



The Chemical Company

MASTERFLOW® 401 CONCRECIVE® 2401

Structural Repair Mortar

Description of Product

MASTERFLOW® 401 is epoxy based structural repair mortar with three components including well graded quartz aggregate.

Ministry of Public Works Pos. No: 04.613/8-b

Fields of Application

- Repair of reinforced concrete structures,
- Repair and maintenance of reinforced concrete marine structures,

- Repair of underground reinforced concrete structures,
- Repair of crane runways and high strength required mountings,
- Repair and insulating of wide cracks on vertical structural elements, beams and ceilings,
- Filling the big voids between steel jacket and reinforced concrete elements.

Features and Benefits

- Can be applied without primer.
- Resists to chemicals.
- High mechanical strengths.

Technical Data

Product Chemistry	Epoxy Resin	
MASTERFLOW® 401 Comp. A	Epoxy Hardener	
MASTERFLOW® 401 Comp. B	Quartz Aggregate	
MASTERFLOW® 401 Comp. C		
Mixing Ratio (by weight)	Component A : 3.75 kg Component B : 1.25 kg Component C : 5.00 kg	
Mixed Density	2.06 ± 0.05 kg/liter	
Compressive Strength (20°C)	> 40 N/mm ² (1 day) > 70 N/mm ² (7 days)	
Flexural Strength (20°C)	> 15 N/mm ² (1 day) > 25 N/mm ² (7 days)	
Bonding Strength (to concrete)	> 2 N/mm ² (7 days)	
Bonding Strength (to steel)	> 2.5 N/mm ² (7 days)	
Application Thickness	Min. 4 mm Max. 50 mm	
Application Temperature	+5°C - +35°C	
Pot Life	30 minutes (20°C)	
Fully Cured at 20°C	7 days (20°C)	
Recoat After	18-24 hours	
Service Temperature	-15°C - +70°C	
Open to Traffic	24 hour: walking and light vehicle traffic 7 days : Full service	

Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shortens the curing and working time, lower temperatures extends the durations.



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- High abrasion and impact resistance.
- Long pot life and working time.
- Solvent free.

Application Procedure

Preparation of Substrate

The concrete surfaces must be sound, clean and dry. It shouldn't be weakened by over-troweling and lack of curing. The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. If there is a water leakage it must be drained or properly plugged. Steel surfaces should be cleaned from rust by sand blasting and if needed new reinforcement should be installed. The edges of the broken surfaces should be saw cut.

Mixing

MASTERFLOW® 401 has three components in two pails and in one bag, produced according to right mixing ratio. Material temperature should be between 15-25°C before mixing. Component B should be added into the Component A without any remaining material in the pail. It should be mixed with using a proper mixer (~300rpm) for polymer mixing. Mix the components at least 3 minutes to have a homogenous mixture. Then the mixture should be put in to a clean, dry, mixing bucket and the Component C should be added into the bucket. Mix the components at least 3 minutes to have a homogenous mixture.

Mixing Ratios

MASTERFLOW® 401	Compt. A	Compt. B	Compt. C
Quantity	3,75 kg	1,25 kg	5,00 kg
Mixed Density	2,06 kg / liter		

Application Method

MASTERFLOW®401 should be applied to the prepared surface by using a steel spatula or steel trowel. Application thickness should be between 4 - 50 mm. Open areas should be protected from

the rain, wind, etc. aggressive whether conditions during the first 24 hours after finishing repair by using wet clothes, curing membranes etc.

Coverage

2.06 kg/m² for obtaining 1mm thick layer.

Watchpoints

- Be sure that the material has been mixed in right mixing ratio.
- During the application the substrate and environment temperature should be between 5-35°C.
- Resinous materials' pot life and curing times vary depending on the relative humidity, substrate and environment temperature. Reaction gets slow in low temperatures and it causes to extension on pot life and working time. On the other hand high temperatures speed up the reaction, which results to short pot life and working time. For full curing of material, both the substrate and environment temperature shouldn't be under allowed application temperature.
- **MASTERFLOW® 401** is provided in ready to mix pails. Do not add any solvent etc. into the mixture during the application.
- Mixing should be made with proper mixers and do not allow mixing by hand.
- Open areas should be protected from the rain, wind, etc. aggressive whether conditions during the first 24-48 hours after finishing repair.

Cleaning of Tools

After the application all tools should be cleaned with a proper detergent or solvent such as thinner. **MASTERFLOW®401** can be cleaned with only mechanical abrasion after hardening.

Packaging

10 kg set
 Component A : 3.75 kg pail
 Component B : 1.25 kg pail
 Component C : 5.00 kg bag

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Storage

Store in original container in cool (+5°C - +25°C) and dry indoor conditions.

Shelf Life

18 months under proper storage conditions after production date.

Health and Safety Precautions

It is dangerous to get close to the store areas with fire. The store must be well ventilated. Work clothes, protective gloves, glasses and mask defined in Labour Laws must be used during the application. Avoid from material to contact with skin and eyes. In case of contacting wash your skin with water and go to doctor immediately

Don't bring any food and drink to the application area. Store the material away from the children. For further information Material Safety Data Sheets should be read.

Disclaimer

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