

DATA Sheet

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FASTFILL

USES

For the repair and profiling of vertical and horizontal in situ and precast concrete where a rapid setting, yet durable high strength mortar is required. It is ideally suited for the repair of concrete in locations which cannot be taken out of service for long periods and which are subsequently subjected to heavy wear. Typical applications include repairs to roads, runways, bridges, decks, floors and footpaths. **FASTFILL** can be used as supplied up to 100mm deep, or can be bulked out with sharp aggregate for full section repairs up to 300mm.

ADVANTAGES

- USER FRIENDLY:** Pre-packaged, mixed with clean water on-site. Part bags can be mixed. Can be bulked out with sharp aggregate for deep repairs. Reliable, easy to use.
- LOW SHRINKAGE:** Maintains high bond strength to substrate and ensures monolithic performance of the repair.
- RAPID SETTING:** Sets in 10 minutes at 20°C, yielding a durable, high strength mortar.
- COMPATIBLE:** Physical properties of cured materials similar to base concrete.
- POLYMER MODIFIED:** Ensures enhanced adhesion and low permeability giving excellent protection from acid gases, moisture ingress and chlorides.
- COMPLIANCE:** Fully complies with the Highways Agency Standard BD 27/86 for the repair of Highway Structures. Approved by the BBA, Certificate No. 05/4276.
- INNOVATIVE:** Incorporates the latest proven cement chemistry, polymer and fibre technology.
- FIBRE REINFORCED:** Improved tensile and impact strength. Excellent low sag properties.
- SAFE:** Non-toxic when cured and is listed as authorised under Regulations 31 for use in the supply of water for drinking.

PRODUCT DESCRIPTION

FASTFILL is a single component, polymer modified, fibre reinforced, Portland cement based repair compound, which is physically and chemically compatible with the host concrete. It exhibits unique hydraulic properties to produce a rapid curing mortar with enhanced polymeric properties and reliable strength development which is not significantly affected by low temperature use.

TECHNICAL DATA

Mixed Colour:	Concrete Grey.
Mixed Density:	2150kg/m ³ .
Minimum Thickness:	5mm.
Maximum Thickness:	50mm in vertical & soffit situations. 100mm horizontal (as supplied). 300mm horizontal (bulked out 1:1 with clean sharp aggregate).
Minimum Application Temperature:	5°C.
Maximum Application Temperature:	25°C.
Working Life	10 minutes at 20°C.

MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength: BS 4551 Tested at 20°C:

Age	N/mm ²
1 Hour	10.0.
2 Hours	16.5.
4 Hours	25.0.
1 Day	34.5.
7 Days	45.0.
28 Days	66.0.

Young's Modulus of Elasticity (E): BS 1881 - Part 121:

26.5kN/mm².

Coefficient of Thermal Expansion:

13.6 x 10⁻⁶/°C.

Bond Strength Slant Shear Method: BS 6319 - Part 4:

28 Days 51.0N/mm².

APPLICATION DATA

Application Guide available on request.

PREPARATION

Mechanically remove all damaged concrete back to a sound core. Wherever possible, the full circumference of the steel reinforcement should be exposed to at least 25mm behind the bars and 50mm beyond the point at which corrosion is visible. On cutting back, feather edges must be avoided. The perimeter of the repair area should be stepped to a depth of 10mm by means of saw, disc cutting or preferably using a power chisel. The areas to be treated must be free from all unsound material, i.e. dust, oil, grease, corrosion by-products and organic growth. Smooth surfaces should be roughened, all loose material and surface laitance removed and reinforcement cleaned to bright steel using wet grit blasting techniques or equivalent approved methods. The strength of the concrete sub-base should be a minimum of 20N/mm².

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

PRIMING

The pre-damped concrete surface should, if highly porous, be primed with **BONDING BRIDGE 842**. Two coats of **STEEL REINFORCEMENT PROTECTOR 841** should be applied to the prepared steel by brush. For further information, please refer to relevant data sheets.

FASTFILL should be mechanically mixed using a forced action pan mixer, or in a clean drum using a slow speed drill and paddle. A normal concrete mixer is NOT suitable.

MIXING

For normal application, use 3.5 litres of clean water per 25kg bag depending upon desired consistency. For part bags, this equates to 5.5 volumes of powder to one volume of water.

For screeding applications up to a maximum of 100mm, a clean, washed Medium Grade concreting sand can be introduced into the mix, up to 50% by weight.

For full section repairs up to a maximum single application of 300mm, or where a pourable concrete is required, coarse, clean aggregates (5-10mm size) can be introduced into the mix in up to equal proportions by weight without adversely affecting its physical performance.

For these bulked out applications, the initial water addition should be based on the quantity of **FASTFILL** in the mix, using the standard ratio above. A minimum amount of extra water should then be added to give the required workability. Normal mixing time depends upon the type of mixer used; 1 minute is average. Mix so as to entrain as little air as possible. Use without delay.

PLACING

For normal applications, **FASTFILL** should be compacted, using a placing technique to remove entrapped air, in layers not exceeding 50mm in vertical or soffit situations, or 100mm deep in pockets. When bulking out to the maximum of 300mm, support with shuttering and compact to remove entrapped air.

For repairs which require multi-layer applications, it is important to ensure that the previous layers are well keyed and stable but not fully set (usually 15-30 minutes dependent upon temperature) prior to the application of subsequent layers. Final profiling of a high quality is achieved with a steel float.

When applying material to floors, the area should be divided up and each bay completed within the working life of the **FASTFILL**. Overtrowelling must be avoided and a brush finish or similar is recommended.

Please consult our Technical Department for advice on suitable bay sizes.

CURING

Normal concreting procedures should be strictly adhered to. It is important that the surface of the mortar is protected from strong sunlight and drying winds with **FLEXCRETE CURING MEMBRANE**, polythene sheeting, damp hessian or similar.

CLEANING

All tools should be cleaned with water immediately after use.

SHELF LIFE

12 months in dry, frost free conditions with unopened containers at 20°C.

PACKAGING AND COVERAGE

Pack Size:	25kg bag & 8kg bucket.
Yield:	One 25kg bag yields 13.3 litres of mortar. One 8kg bucket yields 4.3 litres of mortar.
Coverage:	2.15kg/mm/m ² . i.e. 1m ² at 10mm thickness requires 21.5kg.

SAFETY DATA

Safety Data Sheet available on request.

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