TufBuild HS

Shrinkage Compensated, Fibre Reinforced, Structural Repair Mortar

Uses

TufBuild HS is suitable for hand and spray application for repairs where high load bearing is required. Typical applications would include, but not be limited to, the following:

- Vertical and overhead repairs
- General concrete and masonry repairs
- Voids greater than 10 mm deep
- Repairs to honey combing

Typical Applications & Advantages

- High strength and related physical properties.
- Excellent bond to concrete substrates.
- Contains no chloride additives.
- Shrinkage compensated for use in structural reinstatement applications.
- Prepackaged to provide reliable and reproducible site results.
- For structural repair programs reinstating chloride attacked or structurally damaged concrete.
- Suitable for repairs in marine environments where gun applied mortar is required.

Standard Compliance

TufBuild HS complies with the requirements of the following standards :
BS 1881 :1983
BS 6319

Product Description

TufBuild HS is a single pack structural grade, polymer modified, fiber reinforced cementitious repair mortar. **TufBuild HS** is a high strength reinstatement mortar with shrinkage compensating properties. The product is ready to use, requiring only the on-site addition of water.

TufBuild HS consists of a blend of Portland cement graded silica sands, powder polymer, non-asbestos fibers and shrinkage control agents. Drying shrinkage is controlled to ensure complete void filling and therefore effective load transfer. **TufBuild HS** is a quality controlled repair mortar that exhibits low slump characteristics coupled with remarkable ease of application. The presence of a polymer ensures an excellent bond to most surfaces and improves such properties as impermeability, flexural and tensile strength.

Cellulose fibers improve water retention to aid complete hydration of the cement.

Typical Properties

Appearance	**:** Fibre mixed grey powder
Wet density	**:** ~2000 kg/m³
Compressive Strength	**:**> 40N/mm² (3 days)
	: > 50mm² (7 days)
	:> 70N/mm²(28 days)
Tensile Strength	**:** ~ 6 N/mm²(28 days)
Flexural Strength	**:** ~ 9 N/mm²(28 days)
Workable time @25°C	**:** ~ 30 minutes
Full cure	**:** 28 days
Yield	**:** 12.5 litres/25 kg unit

Technical Support

GIC provides a comprehensive technical support service to specifiers, end users and contractors and is able to offer on-site technical assistance.

Instructions for Use

Substrate Preparation: The perimeter of the area to be prepared must be clearly marked. The substrate must be sound and free from dust, oil, grease or other contaminants and should be suitably textured to provide adequate mechanical key; water jetting or needle gunning may achieve this. Edges must be cut back to at least 12mm to avoid feather edging. After preparation if the substrate is still weak or the steel is still corroded the extent of the area to be repaired must be increased. The surface should then be cleaned with oil-free compressed air.

Priming: The reinforcement must be fully exposed and thoroughly cleaned around its whole circumference during preparation. Selection of a concrete bonding agent will depend on the cause of the damage. On a well prepared and roughened substrate a bonding primer is generally not required. When a bonding primer is not required pre dampen the surface to

a saturated surface dry condition. The surface should not be allowed to dry before the application of TufBuild HS. For chloride induced repairs use **TufBond EP**. Being epoxy based the bonding agent will seal the perimeter of the repair preventing chlorides from migrating to the repair from the parent concrete.

Mixing: It is recommended that TufBuild HS is mixed by forced action mixer (e.g. Crete angle) adding the powder to the water and mixing for approx. 3 minutes until homogenous; care must be taken to avoid over-mixing since air-entrainment could reduce the properties of the material. TufBuild HS requires 3.9 liters of water per bag. This may be adjusted ± 10% to vary the consistency of the mix. The mix remains workable for 30-40 minutes, depending on ambient conditions.

Application: TufBuild HS must be applied whilst the priming coat is still tacky in case of TufBond EP. For normal cases the substrate should be saturated surface dry condition. Compact with a rubber gloved hand or wooden trowel. Ensure complete contact and compaction with the substrate. Finish with a steel float. Thicknesses of 30-50 mm are possible in one coat, depending on application parameters. For deeper sections, multiple applications will be necessary; intermediate coats should be textured to provide a key for subsequent coats. Successive applications will not require the use of the primer coat provided that the re-application is undertaken within 2 hours; if required use **TufBond AR**.

Curing: Proper curing of **TufBuild HS** is essential; use wet hessian and polyethylene sheet for 3 days.

Packaging & Storage

TufBuild HS is available in 25 kg bags and should be stored as cement, under dry frost-free conditions. Shelf life will be 9 months.

Health & Safety

Health & Safety Precautions

TufBuild HS does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come into contact with skin and eyes. Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – do not induce vomiting.

For further information refer to the Material Safety Data Sheet available for this product.

Important note

GIC endeavors to ensure that the technical information contained herein is true, accurate and represents our best knowledge and experience. No warranty is given or implied, as GIC has no control over the conditions of use and the competence of any labor involved in the application are beyond our control.

As all GIC technical data sheets are updated on a regular basis it is the customer's responsibility to check that the product is suitable for the intended application, and that the actual conditions of use are in accordance with those recommended.

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Gulf International Chemicals SAOG

HEAD OFFICE

P.O.BOX 132,

PC 124, Rusayl

Sultanate of Oman

Tel: +968 24446800

Fax: +968 24446808

Gulf International Chemicals

REGIONAL OFFICE

P.O BOX: 98175,

DUBAI,

UAE

Tel: +971 4 2583221

Fax: +971 4 2583220