TIKI MICROCRETE

Shrinkage Compensating Cementitious Micro Concrete

DESCRIPTION

It is ready to use shrinkage compensated high flow and high strength cementitious micro concrete. It is supplied as ready to use blend of Portland cement, graded aggregates and fillers in dry powder form which when mixed with clean water produces free-flowing, non-segregating and non-shrink repair micro concrete.

Low water requirement ensures development of high early strength and long-term durability.

ADVANTAGES

- It gives an economical and highly durable repair concrete.
- It is ready to use at site, only water has to be added at site.
- Excellent workability and hence can be poured or pumped into restricted locations.
- Free flow - does not require vibration during placement.
- Enhanced resistance to ingress of aggressive elements ensuring durable repairs.
- Free of chlorides and metallic aggregates.
- Shrinkage compensated in both plastic and hardened state.
- High early strength and ultimate strength allows for early removal of formwork.
- Provides a durable sound structural repair fully compatible with host concrete

AREAS OF APPLICATIONS

- Concrete repair and maintenance works.
- Repairs to damaged concrete structures such as columns, beams, pavements, ramps, floors, deck slabs, etc.

TIKI MICROCRETE can be mixed in paddle type and slow speed mixer or drum type concrete mixer. In

- Repair of concrete members where access is restricted.
- Pile top encapsulation and repairs.
- Encasement build-ups and jacketing of R.C.C. members to increase the load bearing capacity.
- Repairs to bridges, tunnels, silos, piers, dams, etc.

PROPERTIES

TIKI MICROCRETE: Coarse Aggregate (By weight)	1: 0.75
Water: Powder Ratio (By weight)	0: 16
Compressive Strength (N/mm^2) 1 Day 3 Day 7 Day 28 D	 25 35 45 60
Workability	Flowable
Elastic Modulus	25 N/mm^2 @1 day
Bond to Concrete	6 N/mm^2 @1 day
Bond to Tor steel	20 N/mm^2 @1 day
Flexural Strength	5 N/mm^2 @28 days
Tensile Strength	2 N/mm^2 @28 days

OTHER DETAILS

Colour	Grey
Water/Powder Ratio (By weight)	0.15 to 0.16
Co-efficient of Thermal Expansion.	10 to 12 x $10^{-6}/{}^0C$
Yield per 25 Kg. Bag	≈13 Litres
Fresh Wet Density	2150 to 2250 kg/m^3
Unrestrained Expansion	1 to 4%.

APPLICATION METHODOLOGY

SURFACE PREPARATION

All concrete surfaces should be clean, sound and free from loose particles, laitance, oil, grease, etc. Metal surfaces should be free from scales, rust, oil and grease.

MIXING

Full 25 Kg. bags of TIKI MICROCRETE are mixed. Avoid mixing partial quantities.

If the micro concrete is placed by the pump, then standard concrete pumping practice should be

both the cases, the TIKI MICROCRETE is to be added to clean water and mixed until a pourable consistency is obtained with recommended water-powder ratio.

Take 80 to 90% of required clean water in the mixing drum, followed by gradual addition and mixing of TIKI MICROCRETE powder and then balance water is added to produce pourable mix of uniform consistency free of lumps.

Do not mix more material, which cannot be used within 20 to 30 minutes @ 30^0C.

TIKI MICROCRETE is suitable for application up to 100mm deep sections. For application in sections more than 100mm deep, addition and mixing of 10mm down dry and clean graded aggregates 50% to 100% by weight of TIKI MICROCRETE is recommended depending on the nature and configuration of the repair location.

For critical application areas and for enhanced bonding or as per the project requirement, use of TIKIDAN range of bonding agent is recommended prior to placing TIKI MICROCRETE.

DO NOT add extra water than that recommended.

APPLICATION

The surface should be pre-soaked with water, preferably for 24 hours but at least 2 hours prior to pouring micro concrete in sections.

Pour or pump the prepared micro concrete mix continuously in to watertight shuttering from one side ensuring proper air displacement during pouring.

SUPPLY

TIKI MICROCRETE is supplied in 25 Kg., pack size.

SAFETY PRECAUTIONS

followed.

DO NOT vibrate once the mix is in position.

YIELD

25 Kg. pack of TIKI MICROCRETE when mixed with water at water/powder ratio of 0.15 to 0.16 would yield 12 to 13 litres of micro concrete. Allowance should be made for wastage while estimating the quantities required.

CURING

Curing should commence as soon as the formwork is removed as per basic curing procedure in accordance with good concrete practice.

Use of TIKIDAN range of TIKICURE curing compounds is recommended as soon as formwork is removed, the curing compound brush applied / sprayed on to the concrete surface in continuous film uniformly covering the entire surface.

In harsh drying conditions or hot summer, rapid drying of applied system should be prevented by covering it with polyethylene sheet / wet hessian cloth.

PRECAUTIONS & LIMITATIONS

One should never add cement to the supplied TIKI MICROCRETE.

Ensure that the shuttering is 100 % watertight and secure, sufficiently strong to accept the pouring pressure and weight of the micro concrete.

During hot weather or ambient temperature above 35^0C, use of chilled water is recommended for mixing.

CLEANING

The tools and equipment use for mixing and placing the micro concrete should be immediately cleaned with clean water. Hardened or cured material can be removed mechanically or by using acid-etching process.

STORAGE

TIKI MICROCRETE must be stored above 5°C. Store under the shed & protect from extremes of

As with all chemical products, care should be taken during use and storage. For further detail, refer SDS.

temperature, heat, direct sunlight. The shelf life is 6 months in sealed unopened packing.

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