



Smartcare Repair MC

High Strength Micro Concrete

Description

SmartCare Repair MC is a single component high strength Micro-concrete with shrinkage compensated and polymer modified, fluid micro concrete for all types of structural repairs. Smartcare Repair MC when mixed with clean water produces highly consistent and fluid micro concrete suitable for mass infill to structural repairs in all types of load-bearing situations. It is a combination of Portland cement, well graded fillers, aggregates and special additives to improve physical installation properties and reduce the possibility of shrinkage cracks

Uses

SmartCare Repair MC can be used for major concrete and precast structural repair works structural elements and other construction defects pertaining to all structural elements such as repair on beams, columns, walls in high rise buildings, Piers and cross beams on highway structures, marine structures, repairs to old columns etc. SmartCare Repair MC can be used for producing or reinstating Heavy floor screed, bolt anchoring and load Bearing Base-Plates SmartCare Repair MC recommended for filling un-accessible areas where use of hand applied mortars would unfeasible SmartCare Repair MC when mixed with water produces a flowable micro concrete for pumping/pouring/cast applications up to 100 mm thickness

Characteristics/ Advantages

- Easy Mixing and excellent workability for placing and finishing
- Excellent Bond strength with old and new concrete
- Excellent high early and ultimate Compressive strength
- Excellent adhesion strength to reinforcement bars
- Excellent water resistant
- Tropical formula for extreme climatic conditions.
- Designed for thick applications
- Reduced cracking tendency by incorporating synergetic shrinkage control system

- Self-compacting nature eliminates air entrapment without vibration.
- High modulus will ensure early transfer of loads to hosting concrete
- Excellent resistance to chloride.

Packing

25 kg Bag

Yield

Approx. 13 Ltrs

Coverage

25 Kg gives approx. 1.3 m²/10 mm thickness. This coverage is theoretical and depends upon the surface profile of the substrate and the wastage.

Standards

Confirms to EN 1504-3: R4 class CC & 1881
BS 6319 Part 3
BS 6319 Part 7
ASTM C 579

Properties

Component	Single
Form	Powder
Working time	: 30 min
Compressive Strength ASTM C 109	>25 N/mm ₂ at 1 day,
	>50 N/mm ₂ at 14 days,
	>65 N/mm ₂ at 28 days
Flexural strength BS 6319 Part 3	>9 N/mm ₂ at 28 days
Tensile strength (BS 6319-7)	5.0 N/mm ₂ at 28 days
Setting time (ASTM C 191)	
Initial Set	: 6 - 7 hours @ 35°C
Final Set	: 10-11 hours @ 35°C
Water Absorption	< 0.01ml/ m ₂ /sec @ 2hrs

Water Permeability	< 10mm
Fresh Wet density	: 2200 - 2300 kg/m ³

Application Method

Preparation

- All repair areas must be clean, sound and free from all dirt, dust, loose material, oil, grease, etc. to allow for maximum adhesion.
- Defective concrete, honeycombing and cold joints must be removed to obtain a clean surface.
- The edges of all repairs should be cut vertically to a minimum depth of 10mm.
- The substrates should be thoroughly pre-wetted and the surface allowed to dry to a saturated (surface dry condition) before application commences.

Repairs on old concrete areas

The decayed or damaged area of the concrete should be saw cut or cut neatly keeping the side of the area as square as possible. Feather edging must be avoided. Test the surface for soundness; remove all loose debris, dust and water.

Reinforcing steel preparation

In new construction, corrosion of the reinforcing steel and chloride contamination is not usually a concern.

In cases of old concrete rehabilitation where the reinforcing steel has been rusted the reinforcing shall be prepared by a wire brush or any other mechanical means prior to priming of the steel with Zinc anode 500, 2K zinc rich epoxy primer

Priming of the substrate

Generally priming of the substrate is not necessary however the concrete should be thoroughly soaked with water constantly, to a saturated but surface should dry prior to installation of the repair.

Mixing

It is recommended that only full bag of 25 kg is mixed. SmartCare Repair MC should be mixed by mechanical means. Single bag may be mixed using a slow speed drill and spiral paddle or forced action mechanical mixer. Place the mixing water into the mixing bucket and add the SmartCare Repair MC powder and mix for approximately 4-5 minutes until a smooth lump free consistency is

achieved.

The water additions shall be approx. 3.75 liters per 25kg bag. Recommended to add (±0.5 Ltr) of water as per site conditions and application.

Note: In all cases the powder must be added to the water.

Application



Curing

Curing of the material after application is conducted by using clean water, alternatively SmartCare curing agent can be considered.

Precautions & Limitations

Temperature range: 5°C to 40°C. Outside this range, it is recommended to use hot mixing water (below 5°C) or cold water (above 35°C) depending on the circumstances, as well as storing the material under a well shaded and ventilated shade and protecting the surface from direct sun.

To avoid any grout leaking a sound, ridged, firm watertight shutter is a must

Cleaning

SmartCare Repair MC should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically

Shelf life & Storage Condition

SmartCare Repair MC have a shelf life of 12 months if kept in a dry store in the original, unopened bags or packs at 25°C.

Health & Safety Features

As with all chemical products, caution should always be

exercised. Protective clothing, such as gloves and goggles, should be worn (see packaging for specific instructions). Treat any splashes to the skin or eyes with fresh water Immediately.

Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

Note: The information supplied in our literature or given by our employees is based on extensive experience and, together with that supplied by our agents or distributors, is given in good faith to help you. Our company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of work, we accept no liability for any loss or damage which may arise as a result thereof.

Version No. V06 02/23. Please note that this datasheet supersedes all previous versions UAE



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