

# LAVAREP F40

## Fiber Reinforced Shrinkage Compensated Repairing Mortar

### Description:

LAVAREP F40 is a premixed, cementitious, fiber reinforced, polymer modified, shrinkage compensated repairing mortar. It is composed of hydraulic binders, silica sand, graded aggregates, special additives and reinforcing fiber to perform patching 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 F40 is suitable for wide range of concrete and cement surface batching repair, including:

- General repair of concrete structures of walls, slabs and columns.
- Vertical and overhead repair.
- Repair of expansion joints.
- Precast concrete repairs.
- General repair of degraded concrete elements.
- Repair of voids greater than 5mm deep.
- Honeycombing repair in reinforced concrete elements.
- Edges of beams, pillars, risers of balconies, terraces.

### 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:

In concrete repairs, proper surface preparation is essential for obtaining good results. Mark the boundary of the damaged areas of concrete and then cut neatly by saw cutting machine or disc grinder to a depth of 10mm. Feather edge is not permitted. Then chip the concrete within the boundary down to sound base using sharp tools or chipping hammer. All corroded steel should be completely exposed including the rear side of the bar to enable thorough cleaning. In case that reinforcing bars section is reduced due to oxidization, integrate them with additional bar reinforcement.

The concrete substrate should be clean from all grease, contaminants, oil and loose material. After completing the chipping, clean the surface with steel brush. In case of deep rusting or contamination, it is recommended to clean using sand blasting to reinforcing steel. 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 Rich Primer or LAVAFER – a two component cementitious corrosion inhibiting primer).

Before applying LAVAREP F40, soak the substrate with water. Allow excess water to drain or to evaporate. Ensure a saturated surface dry condition “SSD” prior to application of repair mortar.

For superior bonding strength with the substrate, apply a coat of MEGABOND SBR slurry as a bonding coat primer before applying the repair mortar. 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 3.75 - 4.25 liters of clean water into container and add slowly the LAVAREP F40

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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 F40 manually with a trowel or spatula to the saturated surface of concrete "SSD". LAVAREP F40 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 35mm for vertical and 20 mm for overhead sections or from 10 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 F40 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:

- ASTM C157 – 93, C928, C1240, C109, C579, C580
- BS 1881 Pt. 116, BS 6319, DIN 1048, 1504-3

TECHNICAL PROPERTIES	
Appearance	Cement Grey
Wet Density	2.20 ± 0.05 kg/lit
Aggregate Size	Up to 2.0 mm
Temperature of Application	From +5°C to +35°C
Workability	35 minutes @ 25°C
Thickness per coat	5–35 mm vertical 5–20 mm overhead 5–100 mm horizontal

Technical Properties	
Adhesion to concrete after 28 days (BS 1881 – 207)	1.6 N/mm <sup>2</sup>
Water Absorption (BS 1881 – 122)	<2.0%
Compressive Strength (ASTM C109)	>28 N/mm <sup>2</sup> @ 7 days >40 N/mm <sup>2</sup> @ 28 days
Flexural Strength (ASTM C580)	>6 N/mm <sup>2</sup> @ 28 days
Contrastive Expansion	0.056% 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 F40 achieves coverage of 2.2 Kg/square meter at 1.0mm thickness.

\*Coverage rate is an approximate value, and subject to actual site conditions.

## Yield:

13.2 liters / 25 Kg. bag with 4.0 Liters water addition

## Packaging:

LAVAREP F40 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 F40 can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

## Cleaning:

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

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## 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 vapour 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 F40 Material Safety Data Sheet.

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