

Betcrete BOF DFX

Rapid Hardening Concrete for Direct Fix track bed recon

BOF DFX has been developed specifically for installation of direct fix systems. It is a fibre reinforced polymer modified rapid hardening infill concrete, for use in sections incorporating helical bolt fixing reinforcement. The product is packed in a 25 kg bag for use in machine mixers on site, requiring only the addition of water. It is based on an upgrade of the successful BOF formulation.

- One bag pack pre dosed with fibres
- Superior flexural strengths compared with standard BOF concrete
- Unique multi length fibre mix reduces plastic and shrinkage cracking
- Concrete can be air cured and maintain high strengths and a dust free surface
- All tools and equipment can be cleaned in water
- Can be installed in ambient temperatures from 2 to 40 C
- Aggregate grading and size ensures complete 'capture' of the helical reinforcement

Technical Details

Maximum aggregate size is 6mm; the polymer modified cementitious binder is designed to give rapid strength gain as detailed below, in conditions where normal curing of concrete by water spray or curing membrane cannot be carried out. It consistently produces strengths in excess of the LUL specification of 15 MPa in compression at 1 hour.

Typical Test Results to BSS 1881 (BS EN 12390) at 20 C.

Specimens cast in 40 x 40 x 160 mm prism air stored

	AGE	1 HOUR	24 HOURS	21 days
Compressive	MPa	22	43	55
Flexural	MPa	4.0	8.0	12.4

Water equivalent to 7.5 Lts per 4 bag mix (100Kg of premix)

Typical Placed Density 2400 Kg/M3

At 10 C working time 20 minutes

At 20 C working time 15 minutes

At 40 C working time 8 minutes

Instructions for Mixing and Installation

In order to ensure that high early strengths are achieved, the ambient temperature should be 5 degrees C or greater. If used at lower temperatures the mix will harden more slowly.

Concreting should not be carried out at a temperature less than 1C without consulting the manufacturer.

The mixed concrete produces a medium workability material in the mixer, but gives excellent flow and compaction when placed using vibrators and/or tampers. This permits concrete to be placed on canted sections of track bed. The action of the polymer addition increases bond to existing concrete.

BOF DFX should be placed and compacted within 10 minutes of start of mixing.

The product requires thorough, efficient mixing, which is best achieved using a forced action mixer of suitable capacity for the job in hand. It can be used in Belle, Cretreangle and Refina type mixers.

Water addition is maximum of 2.0 Litres per 25 KG bag

The specific Method Statement for the mixer being used, including water addition should be reviewed before work commences. Mixing time will depend upon the type of mixer used, but in all cases an homogenous material with no dry areas should be produced. (Generally not exceeding 2 minutes)

- The area to be infilled should be cut back to a sound base and sides. Where possible a rough finish is preferred to assist in providing a mechanical key.
- The broken out area should be thoroughly damped down with clean water to remove dust and cut down suction.
- Place into the area to be filled ensuring maximum compaction ideally using mechanical poker vibrators.

-Finish surface to suit end use i.e. trowel, brush, tamping etc...

BOF DFX has been specifically designed to be used in areas where conventional curing techniques are impracticable. The product is air cured and samples taken for analysis should be treated in the same manner before testing. The product will still produce a dense high strength infill at early ages.

Yield Figures per cubic metre filled for Beticrete BOF DF

Each 25 Kg bag gives a yield of 11.5 Litres of concrete.

87 bags are required per cubic metre (1,000 Litres)

Each pallet of 40 bags (1 Tonne) will fill 460 Litres

Health and Safety

There is no emission of noxious or offensive fumes during the normal use of this product. The product is classified as an Irritant. When mixed with water it yields an alkaline mixture which should not be allowed prolonged contact with the skin as this may in some cases cause irritant and vessicant effects. Washing with soap and water is sufficient to remove it from the skin. Dust masks, water proof boots and gloves together with masks and goggles as used when mixing cement powders are recommended. A full assessment of BOF DFX should be completed after having read the separate detailed Material Safety Data Sheet.

Associated BOF DFX documents

Material Safety Data Sheet
Method Statements
Hot Weather working
Taking cubes and testing

Contact info@beticrete.com

Tel: +44 (0)7961 922057