Technical Data Sheet

LAVAREP F80

High Compressive Strength Shrinkage Free Repairing Mortar

Description:

LAVAREP F80 is a premixed, cementitious, fiber reinforced, polymer modified, shrinkage compensated high quality repairing mortar. It is composed of hydraulic binders, silica sand graded aggregates, special additives and reinforcing fiber to perform batching repairs with high compressive strength. It is supplied in ready to use blended powder which requires only addition of water to produce workable, thixotropic, non-sagging repair mortar for horizontal, vertical and overhead applications.

Uses:

LAVAREP F80 is suitable for wide range of concrete and cement structural repair mortar, especially in situations where high abrasion and high mechanical strength are required including:

- General repair for concrete structures.
- Repair of expansion joints.
- Pre-cast concrete repairs.
- General repair of degraded concrete structural elements.
- Honeycombing repair in reinforced concrete elements.
- Edges of beams, pillars, risers of balconies, terraces.
- Bridges, dams, tunnels, channels and concrete pavements.
- Highly trafficked surfaces, particularly transition strips adjacent to mechanical bridge joints.
- Repairs in marine environments or other situations, where concrete is in contact with chloride or sulphate solutions.
- Floor repairs in industrial areas, especially if exposed to oil or lubricants.
- Pile cap re-profiling and treatment.

Advantages:

- Single component, requires addition of water only.
- Excellent bond to all concrete substrates.
- Can be applied on vertical, overhead or horizontal areas without the use of formwork.
- Shrinkage compensated reduces the risk of cracking.
- High compressive strength and impact resistance of finished layer.
- High build achievable with excellent mechanical strength.
- Excellent workability and thixotropic mortar.
- Low permeability provides protection against chloride, atmosphere gases and salts penetration.
- Re-coatable and compatible with other cement products.

Instructions for Use:

Surface Preparation:

Preparation of cementitious surfaces for repair should ensure the removal of all grease, contaminants, oil and loose material, after cleaning by mechanical tools, to avoid "feather edging", it is advisable to neatly cut the repair boundary by concrete saw to a depth of 10mm. All corroded steel should be completely exposed including the rear of the bar to enable thorough cleaning.

It is recommended to apply mechanical cleaning to reinforcing steel and particular attention should be paid to the rear of the bar to ensure all corrosion products have been removed. Once the reinforcing steel has been cleaned it should be coated immediately with one coat of LAVAZINC EP – a two component Epoxy Zinc Primer or LAVAFER – a two component cementitious corrosion inhibiting primer.

Before applying LAVAREP F80 soak the substrate with water. Allow excess water to evaporate or use sponge, and ensure a saturated surface dry condition “SSD” prior to application of repair mortar.

If the application is to be done in short period of time, apply a coat of MEGABOND SBR slurry as a bonding coat before applying repair mortar.

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Application of repair mortars over dry concrete surfaces without saturation with clean water "SSD" or priming with a bonding agent will result in failure of product and defect in repair.

Mixing:

To prepare the mortar, pour 3.30 - 3.75 liters of clean water into container and add slowly the LAVEREP F80 powder bag contents (25 Kg). Mix using spiral paddle fitted to slow speed heavy duty drill for few minutes till a homogeneous lump free consistency mix is achieved. Always add powder to water and not water to powder. Avoid adding additional water after the mixture is homogenous and ready for use.

Application:

Apply LAVAREP F80 manually with a trowel or spatula to the saturated surface of concrete "SSD". LAVAREP F80 must be forced lightly into the substrate to ensure intimate contact with the prewetted substrate. The minimum applicable thickness is about 5 mm and the maximum about 50mm for vertical and 20 mm for overhead sections or from 5 mm up to 100 mm for horizontal sections. If the application of second coat is necessary, the previous layer should be cross hatched, roughened and allowed to take up its initial set before applying the second coat.

For large repair areas, LAVAREP F80 can be sprayed by a mortar spray machine. Ensure proper mix of gauging water and apply a sample area to ensure mixture consistency and bonding prior to full application.

Curing cementitious repair products is essential. It is essential to follow good concrete curing practice and to protect the repaired area from drying winds, sun or excessive heat to avoid rapid evaporation of mix water in the applied mortar. Cover the area with wet hessian cloth covered with polyethylene sheet for two days. A coat of a recommended MATEX curing agent could be applied instead. Consult with MATEX Technical Department for further instructions.

Standards:

- EN 1504-R4
- BS 1881, Part 116, BS 6319
- ASTM C109, ASTM C952, C928, C1240, C580

TECHNICAL PROPERTIES	
Appearance	Cement Gray
Wet Density	2.0 ± 0.05 kg/lit
Aggregate Size	Up to 2.0 mm
Workability	35 minutes @25°C
Temperature of Application	From +5°C to +35°C
Thickness per coat	5–50 mm vertical 5–20 mm overhead 5–100 mm horizontal
Adhesion bond to concrete (BS 1881-207)	≥1.6 N/mm2
Water absorption (BS 1881-122)	<2.0%
Compressive Strength (ASTM 109)	>55 N/mm² @ 7 days >80 N/mm² @ 28 days
Flexural Strength (ASTM C580)	>13.0 N/mm² @ 28 days
Contrastive Expansion	0.58% after 28 days

*Values indicated may vary depending on the environment and conditions of the material. Figures given are tested according to standard laboratory conditions.

Coverage:

LAVAREP F80 achieves coverage of 2.0 kg/square meter @ 1mm thickness.
*Coverage rate is an approximate value, and subject to actual site conditions.

Yield:

14.25 liters/25 Kg. bag with 3.5 liters water addition

Packaging:

LAVAREP F80 is supplied in 25 kg high quality recyclable paper bags.

Storage Conditions:

Store in original packing in dry conditions away from direct sunlight and high humidity levels.

Shelf Life:

LAVAREP F80 can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

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Cleaning:

Clean tools with water prior to product hardening. Hardened materials can be removed mechanically.

Health and Safety:

- Avoid contact with eyes and skin. Wear suitable protective clothing such as coveralls, goggles, dust mask and gloves. Use barrier cream. Ensure that there is adequate ventilation. Do not breathe vapor or spray mist.

FIRST AID:

Eyes:	In the event of accidental splashes, flush with warm water and seek medical advice.
Skin:	Wash skin thoroughly with soap and water
Inhalation:	Remove to fresh air, keep patient rested
Ingestion:	Do not induce vomiting. Seek immediate medical attention.

For further safety information, please refer to LAVAREP F80 Material Safety Data Sheet.

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