

# EPO MICROCRETE

Shrinkage Compensated, Cement based fluid Micro concrete



## DESCRIPTION

**EPO MICROCRETE** is a ready to use free flow, high strength and non-shrink product in powder form, which requires only the addition of water to produce micro concrete.

It is a careful blend of Portland cement, graded aggregate, sand, water reducing agents and auxiliary expansive modifying agents to compensate for shrinkage in both the plastic and the hardened states.

## TYPICAL APPLICATIONS

**EPO MICROCRETE** is formulated for use at any consistency from fluid to damp-pack, and may be used with confidence for bedding, grouting and precision bearing operations such as:

- Precast element
- Generators
- Crane rails
- Gas or steam turbines
- Milling machines
- Repair and re-profiling of bored piles
- Anchor bolts
- Presses

## ADVANTAGES

- **Workability:** Fluid consistency can be pumped or poured to penetrate heavily reinforced concrete.
- **Reliability:** Always fresh factory controlled pre-packed mix, eliminates site batching variations.
- **Dual expansion:** Compensation for shrinkage in both plastic and hardened states.
- **Adhesion:** Free flowing consistency ensures full surface contact with existing deteriorated concrete minimizing loss of bond between newly poured repair concrete and existing concrete.
- **Chloride free:** No chlorides are added in the mix.
- **Iron free:** No metallic iron included as this causes deterioration due to rust expansion.
- **Large Volume:** **EPO MICROCRETE** can be applied in thickness ranging from 50mm to 400 mm per layer, although greater thickness up to 500 mm can be practiced depending on the design of repair job.

## STANDARD COMPLIANCE

- ASTM C 157 - Test for drying shrinkage
- DIN 1048 Part 5 - Test for Permeability
- ASTM C 413 – Water Absorption

## PRODUCT DATA

Form	Powder
Color	Grey
Packing	39 Kg (Part A+ Part B)
Consumption	2.0 Kg/m <sup>2</sup> /mm
Layer Thickness	50 mm to 500 mm
Shelf life	12months, indoor storing non-open packaging under controlled condition
Grout Consistency (Water ltr/Powder Kg)	3.0 ±0.30 Ltr/39 Kg Pack

## TECHNICAL SPECIFICATION

Test Name	Standard	Average Result
Flexural Strength @7 days	12808-3:2009	> 8.0 N/mm <sup>2</sup>
Compressive Strength @28 days	12808-3:2009	> 60.0 N/mm <sup>2</sup>
Linear Shrinkage	ASTM C 531	0.724
Work Time & Flow Working time of the Mortar Consistency-Flow	ASTM C 1107 ASTM C 1437	3-4 Hours 240 cm
Unit Weight	ASTM C 138	2500 Kg/M <sup>3</sup>
Air Content		2.40%
Tensile Strength 7 days	ASTM C 307	> 2.0 MPA
Setting Time (min): Initial Setting Time Final Setting Time	ASTM C 191	250 min 340 min
Linear Expansion	ASTM C 531	5.41 x 10 <sup>-7</sup> /°C
Water Absorption	ASTM C 413	0.5%
Chloride content	ASTM C 1218	0.02
Yield	ASTM C 138	17 Ltr/39 Kg Bag
Height change	ASTM C 157	0.84
Working Time	ASTM C 1107	6-7 hrs.
Consistency	ASTM C 1437	240 (cm)

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Ver 02/20

## APPLICATION PROCEDURE

### PREPARATION

The surface on to which the Micro concrete is to be applied should be scabbled to remove laitance and expose aggregate. Do not use brush hammers or similar preparation equipment that can crush the aggregate but leave it in place. The surface must be free with oil, dust, dirt, paint, curing compound etc. Soak area to be grouted with water for 24 hours prior to grouting to minimize localized absorption and to assist in the free flow of the grout Surface should be damp but free of standing water. Particular attention should be paid to bolt holes to ensure that these are water-free. Use oil free compressed air to blow out bolt holes and pockets as necessary.

Base plates, bolts, etc. must be clean and free of oil, grease, paints residual curing compound or other contaminants that could impair adhesion. Set and align equipment. If shims are to be removed after the grout has set, then lightly grease them for easy removal.

Ensure formwork is secure and watertight to prevent movement and leaking during the placing and curing of the micro concrete. The area should be free of excessive vibration. Shut down adjacent machinery until the micro concrete has hardened

### MIXING

The micro concrete is obtained by mixing **EPO MICROCRETE** with clean water at the following dosage:

39 Kg kit with 3.00± 0.30 Liters of clean water

The amount of water used depending on the workability required. Avoid bleeding and segregation. Add the powder and aggregates to the specified amount of water and mix for 3 minutes. Mixing should be carried out in a suitably sized mixing vessel, using a slow speed, heavy duty drill. Do not mix with the other hydraulic binders. The use of other additives is prohibited.

### PLACING

Length of metal strapping laid in the formwork prior to placing may be necessary to assist grout flow over large areas and in compacting and eliminating air pocket. Pour the grout continuously. Maintain a constant hydrostatic head, of at least 15 cm.

On the side where the grout is to be poured, allow 10cm clearance between the side of the form and the base plate of the machine.

On the opposite side allow at least 10 cm clearance between the formwork and base plate to allow the grout to flow through without entrapping air. **EPO MICROCRETE** grouts are suitable for use with most type of pumping equipment.

Immediately after placing **EPO MICROCRETE** grout, cover all exposed grout with clean damp hessian and keep moist until grout is firm enough to accept a curing membrane from our **EPO CURE** range.

## PRECAUTIONS

**Limitations:** Do not work at 5°C or less. Apply at a thickness between 50 and 500mm. Ensure that the unrestrained area of repair is kept to a minimum.

**Cleaning:** All equipment must be cleaned with water immediately after use. Mixes containing this product must not be emptied into drainage system.

**Protection:** All works must be protected from rain, frost until fully hardened.

**Storage:** Shelf life is 12 months when stored in dry conditions at moderate temperature and humidity.

**Fire resistance:** **EPO MICROCRETE** is not flammable

## HEALTH AND SAFETY

**EPO MICROCRETE** is non –toxic but mildly alkaline. Gloves should be worn during application. Splashes to the skin or eyes should be removed with clean water. In the event of prolonged irritation, seek medical advice



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