BP-ReCon MC

Non-Shrink, Free Flow Polymer Modified Micro Concrete

Description

BP-ReCon MC is a high strength, free flowing, shrinkage compensated micro concrete with low alkali content. It provides a dimensionally stable, free flowing micro concrete with controlled expansion. It exhibits excellent thermal compatibility with concrete. The material of **BP-ReCon MC** is based on Portland cements, graded aggregates and fillers, and additives which impart controlled expansion characteristics in the plastic state, while minimizing water demand. The low water requirement ensures high early strength and long-term durability.

Application Area

BP-ReCon MC is used for repairs to damaged reinforced con-crete elements, particularly where access is restricted and where vibration of the placed material is difficult or impossible. It can be used in various applications such as:

- ✓ Repair of large sections including encasement of structural elements.
- ✓ Jacketing of beams, columns and other structural elements for strengthening.
- ✓ Repair of beams, columns, marine structures, bridges, etc.
- ✓ Difficult access locations where patch repair is not feasible.
- ✓ Used as a repair material where cathodic protection is used.
- ✓ Suitable for voids / sections up to 20 - 150 mm in a single layer.

Advantages

BP-ReCon MC provides the following beneficial properties:

- ✓ Exhibits excellent bond with concrete.
- ✓ Self-compacting, no vibration required
- ✓ Expansion properties compensate for shrinkage in plastic and hardened state.
- ✓ Gaseous expansion system compensates for shrinkage and settlement in the plastic state.
- ✓ Can be pumped or poured into restricted locations.
- ✓ Highly fluid to allow for placement without vibration.
- ✓ Pre-packed to overcome site-batched variations.
- ✓ Rapid strength gain to facilitate early reinstatement.
- ✓ Ensures pile-top integrity as part of a waterproofing system.

Typical Properties

Property	Test Method	Value
Component		Single
Form		Powder
Colour		Grey
Fresh Wet Density	BSEN 12350-6	2.23kg/ltr +/- 0.05
Working Time		30 Minutes
Compressive Strength	ASTM C109	1 day 25 N/mm² 7 days 45 N/mm² 28 days 60 N/mm²
Bond Strength	ASTM D4541	> 1 N/mm² at 28 days
Flexural Strength	BS 6319-3	9 N/mm² at 28 days
Tensile Strength	BS 6319-7	4.5 N/mm² at 28 days
Water Absorption (ISAT)	BS 1881-208	< 0.01 ml/m²/sec at 2 hrs
Water Permeability	BSEN 12390-8	< 10mm
Rapid Chloride Permiability	ASTM C1202	< 650 coulombs
Drying Shrinkage	ASTM C157	< 500 microstrain at 28 days

Surface Preparation

Surfaces to be repaired should be sound, clean and free from oil, grease, dirt, paint, mould oil, curing compounds etc. Formwork should be strong and leak proof. Drain outlets should be installed to allow drainage of water after soaking. Air vents should also be incorporated. Cut back edges to right angles to avoid feather edges. Corroded steel should be fully exposed allowing a gap behind the steel to ensure removal of rust and to allow the flow of micro concrete. Exposed and corroded rebar should be grit blasted or water blasted to remove rust and chlorides. Cleaned rebar should be primed with **BP-ReCon Zinc** or **BP-ReCon ST.**

Form Work

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

Priming

Priming of concrete substrate is generally not required. Surfaces to receive **BP-ReCon MC** should be well saturated with water prior to application. All excess water must be drained off before placing **BP-ReCon MC**. In some critical cases appropriate bonding agent from **BP-FitBond** range should be used.

Mixing

BP-ReCon MC should be mixed using either a forced action mixer or heavy duty slow speed drill (400-500 rpm) fitted with a spiral paddle. Add powder to water and mix for 3-4 minutes until a smooth homogenous consistency is achieved. The amount of water to be added is 4 ltrs per 25 kg. Do not try to remix the product after it loses its workability by the addition of extra water. Part mixing of **BP-ReCon MC** can be adopted provided correct water to powder ratio is maintained. If weather conditions are very hot, use of chilled water is recommended.

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Application Guidelines

The mixed material should be placed or pumped continuously. Place entire mixed material within 30 minutes of mixing. If pumping of material is adopted, ensure to lubricate the pump lines by grouting. In situations which require deep sections to be casted, 10 mm down coarse aggregate in the ratio of 1:1 or 1:0.5 by weight of **BP-ReCon MC** can be added depending on consistency required. Thick mortar consistency of mixed material can be achieved by reducing water to powder ratio for use in special applications. In continuously wet areas or where enhanced bonding is required, it is recommended to use **BP- FitBond EA** as bonding agent before placing of **BP-ReCon MC.**
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.

Curing

Curing can be started after 24 hrs by light sprinkling of water 2 to 3 times a day till 5 to 7 days. Alternatively suitable curing compound from **BP- JetCure** range maybe used. Low temperatures and high atmospheric humidity will slow down the curing rate, and vice versa.

Packaging

BP-ReCon MC is packed in 25kg moisture resistant bags.

Yield

13 ltr/25 kg bag.

Storage & Shelf-life

12 months from date of manufacture when stored under warehouse conditions in original unopened packing. Extreme temperature / humidity may reduce shelf life.

Limitations

Do not add any additional substance, like cement, sand etc. These may adversely, affect the performance of the product. The product should not be used when the temperature is below 5°C and falling. The product should not be exposed to running water on the application area during application. Exposure to heavy rainfall prior to final set may result in surface scour.

Cleaning

Clean all equipments and tools with water immediately after use. Hardened material can be removed mechanically.

Health and Safety

During use, avoid inhalation and contact with the skin or eyes. Gloves, goggles and suitable mask must be worn. Contact with skin, eyes, etc. must be avoided. If swallowed seek medical attention immediately. Regarded as non-hazardous for transportation. Do not reuse containers. To be disposed off as per local rules and regulations.

Quality & Care

Conpacmix (BD) Ltd. acquired German technology for an updated production facility and set up a state of the art laboratory facility for conducting regular quality assessments on raw materials procured and finished products. Process from procurement of raw materials to finished products, are managed by qualified and experienced engineers, chemists and technicians.

Note: Field service where provided does not constitute supervisory responsibility. Suggestions made by **Conpacmix (BD) Ltd.** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **Conpacmix (BD) Ltd.**, are responsible for carrying out procedures appropriate to a specific application.

Manufacture: