



**AERO**<sup>TM</sup>  
CONCHEM LLP

AN ISO 9001 : 2008 CERTIFIED COMPANY

## AERO MICRO CONCRETE

### Flowable Mortar For Repairs Of Damaged Reinforced Concrete Members

#### Description

AERO MICRO CONCRETE is a 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. AERO MICRO CONCRETE has excellent flowability, workability & proper particle size to reach small & congested reinforcement.

#### Specifications

AERO MICRO CONCRETE meets the requirement of ASTM C 109: 99, ASTM C 307, 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 a vertical members)

#### 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 settlement 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.
- Chloride content - Contains no chloride based additive so prevents corrosion of reinforcement.
- Early reinstatement - Rapid strength gain helps in early reinstatement & removal of shuttering.

#### 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 Zinc Primer over the cleaned re-bars and allow it to dry before pouring of AERO MICRO CONCRETE .
- Saturate the substrate with water to prevent absorption of water from the mixed material.

#### Typical Properties & Specifications:

Sr.No	Properties	Specification	Results
1	Compressive Strength @ 30 °C	ASTM C 109 : 99	15 N/mm <sup>2</sup> at 1 day 30 N/mm <sup>2</sup> at 3 days 50 N/mm <sup>2</sup> at 7 days 60 N/mm <sup>2</sup> at 28 days
2	Flexural Strength @30 °C	Flexural Strength @30 °C	6 N/mm <sup>2</sup> at 28 days
3	Tensile Strength @30 °C	ASTM C 307	2.5 N/mm <sup>2</sup> at 7 days
4	Expansion		0.45 %
5	Water absorption after 24 hrs (%)		0.2
6	Chloride content		0.2 %

- In case of a very old concrete substrate, it should be primed by applying one coat of AERO Epoxy Bonding Agent. Allow the bonding agent to reach tacky condition before pouring of mix concrete.

##### 2. MIXING

- Use PAN Mixer for mixing of AERO MICRO CONCRETE
- Charge 85-90 % of clean & potable mixing water (3.75 to 4 liters per 25 kg bag) to a PAN Mixer.
- Start addition of Micro Concrete powder slowly under continuous mixing. Keep mixing for 2 minutes. Add balance quantity 15 – 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 AERO MICRO CONCRETE into a watertight shuttering.
- Cure the repaired concrete for minimum 7 days before removing the shuttering or alternatively use AERO Curing Compound for curing.

#### Precautions & Limitations

- AERO MICRO CONCRETE can be applied in section upto 100 mm depth.
- For thickness more than 100 mm, addition of pre-calculated aggregates may be required. Consult technical team for more details.
- Strictly follow water-powder ratio as specified.
- Ensure that the shuttering is 100% watertight.
- Ensure full exposure of reinforced steel.



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### Packing & Coverage

25 Kg. HDPE Bag, 1.3 m<sup>2</sup> per 25 kg pack at 10 mm thickness  
Yield - 13 ltrs at a water/powder ratio of 0.17 & Fresh Wet  
Density at 30 °C is 2230 kg/m<sup>3</sup>

### Shelf Life & Storage

AERO MICRO CONCRETE has a shelf life of 6 months from date of manufacture when kept at a temperature between 5 °C to 45 °C and store in the original, unopened bags. All material shall be stored under cover in a manner that will prevent damage preferable on pallets and protected from excessive heat and moisture. Do not freeze.

### Quality Assurance

AERO CONCHEM LLP is a firm of Assessed Capability. The company's quality system conforms to ISO 9001:2015

### Health & Safety

AERO MICRO CONCRETE is no-toxic and non-flammable. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs wash thoroughly with clean water. Should eye contact occur rinse immediately with plenty of clean water and seek medical advice. Full health and safety data are given in Product Safety Data Sheet.

### OUR RANGE OF PRODUCTS



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