

# LAVACEM FLOW

## Flowable Non Shrink Repair Mortar

### Description:

LAVACEM FLOW is a single component, flowable, cement based non shrink mortar for repair of damaged concrete. It is composed of Portland cement, high resistant hydraulic binders, graded silica, aggregates, fiber and special additives.

It is formulated as a highly flowable mix with the use of minimum water content to generate high early strength and durable concrete

LAVACEM FLOW is characterized with free flow while casting which assures complete filling for limited and difficult reaching areas.

### Uses:

- Repair of structural concrete sections where it is difficult to cast mortar or steel reinforcement is congested.
- Structural elements repair.
- Casting over steel reinforcement.
- Damaged reinforced concrete repair.
- Repair of concrete flooring for industrial use, shopping centers, warehouses
- Repairing concrete floorings in airports
- Repair of pedestrian
- Consolidate honeycombed concrete element in pillars, walls, columns etc.

### Advantages:

- Shrinkage controlled, with low permeability.
- Excellent bond to all concrete substrates.
- Self-compacting nature with minimal risk of honeycomb and segregation.
- High compressive strength.
- Resistant against atmospheric gas, frost and thaw cycles.
- Excellent resistance to Chloride, Salts and Chemical attack.

- Low alkaline content.
- Can be applied using pumping machine.

### Instructions for Use:

#### Surface Preparation:

All concrete surfaces should be free from grease, contaminants, oil and loose material. After cleaning by mechanical tools, to avoid "feather edging", it is advisable to neatly delineate the repair boundary by saw cutting.

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 mechanically cleaned, it should be coated immediately with one coat of LAVAZINC EP (two component epoxy zinc primer) or LAVAFER (two component cementitious corrosion inhibiting primer).

Before applying LAVACEM FLOW soak the substrate with water, allow excess water to drain. Ensure a saturated surface dry condition "SSD" prior to application of mortar.

The application of the mixed product over dry concrete surfaces without saturation with clean water or priming with a bonding agent may result to a bonding failure.

#### Mixing:

To prepare LAVACEM FLOW pour 3.5 liters of clean water into container and add slowly the whole content of the 25 kg bag. Mix using spiral paddle on slow speed heavy duty mixer for few minutes till a homogeneous lump free consistency mix is achieved. Always add powder to water and not the other way around.

# LAVACEM FLOW

Avoid adding additional water after the mixture is homogenous and ready for use. Apply the product immediately after mixing to obtain the full benefit of the flowability.

## Application:

It is recommended that machine mixing capacity and labor force are adequate to ensure a continuous operation of casting.

Erect clean formwork for the area that needs to be repaired. Cover the area with 5 cm excess boundary over the repair cutting edge. Apply a sealant to the formwork to prevent bleeding from the edges. Prepare a pouring entrance for the mix from the upper side by "bird mouth shape", to receive the material and deliver behind the formwork.

Mix measured volumetric amount of LAVACEM FLOW to fill the repair area, consequent pouring prevents any defect in the repair area. Present the mix to the formwork in continuous pouring till the whole repair area is filled.

LAVACEM FLOW can be used for thickness from 20 mm up to 200 mm in defined spaces. For higher thickness, 5-8 mm graded aggregate (up to 30%) can be added. This can further increase the thickness of applied mortar by 80 mm.

The repaired area shall be cured with good concrete curing practice and protected from drying winds, sun or excessive heat. Curing shall be done with a non-degradable curing compound CEMCURE AR. Alternatively, a wet hessian cloth covered with polythene sheet can also be employed. Curing should repair as soon as final finish is achieved. Avoid rapid evaporation of applied mortar. Consult with MATEX Technical Department for further instructions.

## Standards:

- EN 1504-3, class R4
- ASTM C 109, C 580, C 928, C157
- BS 1881-207

## TECHNICAL PROPERTIES

Appearance	Grey Powder
Wet Density	2.1 ± 0.03 kg/m <sup>3</sup>
Temp. of Application	5°C to +40 °C
Adhesion Bond to Concrete (BS 1881 part 207)	>1.6 N/mm <sup>2</sup>
Shrinkage (ASTM 157-93)	NIL
Setting Time (BS 4550)	Initial: 2 hours Final: 4 hours
Compressive Strength (ASTM C109)	≥38 N/mm <sup>2</sup> @7 days ≥60 N/mm <sup>2</sup> @28 days
Flexural Strength (ASTM C580)	≥7.0 N/mm <sup>2</sup> @28 days
Tensile Strength (BS 6319-7)	≥4.0 N/mm <sup>2</sup> @28 days
Contrastive Expansion	0.05% after 28 days
Module of Elasticity (ASTM C580)	25,000 N/mm <sup>2</sup> @28 days
Noxiousity according to ECM 88/379	None
Max. inert granulometry	3.5 mm

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

## Coverage:

LAVACEM FLOW achieves coverage of 2.1 kg/ square meters for 1mm thickness.

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

## Yield:

13.5 liter per 25 kg bag of LAVACEM FLOW when mixed with 3.5 liter water.

## Packaging:

LAVACEM FLOW is supplied in 25 kg recyclable paper bags.

# LAVACEM FLOW

## Shelf Life:

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

## Storage Conditions:

LAVACEM FLOW to be stored in original packing in dry conditions away from direct sunlight and high humidity levels.

## Cleaning:

Clean tools with water prior to product hardening. Hardened materials can only 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 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 LAVACEM FLOW Material Safety Data Sheet.

MATEX Rev.05-1221

*MATEX warrants that its products are free from material and manufacturing defects. Instructions on how to use the product should be strictly followed to ensure effectivity and safe use. MATEX shall not be liable either directly or indirectly for any damages to personal, equipment or products that may occur as a consequence of the failure of any products application because it has no direct or continuous control over where or how its products are applied. It is the user's responsibility to acquire always the updated version of datasheets.*

