

# TECFAST CONCRETE

## Description

Tecfast Concrete complies with the requirements of BS EN 1504-3 Class R4.

Tecfast Concrete is a single pre-mixed Portland cement based non-shrink concrete designed with selected graded silica aggregates and additives. The mixed product may be placed in sections of 20mm up to 650mm in a single pour.

Tecfast Concrete is suitable for all concrete works where early strength development is required in order to allow early use of the placed sections. The product may be used for localised repairs plus large area placement or re-instatement of concrete pavements.

The mixed concrete, when placed, will harden in approximately 20 minutes. The compressive strength gain will reach 22N/mm<sup>2</sup> within 2 hours allowing early opening of sections to foot and vehicular traffic.

The self-contained product only needs to be mixed with water on site. The product is chloride free and can be safely used in contact with steel reinforcement. After placement no special curing is required in moderate ambient conditions. In rapid drying conditions, expected rain or frost protection should be applied.

**Tecfast Concrete is suitable for the following repair methods as defined in BS EN 1504.**

3.2 – Concrete restoration – recasting with concrete or mortar.

4.4 – Structural strengthening – adding mortar or concrete.

5.3 – Increasing physical resistance – adding mortar or concrete.

6.3 – Resistance to chemicals – adding mortar or concrete.

7.1 – Preserving or restoring passivity – increasing cover with additional mortar or concrete.

7.2 – Preserving or restoring passivity – replacing contaminated or carbonated concrete.

**Uses include:** Concrete repairs to accept foot and vehicular traffic.  
Forming of new pavement areas.  
Re-instatement of deteriorated pavement areas.  
Rapid repairs to roadways & runways.  
Structural support situations.

## Specification Outline

Bedding and support sections shall be carried out using Tecfast Concrete as manufactured by Parex Ltd. The product must be stored, handled and placed strictly in accordance with the manufacturer's instructions.

## Quality Assurance

Parex Ltd is a firm of Assessed Capability. The Company's quality system conforms to BS EN ISO 9001:2008 and is assessed by UK CARES LTD.

## Standards

Tecfast Concrete has been tested in accordance with appropriate parts of EN12390, EN13412. TecFast Concrete meets the requirements of the Highways Agency Specification for Highway Works Series 1700 for Structural Concrete.

Tecfast Concrete complies with the classification R4 according to BS EN 1504-3 and is a concrete repair product for structural repair CC mortar (based on hydraulic cement).

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Parex Ltd, Holly Lane Industrial Estate, Atherstone, Warks, CV9 2QZ. UK 12 <b>GB12/85674</b>		
<b>EN1504-3</b>		
Products for structural repair CC Mortar (based on hydraulic cement)		
Compressive strength	EN 12190	Class R4
Chloride ion content	EN 1015-17	≤ 0.05%
Adhesive bond	EN 1542	≥ 2MPa
Restrained shrinkage / expansion	EN 12617-4	≥ 2MPa
Carbonation resistance	EN 13295	Passes
Elastic modulus	EN 13412	41.2 GPa
Dangerous substances	Complies with 5.4	
Reaction to fire	Class A1	

## Typical Concrete Properties @ 20°C (At 20°C and 9% (2.25litres) water addition).

Property	Standard	Result
Consistency		Flowing concrete
Initial set	EN 197-1	15min
Final set	EN 197-1	20min
Compressive strength	EN 12190	2 hour - 20MPa 1 day - 35MPa 7 day - 45MPa 28 day - 65MPa
Elastic Modulus in compression	EN 13412	41.2GPa @ 28 days
Bond strength via pull off	EN 1542	2.4 MPa @ 28 days
Set density	EN 12390-7	2250-2300 kg/m <sup>3</sup>
Cl <sup>-</sup> content	EN 1015-17	<0.003%

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## 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 Tecfast Concrete.

### Mixing

To achieve the most consistent concrete mix, mechanical mixing using a forced action mixer such as the Creteangle is recommended. Small mixes may be made using a heavy duty slow speed high torque drill and Mortar Stirrer.

Each 25kg bag of Tecfast Concrete requires 2.25 litres of water to give a medium workability concrete consistency. Excess water should not be added. 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 15 minutes of mixing. The working time may be extended in cold ambient conditions and may be slightly shortened in hot ambient conditions. For cold weather working warm mixing water at up to 30°C may be used.

**Part bag mixing should not be undertaken.**

### Placing

Mixed Tecfast Concrete should be placed onto the dampened prepared surface as soon as mixing is complete. Once placed fully compact the concrete to obtain maximum strength development. The bed thickness applied in a single application should be between 20mm to 650mm.

The placed concrete will have hardened sufficiently to carry out further work within some 20 minutes depending on the surrounding ambient conditions.

### Curing

No special curing is required at temperatures between 5°C and 35°C. For placing at temperatures outside this range contact the Technical Service Department.

At early ages do not allow placed concrete to rapidly dry and protect from rain and frost.

## Precautions

### Health and Safety

Tecfast Concrete 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

Tecfast Concrete is non-flammable. Fire Class A1.

### Yield

The volume yield of each 25kg bag of Tecfast Concrete is approximately 11.5 litres.

## Storage and Shelf Life

Tecfast Concrete will have a shelf life of 6 months when kept in dry conditions at a temperature of 5°C to 35°C. Storage at higher temperatures or high humidity may reduce the shelf life.

## Packaging and Ordering

Tecfast Concrete is supplied in:

25kg valvesack bags    Product Code TP98

For further information and sales please contact your local Parex Office as listed below.

Parex Ltd products are guaranteed against defective materials and manufacture. Products are sold subject to the Parex Ltd Terms and Conditions of Sale, copies of which are forwarded on invoice and are available on request. Parex Ltd endeavours to ensure that the above data and any further advice is correct, however, it cannot accept any direct or indirect liability for the use of its products as such usage is beyond its control.