

# BS 5F

*Single component, polymer modified, fibre reinforced cementitious repair mortar*

BS 5F is a one component thixotropic fibre reinforced polymer modified repair mortar. It can be applied vertically or overhead by low pressure wet-spraying or hand trowelling. BS 5F is reinforced with specially designed bean shaped, alkali resistant synthetic fibres for exceptional resistance to cracking. It is recommended for repair situations requiring application of mortar up to 50mm thickness in one layer.

## Uses

- Extensive repairs to beams, columns and other structural elements.
- Repair of structural members subjected to repetitive loading.

## Benefits

- Single component - only addition of water required at site
- Quality controlled, uniform, predictable results
- No additional bonding agent required.
- Sprayable. Virtually no rebound.
- Chloride free, safe for use in prestressed and reinforced concrete.
- Impermeable to aggressive elements.

## Standards compliance

BS 5F is compliant with ASTM C 109 for test compressive strength.

## Specification Clause

The dual shrinkage compensated, cementitious patch repair mortar shall be BS 5F with compressive strength of 35Mpa at 7 day and 45Mpa at 28 days.

## Properties

W/P Ratio	: 0.16
Fresh wet density	: 2.05-2.20 gm/cc.
Compressive strength	: 15Mpa at 1 Day, 25Mpa at 3 Days : 35Mpa at 7 Days & 45Mpa @ 28 Days
Flexural Strength (ASTM C348) @ 7 day	: 7N/mm <sup>2</sup>
Tensile strength @ 7 days (ASTM C307)	: >3 N/mm <sup>2</sup>

Young's modulus	: 28 kN/mm <sup>2</sup>
Adhesion bond strength	: > 2 N/mm <sup>2</sup>
Creep Strain Reduction	10%
Modulus of Elasticity	25-28 KN/mm <sup>2</sup>

Dynamic load resistance- Can resist alternate loads, reversal loads & repeated loads cycle without major variations in the mechanical characteristic

## Instructions for Use

Correct substrate preparation is critical for optimum performance. The prepared surface should be structurally sound and free from contaminants. Remove concrete that has been saturated with oil or grease. Simple light sand-blasting will not provide a sufficient profile for most repairs.

## Note.

It is recommended that the decision on replacement of rebars is taken based on the advice of the structural engineer responsible for the works.

## Mixing

### BS 5F with Water

BS 5F must be mixed mechanically. Use a heavy-duty, slow speed, drill with spiral mixing paddle or a Pan type mixer attached to spray units with nozzle. Place approximately 80% of water in the mixer, keeping the mixer running, and add BS 5F slowly. Mix for 3-4 minutes or until a lump free mix is obtained. Add the balance 20% water and continue to mix until desired consistency is achieved.

If ambient temperature is 30<sup>o</sup> C or more use chilled water and condition the bagged product in an air-conditioned store prior to use. Maximum mixed temperature should be no more than 35<sup>o</sup> C. BS 5F can be used when the ambient temp is between 5 and 40<sup>o</sup> C.

## Placing

BS 5F has been formulated for placing both by trowel and spray application. depending on the size and location of the repair area.

For best results before application by trowel apply the first layer by gloved hand including packing behind the rebars and then firmly trowel on the rest to required thickness. When applying by hand force BS 5F tightly onto the substrate to ensure intimate contact with the pre-wetted substrate. If applying by spray use the experienced nozzle man.

## Curing

Good curing is essential, particular care is required in hot/orwindy conditions. Cure either by a single Maxcure CC 75 curing membranes, which is compatible with

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most subsequent protective coatings or by covering the work with plastic sheet fixed over wet hessian.

## Health and Safety Instructions

BS 5F mortar does not fall into the hazardous chemicals list. However, it should not be swallowed or allowed to come into contact with skin and eyes.

## Storage

BS 5F has a shelf life of 6 months when the ambient temperature is within the range of 20°C to 50°C. Should the temperature of the product fall outside this range, contact Thermax for advice.

## Packing

BS 5F is available in 30 Kg HDPE bags.

## Coverage

20kg/m<sup>2</sup> @ 10mm thickness

## Other segments :

- Concrete Admixtures • Surface Treatments • Grouts & Anchors • Repair & Rehabilitation
- Protective Coatings • Industrial Flooring • Waterproofing • Sealants • Adhesives
- Cement Grinding Aids

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**THERMAX**

Thermax Limited  
Environment House, Plot No.90-92  
BG Block, MIDC, Bhosari,  
Pune 411 026, India.  
Tel: +91-20-  
67156152, 67156000  
Fax: +91-20-27120206  
Customer Care: 18002090115 (India toll  
free) Email :  
[chemicals@thermaxindia.com](mailto:chemicals@thermaxindia.com)

Ahmedabad

Tel: +91-79-26575408 • Fax: +91-79-65577270

Bengaluru

Tel: +91-80-22371721 • Fax: +91-80-22371726

Chennai

Tel: +91-44-24303400 • Fax: +91-44-24353841

Delhi

Tel: +91-11- 46087200 • Fax: +91-11- 26145311

Hyderabad

Tel: +91-40-23253700 • Fax: +91-40-23253799

Kolkata

Tel: +91-33-66070800 • Fax: +91-33-66070999

Mumbai

Tel: +91-22-67542222 • Fax: +91-22-22040859

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