

Ducon Micro Concrete

TECHNICAL DATA
SHEET (TDS)



High strength Dual shrinkage compensated, flowable micro concrete for concrete repairs

DESCRIPTION

Ducon Micro Concrete pourable mortar is a dual shrinkage compensated, high flow, high strength formulation for structural concrete repairs.

Ducon Micro Concrete is suitable for placing in thicknesses of 25mm to 200mm.

Ducon Micro Concrete provides a durable, strong structural repair fully compatible with host concrete.

RECOMMENDED USE

Ducon Micro Concrete is the ideal material for vertical or horizontal structural repairs where the thickness of repair is more than 25mm and use of pourable mortar is preferable to hand or machine applied repair systems. Typical applications are:

- Extensive repairs to beams, columns and other structural elements
- Repair of structural members subjected to repetitive loading
- Jacketing of beams, columns and other structural elements strengthening

FEATURES & BENEFITS

- **Dual shrinkage compensated** – Volume stable in wet and hardened state reducing cracking tendency
- **One component, factory made only addition of water** – uniform predictable performance even in remote situations
- **No bonding agent required** – Simple installation
- **Impermeable to aggressive elements** – Long life repairs
- **Pourable mortar** – able to repair complex profiles easily
- **Fast and easy placing** – Reduced time for repairs.

PROPERTIES

Appearance	Grey powder
Water to powder ratio	0.14
Typical result at 30°C compressive strength (N/mm ²) (ASTM C109 cube) 50mm	24 MPa 1 Day 45 MPa 3 Days 55 MPa 7 Days 65 MPa 28 Days
Density	Approx. 2250kg/m ³
Mixing water per 25kg bag	Approx. 3.25-3.75 liters
Application temperature substrate material	+5 to +40°C +5 to +30°C

APPLICATION

Surface Preparation

All Loose traces of concrete or mortar, dust, grease oil, etc. must be removed. Damaged or contaminated concrete shall be removed to obtain a keyed aggregate exposed surface. Non-impact/vibrating cleaning methods, e.g. grit or high pressure water blasting are recommended. Cut the edges of the repair vertically to a minimum depth of 20mm. Clean all exposed reinforcement to a minimum grade of Sa 2 according to ISO 8501-1 / ISO 2944-4. Ensure back of reinforcing bar is also clean.

Where reinforcing bars are corroded, cut back the concrete to at least 20mm behind the reinforcing bars and coat old and new with epoxy base zinc rich primer for corrosion protection water powder ration grit blast around the reinforcing bars to remove corrosion products. Replace the affected part of reinforcing bar if the diameter after grit blasting is found reduced by more than 25% of the original diameter on the advice of the structural engineer responsible for the works.

Statement of Responsibility (Disclaimer)

The technical information and application advise are based on present state of our best scientific and practical knowledge. As the information herein of a general nature, no assumption can be made as to a products suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

Ducon Polymer Flooring (DPF)

www.dpf-asia.com

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Formwork

The forms must be of good quality, treated with a chemical release agent for smooth release, provided with water drain holes, strong and well braced to withstand the fluid pressure of the mortar until it hardens.

Mixing

Only full bags are mixed. Damaged or opened bags should not be used. Mix **Ducon Micro Concrete** in a forced action pan mixer, or with a helical paddle attached to a low speed (300-600rpm) mixer for 3 minutes until a lump free, flowable consistency is achieved. Only use clean water. Mixing water needed: 3.25 to 3.75 Liters per 25kg bag. Allow the mortar to rest for 2 - 3 minutes and then remix briefly before pouring into formwork. If temperature more than 40°C then use Chilled water for mixing.

Mortar Application

The minimum temperatures must be maintained during application and for at least 24 hours thereafter for optimum curing of the product. The prepared for 24 hours, but at least 2 hours before applying **Ducon Micro Concrete** ensure all water is removed from formwork prior to installation and formwork is resealed. **Ducon Micro Concrete** should be pumped or poured into the prepared formwork until void is filled. Pumping is recommended for larger to segregation.

The formwork should be removed after 1-3 days and a curing compound applied if subsequent coats are to be applied the use of clear polythene is recommended for the first three days after removal of formwork. For repairs beyond 80m to 100m in thickness, extend **Ducon Micro Concrete** With up to 25kg of 5-12mm sized washed, saturated surface-dry (SSD), graded low absorption, high

density aggregates, please consult your local DPF representative for advice.

CURING

Curing is essential part of Ducon micro concrete system. After completion of concreting work the open edges shall be cured by effective curing membrane or any using plastic sheet, wet hessian cloth are also accepted.

ESTIMATING DATA

Each bag of **Ducon Micro Concrete** when mixed with 3.5L of water yields 12.5L.

PACKAGING

Ducon Micro Concrete is available in 25kg bags

SHELF LIFE

Ducon Micro Concrete has a shelf life of 6 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the DUCON Material Safety Data Sheet (MSDS) from our office or our website

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