



B 40

High Strength, non shrink, free flowing cementitious micro concrete

DESCRIPTION

B 40 has a blend of portland cement, graded aggregates and additives to improve the flow and physical properties. B 40 is non shrink micro concrete that exhibits excellent flow, free from segregation and bleeding. It is recommended for large volume vertical or horizontal structural repairs wherever the use of formwork is preferable to hand applied repair systems.

USES

- Large volume concrete repairs
- Repair of corrosion damaged concrete
- Jacketing of beams, columns and other structural elements for strengthening
- For pile head re-profiling

FEATURES

- No primer required
- Excellent bond to the concrete substrate
- Very high and ultimate compressive strength
- Low permeability: provides very good protection against Carbon dioxide and chlorides
- Self compacting: ensures complete void filling of the repair area
- Versatile: Suitable for application thickness of 20mm - 200mm
- Low alkali content

PHYSICAL PROPERTIES

B 40	@ 27 ± 1°C
Bulk density of powder	1.40 - 1.45 g/cc
Fresh wet density	2350 kg/m ³
Compressive Strength BS 1881, Part 116: 1983	
After 3 days	> 40 N/mm ²
After 7 days	> 50 N/mm ²
After 28 days	> 75 N/mm ²
Flexural Strength BS 6319, Part 3	> 7.0 N/mm ²
Tensile Strength BS 6319, Part 7	>2.0 N/mm ²
Water Permeability DIN 1048, Part 5 (Depth of penetration)	13 mm
Slant Shear Strength/ Bond Strength BS 6319, Part 4	> 4.0 N/mm
Chloride ion penetration test	Moderate

COVERAGE ESTIMATES

Pack size	Yield
25 kg	Approx. 12.30 litres for 25 kg bag + 3.90 litres water

APPLICATION INSTRUCTIONS:

Substrate Preparation

The substrate must be hard, sound and free of dust, dirt and other loose material. Any exposed steel must be cleaned, free of corrosion and to be treated with EP 410 zinc rich primer. In instances where there is a significant loss of section, the steel may have to be replaced.

The edges of the repair area should be groove cut to a minimum of 10 mm to eliminate feather edges and better anchor to the substrate.

Formwork

The form work should be rigid, tight and should have properly sealed edges to ensure that no grout loss. The form work should include drainage outlets at the lowest points. A 45° angle bird's mouth shall be provided at the top of the formwork to ensure ease of placement of B 40. Pour clean water into the formwork and allow saturating for minimum of 3 - 4 hours.

Mixing

The amount of water required for mixing B 40 may vary depending on site conditions but should not exceed 3.90 litres per 25kg.

Add 90% of the pre-measured mixing water in a clean container and then slowly add B 40. Mix thoroughly for 2 minutes using a heavy duty slow speed drill (400 - 600 rpm). Then add the remaining 10% water if necessary and continue mixing for another 1 minute. This will ensure a smooth even consistency of the micro concrete. Place the material immediately after mixing. Note: For large repair areas or multiple bags, mixing a forced action mechanical mixer should be used.

Placing

Ensure all free water is drained from the formwork and drain holes are plugged before placing of B 40. The mixed B 40 shall be poured continuously to prevent air entrapment. Tapping the formwork with a hammer lightly will ensure effective compaction of the micro-concrete.

Form work can be removed after 24 hours for vertical application and after 3 days for against gravity application.

CURING

On removal of formwork, repaired areas should be thoroughly cured either with water curing or with C 20 curing compound.

CLEANING

B 40 can be removed from tools and equipment by washing in clean water immediately after use. Any hardened material will need to be removed mechanically.

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STORAGE AND SHELF LIFE

B 40 must be stored in unopened packaging, clear of the ground in cool dry conditions and be protected from excessive draught. If stored correctly, as detailed above, the shelf life of this product is 6 months from the date shown on the packaging.

PRECAUTIONS

Avoid contact with eyes and prolonged contact with the skin. Care should be taken to avoid inhalation or ingestion of dust and prevent contact with the eyes. In case of contact with eyes, flush with ample amount of clean water and seek medical advice if necessary.

DISPOSAL/SPILLAGE

Spillage of the product should be absorbed onto sand or other inert materials and transferred to a suitable disposable vessel. Disposal of such spillage or empty packaging should be in accordance with local waste disposal authority regulations.

For further information please refer to the Material Safety Data Sheet.

CONDITIONS OF SALE

Sold subject to the Company's conditions of sale which are available on request.

NOTE

The information supplied in this datasheet is based upon extensive experience and is given in good faith in order 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 the work, we accept no liability for any loss or damage which may arise as a result thereof.

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