BASF
The Chemical Company

MasterEmaco® N 5100 (formerly known as Emaco Nanocrete FC)

Cementitious polymer modified thin layer fairing mortar

DESCRIPTION

MasterEmaco N 5100 is a concrete-grey, ready-to-use mortar based on hydraulic binders, high grade quartz sands and modified with synthetic polymers. It contains no chlorides or other salts that might cause corrosion or blooming.

RECOMMENDED USES

MasterEmaco N 5100 is especially suitable for levelling uneven surfaces, filling honeycombs and pin holes. It can be used as a topping (render) of up to 3mm thick to face up masonry.

MasterEmaco N 5100 is an ideal substrate for coatings. It is also used for laying ceramic and concrete tiles, and as a thin bed mortar for the placement of lightweight blocks, insulation boards and hollow masonry units (HMU).

MasterEmaco N 5100 is ideal for thin resurfacing of damaged concrete surfaces, such as in rain damaged slabs and for use in non-moving crack repairs.

FEATURES AND BENEFITS

- **Economical –** allows thin layer patching and Feather edging possible
- **Strong adhesion –** Use as base layer for coatings, tiles and panels
- **Plastic thixotropic material -** Quick and easy to apply by trowel vertically and overhead
- **Very durable -** Weatherproof and Shrinkage compensated
- **Fast return to service -** High early strength and excellent bonding

PROPERTIES

Time of test	28 day
Compressive strength	40 MPa
Flexural strength	7.0 MPa
E-Modulus	12.0 GPa
Bond (to substrate)	> 2.5 MPa
Co-efficient of thermal expansion (ASTM C531)	13 x 10^{-6} m/m/°C
Supply form	powder
Water added per bag (20kg)	up to 4 litres
Colour	grey
Density (mixed)	2.0 kg/litre

Storage temperature	5-35°C
Effect of humidity	same as cement
Application temperature	not below 7°C
Physiological effects	same as cement
Toxicity	non-toxic
The working time at 20°C	50 minutes
At 30°C	25 minutes
If longer working time is required, a small amount of water can be added (maximum 2%) before the mix starts to set, e.g. by wetting the trowel with water	
VOC Content: 7g/L Test method: SCAQMD: 304-91	

APPLICATION

Substrate Condition

Surfaces to which **MasterEmaco N 5100** mixtures are to be applied, should be clean, sound and free of dust and loose particles.

Cement laitance, oil, grease, mould release oil or curing compound must be removed from concrete surfaces by using wire brush, bush hammer, scabbler, gritblasting or other means. Ensure that steel rebars are also clean from grease, oil or rust. When repairing spalled or deteriorated concrete, ensure that the concrete has been cut back to sound material.

Steel surfaces should be degreased with a suitable solvent or treated by gritblasting. In many cases where corrosion is absent, wire brushing to a clean bright surface is sufficient.

All absorbent surfaces to be treated with **MasterEmaco N 5100** mortars must be thoroughly dampened to saturate all pores. During application, the temperature of the substrate should not be below 7°C.

To avoid too high surface temperatures it is advised to shade areas for the period of application.

Grooves more than 3mm deep should be prefilled with **MasterEmaco R 5200CI**.

Mixing

Pour water into a suitable pail and add whilst mixing continuously until a homogeneous, lump-free mix is obtained.

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The amount of water to be added is highly dependent on ambient temperature and relative humidity. In hot and dry climates, slightly higher amounts of water may be necessary, the contrary in cold and humid climates.

Use a low speed stirrer with a suitable mixing paddle to entrap as little air as possible.

Do not mix **MasterEmaco N 5100** with additional cement, sand or aggregate.

Priming Is not required.

Method of use

Apply the well-mixed **MasterEmaco N 5100** without delay to the prepared damp surface with a spatula or trowel; thin layers may be applied with a brush. A minimum temperature of 7°C is essential. Layers up to a maximum of 3mm per coating can be applied.

If **MasterEmaco N 5100** is used as an adhesive, either spot or full surface bonding can be used. Bring the material being bonded into the correct position and press down firmly.

Depending on the finish desired, treat the surface of **MasterEmaco N 5100** after it starts to set with a foam or sponge trowel.

ESTIMATING DATA

A 25kg bag of **MasterEmaco N 5100** mixed with 5 litres of water yields 15 litres (0.015m³), therefore material requirement is 5kg/m² @ 3mm thickness.

PACKAGING

Emaco Nanocrete FC is available in 25kg bags.

SHELF LIFE

MasterEmaco N 5100 has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

PRECAUTIONS

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 Material Safety Data Sheet (MSDS) from our office or our website.

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