

Shrinkage compensated, fibre reinforced, structural repair mortar**Product Description**

TufBuild HS is a single pack structural grade, polymer modified, fibre 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, styrene acrylic copolymers, non-asbestos fibres 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 copolymer ensures an excellent bond to most surfaces and improves such properties as impermeability, flexural and tensile strength. Cellulose fibres improve water retention to aid complete hydration of the cement.

Typical Applications

For structural repair programs reinstating chloride attacked or structurally damaged concrete. Suitable for repairs in marine environments where gun applied mortar is required.

Advantages

- High strength and related physical properties.
- Cellulose fibres improve water retention.
- 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.
- Compatible with **TufCote** and other protective coating systems.

Typical Properties**Compressive Strength**

@ 3 days	: > 35 N/mm ²
@ 28 days	: > 58 N/mm ²

Tensile Strength

@ 28 days	: > 3.7 N/mm ²
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Flexural Strength

@ 28 days	: > 7.0 N/mm ²
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Wet density	: 2000 kg/m ³ ± 100
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Pot Life	: 35 mins @ 30°C
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Full cure	: 28 days @ 30°C
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Yield	: 13 litres/ 25 kg unit
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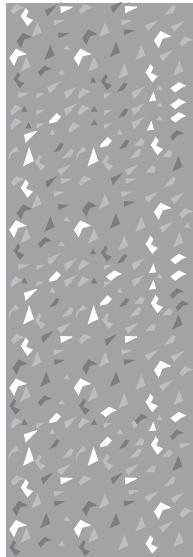
Directions for Use

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. Grit blasting to SA2^{1/2}- SIS215-900:67 is the preferred method. The steel should then be coated with **TufBuild ZP**.

Selection of a concrete bonding agent will depend on the cause of the damage. 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. For all other repairs use either **TufBuild PS** or **TufBond AR**. Refer to separate data sheets for product instructions.

Mixing: It is recommended that **TufBuild HS** is mixed by forced action mixer (e.g. Creteangle) 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 litres 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



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ambient conditions.

Application: TufBuild HS must be applied whilst the priming coat is still tacky; 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. Thereafter use **TufCure Clear**. If water curing proves impractical use **TufCure Clear** immediately after initial set and provide full protection from sun and drying winds.

Surface Treatments

In order to unify the appearance of a structure and to prevent further deterioration by the ingress of water and carbon dioxide, the use of one of the **TufCote** range of coatings is recommended. **TufCote CW** combines excellent protective properties with a natural concrete appearance.

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

As with all GIC chemical products, care should be taken to avoid contact with skin, eyes, mouth and foodstuffs. Treat splashes to eyes and skin immediately, by thorough washing with clean water. If ingested seek medical attention.

Other Concrete Repair & Protection Products available from GIC.

GIC manufacturers a wide range of concrete repair and maintenance products. These include lightweight, patch and pourable repair systems based on cement and epoxy resins.

Furthermore a compatible range of protective coatings is also available. For full details contact GIC Customer Services.

TufBuild HB- Lightweight repair mortar.

TufBuild FC- Single component cementitious, polymer modified fairing mortar for re-profiling concrete surfaces.

TufBuild MC- Shrinkage compensated, polymer modified pre-bagged micro concrete.

TufBuild ZP- Single component, epoxy zinc corrosion protection primer for steel.

TufBuild PS- Two component, acrylic modified, combined corrosion protection and bonding agent.

TufCote SS- Highly penetrative silane syloxane based water repellent treatment.

TufCote NT- Two component non-toxic, epoxy resin, protective coating. Suitable for use in potable water applications.

TufCote CW- Acrylic modified, cementitious protective anti carbonation and chloride ingress coating.

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