



KEM MICROCONCRETE

High Strength Microconcrete

Ref: CR/CI-V2-0914

Description

KEM Microconcrete is a general purpose non-shrink, cementitious, flowable, high strength mortar for repairs with high strength precision concrete. It is free flowing and suited for thickness up to 40 mm to 100 mm. It is apt for various structural strengthening measures such as encasement build-ups, jacketing, etc.

Uses

- General repair and renovation of decayed, defective or damaged concrete structures like beams, columns, walls, and honey combed concrete where access is required and compaction is not available.
- Jacketing of RCC columns, strengthening of vertical members.

Advantages

- Can be pumped or poured into restricted locations.
- Flowable mortar eliminates honey Combination.
- Develops high initial and ultimate final strength.
- Gaseous expansion system compensates for shrinking and settles in the plastic state.
- Excellent resistance to moisture Ingress.
- Can be applied at 100mm thick at one stroke.
- Self compacting with guaranteed performance.
- Easy to use by adding water on site.
- Contains no chloride hence there is no reinforcement corrosion.

Typical Properties

Nature : Cementitious grey powder

Flexural Strength: >5 MPa at 28 days ASTM C 580

Chloride Content: Nil

Depth of Carbonation: Nil

Compressive strength: At 0.16 w/p ratio @ 30°C
ASTM C 109

Age (days)	Compressive Strength Mpa
1	20
3	30
7	40
28	50

Wet Density: BS 1881 – 2250 kg/m³

Flexural Strength: @28 days 25⁰ C 10 N/mm²

Setting Time: BS 4550 at 20⁰ C and 0.16 water to powder ratio (flowable consistency)

Initial set: 6 hours 00 minutes

Final set: 8 hours 15 minutes

Alkali content: The presence of non-alkali reactive aggregates ensures its resistance to future expansive reactions and deterioration.

Bond Strength: The typical shear bond strength when tested as per BS-6319 at water powder ratio of 0.16 at 20⁰ C without any bonding agent is 68 N/mm² at 28 days.

Expansion characteristics: An initial expansion of about 1 % when measured according to ASTM C 827 overcomes plastic settlement in the unset material. Expansion in the hardened state when measured according to ASTM C 1090-88 compensates for drying shrinkage. Pressure to restrain plastic

Expansion: Approximately 0.004 N/mm².

Standards

KEM Microconcrete is tested using the relevant sections of:

ASTM C -1107 Grade C

BS – 1881

BS - 4550

CRDC - 821 - 82 A



BS – 6319

Direction for use

Expose the sound base of defective concrete surfaces. For better adhesion, roughen the prepared surface.

Several hours in advance, water the surface well. Excess water should be removed before application of fresh concrete. The formwork should include drainage outlets for pre-soaking and allow for air venting.

There should be access points to pour or pump in KEM Microconcrete.

Mix KEM Microconcrete in a concrete mixer to get a homogenous mix and pour into the formwork.

Allow it to cure for 24 hours.

Yield

Approx 13.0 liter / 25 kg bag, actual yield depends on the consistency required and the site requirement.

Packaging

25 kg in moisture-resistant bags

Storage and Shelf life

6 months from manufacture in original unopened bags if stored in dry conditions.

Technical Service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call and would always be available for product demonstrations and product performance monitoring.

Safety Precautions

KEM Microconcrete is a cementitious alkaline product. Care should be taken to avoid contact with eyes, skin, mouth and food stuff. Any splashes on the human body must be washed with plenty of water.

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