



# CEM-CRETE Micro Concrete

FLOWABLE MORTAR FOR REPAIRS OF DAMAGED REINFORCED CONCRETE MEMBERS

## Description

CEM-CRETE Micro Concrete is ready to use dry powder which requires only addition of clean water at site to produce a free flowing non shrink repair micro concrete. It is composed of good quality cement, properly selected aggregates & additives. It is used & designed for repairing of damaged reinforced concrete elements like columns, beams & structure where the areas are restricted or not easily accessible for proper placement of concrete using vibrator. CEM-CRETE Micro Concrete has excellent flowability, workability & proper particle size to reach small & congested reinforcement.

## Specification

CEM-CRETE Micro Concrete meets the requirement of ASTM C109:99, ASTM C307, BS 1881 Part 207

Areas of Application

- Repair of damaged reinforced concrete elements like beams, columns, wall, etc. where access is restricted and compaction is not possible.
- For Jacketing of RCC columns to increase load-taking capacity (strengthening of vertical members)

## Features & Benefits

- Pumpable - Can be pumped or poured into restricted locations.
- Flowable - Flowable mortar hence does not require compaction.
- Shrinkage compensation - Controlled expansion system which compensates for shrinkage and settlements in the plastic state.
- Strength - Develops high initial and ultimate compressive strength.
- Moisture Resistant - Offers excellent resistance to moisture ingress.
- Durability - Makes repaired sections highly durable & compatible to parent concrete.
- Thickness build up - Can be applied at 100 mm thickness at one stroke

## Method of Application

### 1 SURFACE PREPARATION

- Clean the surface and remove loose concrete, dust, oil, paint, grease, waterproof coating, etc.
- Expose fully any corroded steel in the repair area and remove all scale and corrosion deposits. Light shot blasting is highly recommended. Apply Rust Remover for rust free bars.
- For Cathodic Protection, apply Epoxy Zinc Primer over the cleaned re-bars and allow it to dry before pouring of CEM-CRETE Micro Concrete.
- Saturate the substrate with water to prevent absorption of water from the mixed material.
- In case of a very old concrete substrate, it should be primed by applying one coat of Epoxy Bonding Agent. Allow the bonding agent to reach tacky condition before pouring of mix concrete.

### 2 MIXING

- Use PAN mixer for mixing of Micro Concrete.
- Charge 80-90% of clean & potable mixing water (3.75 to 4 liters per 25 Kg bag) to PAN Mixer.
- Start addition of Micro Concrete powder slowly under continuous mixing. Keep mixing for 2 minutes. Add balance quantity 10-20% of mixing water & again mix for another 2-3 minutes to form a homogeneous, free flowing, uniform & Lump-free mix.

### 3 APPLICATION

- Pour or pump the mixed CEM-CRETE Micro Concrete into a watertight shuttering.
- Cure the repaired concrete for minimum 7 days before removing the shuttering or alternatively use Curing Compound for curing.



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### Precautions & Limitations

- CEM-CRETE Micro Concrete can be applied in section up to 100 mm depth.
- For thickness more than 100 mm, addition of pre-calculated aggregates may be required.
- Strictly follow water-powder ratio as specified.
- Ensure that the shuttering is 100% watertight.
- Ensure full exposure of reinforced steel.
- Consult structural engineer if the diameter of rebar is reduced by more than 20% than the original diameter.
- Replacement or provision of additional steel shall be done in consultation with structural consultant.

### Technical information

PROPERTIES	SPECIFICATION	RESULTS
Compressive strength @30°C	ASTM C 109:99	15N/mm <sup>2</sup> at 1 day 30N/mm <sup>2</sup> at 3 day 50N/mm <sup>2</sup> at 7 day 60N/mm <sup>2</sup> at 28 day
Flexural Strength @30°C	ASTM C580	6N/mm <sup>2</sup> at 28 day
Tensile Strength @30°C	ASTM C 307	2.5N/mm <sup>2</sup> at 7 day
Expansion		0.45%
Carbonation resistance		Passes the Accelerated Carbonation test
Water absorption after 24 hrs (%)		0.2
Chloride content		0.2%

### PACKING

25 Kg

### Theoretical coverage

1.3m<sup>2</sup> per 25 Kg pack at 10 mm thickness

### Shelf Life & Storage

Shelf life is six months from the date of manufacturing. Store at cool & dry place in unopened condition.

### Health & Safety Precautions

- As with all chemical products, caution should always be exercised.
- Protective clothing such as gloves and goggles should be worn (see packing for specific instruction)
- Treat any of the product if accidentally swallowed, do not induce vomiting but call for medical assistance immediately.

### Other Product available

Tile Fix Mortar | Tile Grouts | Block Joining Mortar | Readymix Plaster | Ruff Tuff Textures

Industrial Grade Hardener | Decorative Colour Hardener | Concrete Admixtures | Paints & Allied Products



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