

TECHNICAL DATA

Revision Date 05/2006

FSC-10

RAPID HIGH STRENGTH CONCRETE

Product Code: DH 127

Description

FSC-10 is a pre-packaged special cement based concrete containing graded aggregates and non-shrink additives. FSC-10 is supplied to site ready to use only requiring the addition of mixing water to produce a medium workability high strength durable concrete. The mixed concrete, when placed, will harden in approximately 10 minutes and reach initial set in approximately 15 minutes.

FSC-10 can be placed in a single pass from 30mm to 400mm. Thicker sections can be achieved by placing additional layers once the preceding layer has reached initial set. The compressive strength gain will reach 18N/mm² within 1 hour allowing early opening of roads to vehicular traffic. The rapid setting assists the re-bedding of manhole frames and the setting of new frame systems. The product is chloride free and can be safely used with cast iron and steel units.

After placement no special curing is required in moderate ambient conditions.

Why Use FSC-10?

- Safe and easy to use
- Versatile areas for placing and service
- Re-bedding of raised manhole frames
- Bedding of frames in new roads
- Support of road furniture

FSC-10 is durable in service and convenient for site use being supplied in 25kg tubs and bags.

Typical Concrete Properties @ 20°C

Compressive Strength

Water addition: 1.2 litres per 25kg of FSC-10

1 Hour	1 Day	7 Days	28 Days
18 N/mm ²	40 N/mm ²	50 N/mm ²	60 N/mm ²

Required mixing water is 1.0 to 1.75 litres. Aggregates as supplied contain moisture. Do not add excessive water for mixing.

Variations in water content for particular applications may alter concrete consistency and compressive strength achieved.

Density: 2350 kg/m³.

Coefficient of Thermal Expansion:
11 x 10⁻⁶/°C

Concrete for installing ironwork such as manhole cover frames during repairs may be trafficked when the strength is expected to be 20N/mm². For rapid construction, this strength should be achieved within 2 hours. FSC-10 will achieve the required strength of 20N/mm² within 1 hours at a temperature of 20°C.

Instructions For Use Preparation

Laitance and all loose material including dust, oil and grease should be removed in order to produce a sound substrate. The work area should be pre-wetted taking care to remove any standing water before placing the FSC-10 concrete.



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Mixing

To achieve the most consistent concrete mix, mechanical mixing is recommended. Thorough hand mixing is suitable but care should be taken to ensure that the mix is fully wetted out without the use of excess water. Mechanical mixing may be carried out in a suitable vessel using a slow speed high torque drill and paddle. Hand mixing may be carried out using a clean spot board or wheelbarrow.

Each 25kg tub or bag of FSC-10 requires 1.0 to 1.75 litres of water to give a stiff concrete. Excess water should not be added. Combine the aggregate and cement portions and gradually add water until a stiff concrete consistency is achieved.

Once setting of the concrete has commenced, further mixing should not be used to re-work the mix. The concrete should be placed within approximately 5 minutes of mixing. The working time may be extended in cold ambient conditions and may be slightly shortened in hot ambient conditions.

Placing

Place mixed concrete onto dampened prepared substrate as soon as possible after mixing. Compact concrete into place using a suitable tamp or float. Tools and mixers should be cleaned with water before the FSC-10 has hardened.

Curing

No special curing is required at temperatures between 5°C and 35°C.

Precautions**Health and Safety**

FSC-10 is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs wash thoroughly with clean water.

Should eye contact occur rinse immediately with plenty of clean water and seek medical advice.

Full health and safety details are given in Product Safety Data Sheet.

Fire

FSC-10 is non-flammable

Yield

The volume yield of each 25kg bag of FSC-10 is approximately 12 litres.

Storage And Shelf Life

FSC-10 will have a shelf life of 6 months when kept in unopened packaging at a temperature of 5°C to 35°C. Storage at higher temperatures may reduce the shelf life.

Packaging And Ordering

FSC-10 is supplied in:

25kg bags	Product Code	DH 127
25kg tubs	upon request	

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