

## MicroCem

*Microfine Cement for Injection of Rock and Soil*

### DESCRIPTION

**MicroCem** is a Portland cement based grouting material composed of microfine particles with a specific surface area of  $>800\text{m}^2/\text{kg}$ . As a grout, it has excellent permeability, strength and durability properties.

### APPLICATIONS

**MicroCem** is recommended for:

- **Concrete Crack Injection**
- **Rock Injection:** tunnels, caverns etc., as pre- or post-stabilization injection. Fixation and water scaling in fractured zone during tunnel construction. Water sealing of tunnel walls.
- **Soil Injection:** preventing soil liquefaction stabilization, water tightness, etc.
- **Underground oil storage facilities:** Ensuring leak tightness of retention dikes around oil tank.
- **Curtain Grouting for dams and embankments.**

### FEATURES

- Standard cement injection technology and equipment can be used.
- Better performance in terms of tightness and penetration into micro cracks in rock and soil.
- Nontoxic, safer environment.
- Good long term durability.
- Controlled setting.
- Compatible with most admixture types.
- Rapid setting time.

### GUIDELINES FOR USE

**MicroCem** should be used in conjunction with a water reducing admixture (1% by weight cement). Water/cement ratio should typically be 1:1 for optimum performance.

### TECHNICAL DATA

Typical Particle Size Distribution and Fineness	
D <sub>50</sub> (μm)	< 5
D <sub>75</sub> (μm)	< 8
D <sub>90</sub> (μm)	< 12
D <sub>95</sub> (μm)	< 16
D <sub>98</sub> (μm)	< 20
Fineness – Blaine (m <sup>2</sup> /kg)	800 - 900

Physical Properties and Strength	
Water to cement ratio	1.0
Marsh Funnel Flow (seconds)	< 35
Bleeding rate for 2 hours (%)	< 2
Initial Setting Time (min)	240
Mud Density (kg/l)	1.45 – 1.50
Compressive Strength at 28 day (N/mm <sup>2</sup> )	> 12

Note: Technical data presented are typical values. Minor variations to be expected.

### POT LIFE

The pot life is normally longer than 60 minutes. The grout should be injected within 100 minutes after mixing to ensure that it keeps penetrating into the fissures.

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### TECHNICAL SUPPORT

EnGro offers a comprehensive range of tailor made microfine cementitious products. In addition, EnGro offers technical support and on-site service to specifiers, end users and contractors.

### CONDITIONS OF USE

**MicroCem** based grout should always be mixed in a high efficiency mixer (preferably a colloidal mixer) for maximum 3 minutes. Keep under slow constant agitation prior to injection.

Open time may be increased with proprietary admixtures (use in accordance with admixture manufacturer's instructions).

**MicroCem** is manufactured from natural materials and slight differences in color may be observed.

### PACKAGING

**MicroCem** is supplied in 25 kg bags.

### STORAGE

**MicroCem** has a shelf life of six months when stored in original sealed bags, kept dry and out of direct sunlight.

### HEALTH AND SAFETY

**MicroCem** is an irritant to skin and eye. If such contact occurs, the affected area should be washed with plenty of clean water. In case of eye contact, seek immediate medical advice. For detailed information and safety instructions, please refer to *Safety Data Sheet*.

**Typical Particle Size Distribution for MicroCem**

