

RHEOMIX™ 131

Acrylic modifier for producing site-batched polymer modified mortar

Description

RHEOMIX 131 is a modified acrylic copolymer emulsion, specially formulated for enhancing the properties of cementitious mortars/plaster. RHEOMIX 131 is the polymer of choice for making site-batched repair mortar for concrete and masonry structures. By itself, it also functions as an effective bonding agent and curing compound.

Uses

- Polymer modifier for patch repair mortars
- Bonding repair mortar to substrate.
- As curing compound for repair mortars

Advantages

- Improves the workability of cement mixes
- Enhances tensile and flexural strengths
- Reduces permeability & corrosion
- Excellent penetration. Stronger bond.
- Makes cementitious systems waterproof.
- Does not re-emulsify in contact with water
- Improves wear and abrasion resistance.
- Non-toxic: suitable for use in potable water tanks.

Typical Properties

Aspect	: Milky white liquid
Relative density	: 1.03 ± 0.01 at 25°C
Solid content	: ≥ 40 %

Properties of Polymer modified mortar

Mortar proportioning:	
Cement	: 50 Kg
Quartz Sand (Zone II)	: 150 Kg
RHEOMIX 131	: 10 Kg
Water	: 10 Litre
Mortar Properties:	
Fresh wet density*	: 2000 ~ 2200 Kg/m ³
Compressive strength*	: up to 30 N/mm ²
Flexural strength*	: up to 11 N/mm ²
Tensile strength*	: up to 6 N/mm ²
Freeze thaw resistance	: Excellent.
Adhesion	: Excellent to concrete, steel, brick, glass, etc.
Resistance to water under pressure (30m head)	: Excellent - no water through a 15mm thick test piece.

*Properties are of typical mix, and may vary depending upon mix constituents. BASF strongly advises to carry out site mix design and site trials.

Specification Clause

The polymer modifier shall be RHEOMIX 131, modified acrylic based. The product shall have minimum solids of 40%. The polymer shall be capable of being used as bonding agent and shall have pull-off bond strength not less than 1 MPa.

Directions for use

Surface preparation

Correct substrate preparation is critical for optimum performance.

The prepared surface should be structurally sound and free from contaminants. Remove concrete that has been saturated with oil or grease. Depending on the substrate condition and environmental requirements, use an effective method for removal of weak concrete such as, wet grit blasting, high pressure water jetting and mechanically wire brushing.

Saw cut the boundary of repair area perpendicular to the surface to at least 10 mm depth and remove concrete within the saw-cut boundary at least to that depth. Where saw cutting is not possible, after material removal, prepare the edge of the repair area vertical.

Inject structural cracks using CONCREXIVE 1315 – a low viscosity, epoxy resin (refer data sheet). Repair surface defects using RHEOMIX 131 modified repair mortar.

Where rebars are corroded, cut back the concrete to at least 20 mm behind rebars. Remove corrosion products by mechanical means. Use MBT RUSTKLEEN – rust converter (refer the product datasheet)

Replace the affected part of rebar if the diameter after grit blasting is found reduced by more than 20% of the original diameter.

For superior protection from corrosion in aggressive environments, coat the rebars with CONCREXIVE ZRi – the zinc rich epoxy primer or with THORO STRUCTURITE PRIMER in environments not laden with chlorides.

Priming/Bonding coat

Saturate the prepared surface with clean water for at least one to two hours before applying the bond coat/slurry.

Apply RHEOMIX 131 as supplied on to the prepared damp surface using a brush or medium nap roller. Apply liberally to cover maximum 5m²/L but avoid puddles.

Bonding slurry

Wet down absorbent surfaces, such as concrete, brick, stone, etc., ensuring that they are saturated but free of surface water. Prepare a bonding slurry of 1½ to 2 parts cement to 1 part RHEOMIX® 131 by volume, mixed to a lump-free creamy, consistency. Using a stiff brush, work the bonding slurry well into the damp surface, ensuring that no pinholes are visible. (Approximately 20kg of RHEOMIX® 131 mixed with 50kg of OPC cement will give creamy slurry which will cover 20 square metres of substrate dependent on surface texture and thickness applied.)

Rendering to vertical surfaces: Apply the bonding coat/slurry to the prepared surface and then apply the RHEOMIX® 131 render into the wet bonding coat/slurry.

Apply RHEOMIX® 131 modified mortars in coats at a maximum thickness of 7-10 mm per coat. Greater thickness can lead to slumping. Several coats can be applied in fairly rapid succession, usually within 15 to 30 minutes of the previous coat. Close the surface using a wooden float or steel trowel.

Another method is to let the first coat of render dry overnight and apply another slurry coat before applying the second coat of render.

Screeds and toppings, applied to horizontal surfaces: To modify concrete, mix RHEOMIX 131 with the dozing water and ensure w/c is <0.45 by weight. Use 8 – 20 % of RHEOMIX 131 by weight of cementitious materials as effective polymer enhancer. Screeds, patches, etc., based on RHEOMIX® 131 modified cements, can be laid to any thickness from 50mm down to 10 mm minimum. After mixing, the RHEOMIX® 131 modified mix should be placed over the still wet bonding slurry/coat, well compacted and struck off to level. It may then be trowelled to the required finish using a wooden float or steel trowel.

Curing:

Good curing is essential. Particular care is required in hot and/or windy conditions. Cure either by a single coat of RHEOMIX 131, which is compatible with most subsequent protective coatings or by covering the work with plastic sheet fixed over wet hessian or wet foam rubber.

Coverage

Consumption depends on application and the profile of the substrate. On fair-faced concrete, 20mm thick

polymer modified mortar shall require 2 – 2.5 Kg of polymer per m² for 1:5:15 (polymer: cement: sand) proportion mix by weight.

Packaging

RHEOMIX 131 is supplied in 5kg and 20kg containers.

Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

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