible and the available depth of cover is less than 10 mm
- When concrete is contaminated with chlorides
- In critical environments when extra protection is specified
- With **EMACO NANOCRETE R2** 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

EMACO NANOCRETE 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 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] < 2 ppm)**

ESTIMATING DATA

Approx. 1.5 kg of dry powder per m2 and mm layer thickness. 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.

APPLICATION

Surface preparation - 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. 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.

Mixing - In a suitable container, mix **EMACO NANOCRETE 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. Leave to stand for approx. 5 minutes and re-mix briefly before use, adjusting the consistency when required, without exceeding the maximum water demand.

Application of slurry - Substrate and ambient temperatures must be a minimum of +5ºC and a maximum of +35ºC. 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. 30-90minutes) 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. Typical application rates are 2-3kg per m². Apply the repair mortar wet in wet. Never allow the slurry bond coat to dry out.

NOTE

- 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.

CURING

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

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CLEANING

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

PACKAGING

EMACO NANOCRETE AP is available in 5kg plastic re-sealable pails.

STORAGE

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

PRECAUTIONS

Usual preventive measures for the handling of chemical products should be observed. Do not eat, smoke or drink while working and wash your hands when taking a break or when the job is completed. Avoid contact with eyes and prolonged contact with skin.

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

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Construction Chemicals **Material Safety Data Sheet (MSDS**) from our office or our website.

TECHNICAL DATA

PROPERTY	STANDARD	UNIT	VALUES
Appearance	-		Orange
Layer thickness	-		2mm in layers
Density	-	g/cm^3	Approx. 1.8
Mixing water	-	l/kg	Approx. 0.22 – 0.26
Working time	-	Minutes	Approx. 60 minutes
Temperature for application (support and material)	-	°C	Between +5 and +35
Pull out strength of coated rebar	Comparison vs uncoated	%	≥ 80
ZTV-Sib90 compliance testing - total halogen content - corrosion stimulation - corrosion resistance - accelerated weathering 10 cycles DIN 50017 10 cycles DIN 50018 120 hours DIN 50021	TL PE-PCC	 Weight % µA/cm^2 mm	≤ 0.05 ≤ 10 ≤ 1 (migration of rust underneath the coating starting from uncoated edge) No corrosion / no delamination / max. crack width ≤ 0.1mm
VOC Content : 9g/L Test method: ASTM D3960			

Hardening times are measured at 21ºC ± 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

AENcreteAP/3/1011

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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