Dr. Fixit Micro Concrete

FLOWABLE MORTAR FOR REPAIRS TO DAMAGED REINFORCED CONCRETE STRUCTURES

Description

Dr. Fixit Micro Concrete is a ready to use shrinkage compensated dry powder, requiring only the addition of clean water to produce a free flowing non-shrink repair micro concrete. It is composed of cement, graded aggregates and additives.

Typical Applications

- Repair of damaged concrete structures such as columns, beams, floors and where access is restricted and compaction is not possible.
- For jacketing of RCC columns to increase load-bearing capacity.
- Pile head repairs.

Features

- May be pumped or poured into restricted locations.
- No compaction required.
- Shrinkage compensated.
- Develops high initial and ultimate compressive strength.
- Highly durable.
- Suitable for section/voids at 20-100 mm thickness in a single layer.
- Contains no chloride based additive so will not promote reinforcement corrosion.
- Rapid strength gain helps in early removal of shuttering.
- Low permeability.

Packaging

25 kg bag

Technical Information (Typical properties@25°C)

PROPERTIES	SPECIFICATION	RESULTS	
Density		2.23 approx.	
Working Time		30 mins	
Water/Powder ratio		0.16	0.12
* Consistency (W/P @ 0.16)		Fluid	Flowable
Compressive Strength at 1 day	BS 4551 : Part 1:1998 ASTM C 109	20 N/mm^2 min	25 N/mm^2 min
at 7 days		45 N/mm^2 min	60 N/mm^2 min
at 28 days		65 N/mm^2 min	80 N/mm^2 min
Flexural Strength at 28 days	BS 6319-3	8 N/mm^2 min	10 N/mm^2 min
Tensile Strength at 28 days	BS 6319-7	4 N/mm^2 min	5 N/mm^2 min
Water Permeability	BSEN 12390-8	< 10 mm	
Rapid Chloride Permeability	AASHTO T 277	Low	
Linear Shrinkage	ASTM C157	< 600 microstrains	
Water Absorbtion	BS 1881-part 208	< 0.01 ml/m2/sec at 2hrs	

Note

* Flowable: 125- 145 tested as per ASTM C1437
  Fluid : > 250 tested as per ASTM C1437

Method of Application

1 SURFACE PREPARATION

- Concrete surface should be sound, stable, clean and free from laitence, paint, oil, grease, and any residual mould release agents and curing compounds.
- An abraded or profiled substrate surface is preferable. Metal surfaces should be free from any rust, scaling or paint and abraded to reveal clean, bright metal to ensure optimum bond.
- Any formwork (if used) should be wrapped in polythene or suitable mould release agent to ensure a clean release after grouting.
- The edges of all repairs should be cut vertically to a minimum depth of 10 mm.
- Concrete shall be cut back from the exposed rebars to a gap of 10 mm min. behind rebars.
- Seal the formwork joints using a suitable sealant from Pidilite Middle East to prevent leakages through the joints.

2 MIXING

- Add 4.0 ltrs of clean and potable mixing water to a suitable mixer.
- Add Dr. Fixit Micro Concrete powder slowly and mix using a slow speed electric mixer to create a flowing mortar.
- In a situation for deep section repairs, add 10 mm down, dry & clean aggregates in ratio 1:1 or 1:2 by weight of Dr.Fixit MicroConcrete depending upon consistency required.
- To create plastic mortar add 3.0 - 3.50 ltrs of clean potable water can be used based on special application requirements.

3 APPLICATION

- The mixed microconcrete shall be placed or pumped continuously into watertight shuttering within its working time.

Note: For critical application areas or for enhanced bonding use of bonding agent from Pidilite product range is recommended before placing Dr. Fixit Microconcrete.

4 CURING

- Cure the micro concrete for minimum 3 days using wet hessian or polyethene sheet as approved or with, a suitable curing compound.

Notes:

- Ensure that the shuttering is 100 % watertight and sufficiently strong to accept the weight of the mortar.
- During hot weather use cold water for mixing, to ensure the mixed temperature does not exceed 32°C.
- Do not add water or fresh mortar to material which has begun to set.
- Consult structural engineer if the diameter of rebar is reduced by more than 20% than the original diameter.

Theoretical Coverage / Yield

APPROX: 13 litres per 25 kg bag @ 0.16 w/p ratio

: 12. 2 litres per 25 kg bag @ 0. 12 w/p ratio

Storage

When stored in dry conditions in original unopened packaging this product has a shelf life of 12 months. Storage above 35°C and high humidity (above 50%) will reduce shelf life and product performance.

Health and Safety

This products contains cement, And contact with skin may cause irritation. It should not be inhaled, and a properly designed and maintained face mask should be used whilst handling, pouring and mixing the powder. Avoid contact with the product by working carefully, using a barrier cream and wearing protective gloves. If any contact does occur, wash thoroughly with soap and water. Use eye protection. Avoid contact with eyes, if such contact occurs irrigate with water for 20 minutes and seek medical advice. If mistakenly ingested, drink plenty of clean water and seek medical advice. See MSDS for further information.

Pidilite MEA Chemicals L.L.C offers a wide range of Structural Protection and Waterproofing systems:

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