

# Rocky Repair Flow

## Description

ROCKY REPAIR FLOW is a non-shrinking mortar composed of high resistance hydraulic binders, silica sand, selected aggregates and special additives. The product is characterized with excellent properties such as: free flowing, high adhesion to the support and resistance against Sulphates. It is fiber reinforced, and very fluid which makes it suitable to be casted into tight shuttering.

## Use

ROCKY REPAIR FLOW is used in repairing and constructing of elements that are degraded or damaged. It is ideal for the reinstatement of large, structural sections of concrete as well as for small structural elements where it is difficult to cast or to apply mortar. Structural consolidation of concrete beams, columns, walls, honey combed concrete, floors and pillars, for reparation of concrete pavements (roads, airports, industries), for rigid joints filling, up to 4 cm of thickness, in prefabricated residential and industrial building.

## Advantages

Easy to use, simply by adding water  
After curing, the product has high mechanical resistance both flexure and compression, even after a short time of curing

It is characterized by the thermal expansion coefficient and permeability coefficient which is similar to those of high-quality concrete

Low Alkali content minimizes the risk of alkali-silica reaction

Exceptional bond to concrete substrates without independent primer

Suitable for placement by pumping or pouring techniques

Self-compacting nature eliminates honey combing while applying without vibration (ensures a complete filling of damaged areas)

Low permeability and high strength which cause very good protection against chlorides and carbon dioxide

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## Technical Properties

Appearance	Grey powder
Density	2.3 kg/L
VOC	8.3 g/L
pH value	12 – 13
Max inert granulometry	2.5 mm
Flexural Strength At 7 days / At 28 days (ASTM C580)	6 N / mm <sup>2</sup> / 9 N / mm <sup>2</sup>
Tensile Strength at 28 days (BS 6319-7)	5 N / mm <sup>2</sup>
Compressive Strength At 7 days / At 28 days (ASTM C579)	48 N / mm <sup>2</sup> / 60N / m m <sup>2</sup>
Adhesion to concrete at 28 days (BS 1881 Pt 207)	1.8 N / mm <sup>2</sup> – breakup of concrete
Slant Shear Strength	7.8 N / mm <sup>2</sup>
Coefficient of Thermal Expansion (BS 6431-15)	1 x10-6 μm
Water Absorption (BS 1881 Pt122)	1%
Water Penetration (BS 12390 Pt8)	3mm

Chloride Ion Penetration (ASTM C1202)	Low
Porosity (ASTM C642)	4.4%
Elastic module after 28 days	25,000 N / mm <sup>2</sup>
Drying Shrinkage At 28 days (ASTM C157-93)	< 500 micro strain
Initial setting	1.5 – 2 hours
Final setting	3 – 3.5 hours
Noxiousity according to ECM 88/379	no

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## Mixing

To prepare the mortar, it is recommended to have a forced mixer of spiral paddle in a slow speed (300/400 rpm) heavy duty drill. It is essential that machine mixing capacity and labor availability is adequate to enable the placing operation to be carried out continuously.

Add 3.3 – 3.5 liters of water in the mixing drum then add the full bag of ROCKY REPAIR FLOW and mix for at least 4 – 5 minutes till obtaining a fluid, uniform lump free consistency mix.

Do not part mix the bags, nor use additional water than specified. Note that powder must always be added to water.

To obtain the full benefit of the fluidity provided, apply immediately after mixing.

## Application

Cast the mortar into the formwork, allowing air to escape. It's advisable to spray the formwork by water prior to placing the mortar to avoid water absorption from the mix.

ROCKY REPAIR FLOW should be place in a single continuous operation. The material should be poured slowly to prevent air entrapment. ROCKY REPAIR FLOW can be used for thickness that ranges from 20 mm to 200 mm. For higher thickness, the addition of suitable graded 5-8 mm aggregate (up to 30% can be added). This could increase the thickness of applied mortar by 80 mm. Vibration process to the mixture is not necessary.

## Curing

The repaired area shall be cured in accordance with good concrete curing practice and protected from drying winds, sun or excessive heat. Curing shall be done with non-degradable curing compound ROCKY CCAC.

Alternatively; a wet hessian cloth covered with polyethylene sheet can also be employed. Curing should begin as soon as final finish is achieved.

## Cleaning

ROCKY REPAIR FLOW should be removed from tools and equipment and mixers with clean water immediately after use. Cured material should be removed mechanically.

## Recommendations

- Do Avoid rapid evaporation of water that may cause small superficial fissures appearance due to plastic shrinkage after application
- Damp the surface for the initial 24 hours
- Do not apply the product at the temperature less than +5°C
- Variation of temperature increases or reduces the initial and final setting of the mortar
- In warm weather, store the material in cool place. Make sure to use cool water to keep the mixed mortar temperature below 30 +°C

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## Surface Preparation

### Concrete preparation

The surface of the concrete to be repaired should be sound, clean and uncontaminated. The decayed or damaged area to be repaired should be marked with a marker. Cut the marked area to a depth of at least 20mm using a handheld concrete saw or disc grinder to avoid feather edging and to provide a square edge. Break out or chip the complete repair area down to sound base using sharp tools or chipping hammer.

Oil and grease deposits should be removed by stiff brushing, detergent scrubbing with a heavy-duty cleaner/degreaser, steam cleaning.

### Steel preparation

Any corroded steel in the repair area must be fully exposed. All exposed reinforcement shall be cleaned of corrosion products by wet grit blasting or other approved means to achieve a clean and bright finish. In case that reinforcing bars, section is reduced due to oxidization, integrate them with additional bar reinforcement.

### Coverage

ROCKY REPAIR FLOW is supplied in 25 kg bags.

Yield:

12.5 liters / 25 kg bag with 3.5 liters water addition.

14.0 liters / 25 kg bag with 4.5 liters water addition.

## Shelf Life & Storage

The product must be kept in dry and sheltered place, in these conditions its shelf life will be 12 months.

## Health & Safety

ROCKY REPAIR FLOW can be harmful to skin as it contains cement powders which may releases alkalis when mixed with water.

During application, wear appropriate protective clothing, goggles, gloves and respiratory equipment if necessary.

In case of contact with skin, rinse with water and again wash thoroughly with soap and water. In case of contact with eyes, rinse with plenty of water and seek medical advice accordingly.

If ingested, obtain medical attention immediately.

## Important Note

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