

webercem HB40

Acrylic polymer-modified, highbuild structural repair mortar

- * Lightweight, high strength mortar for soffit and vertical repairs
- * Complies with BS EN 1504-3 as an R3 mortar
- * Fibre reinforced

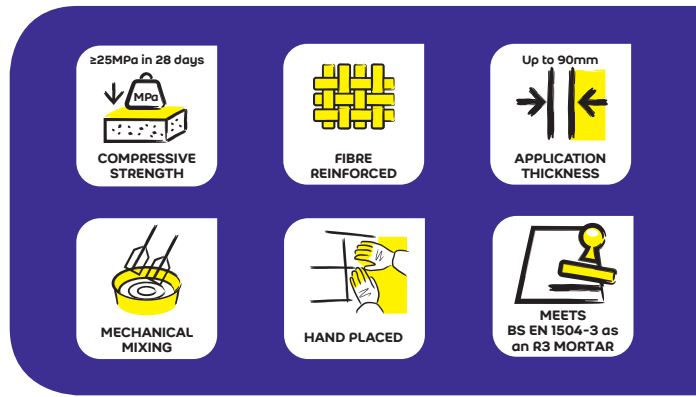
About this product

webercem HB40 is a single-component, polymer-modified, high build cementitious mortar, designed for structural concrete repairs. It requires only the addition of clean water to produce a lightweight, low permeability, high strength mortar for both soffit and vertical repair situations.

This product has been formulated to comply with the requirements of BS EN 1504-3 as an R3 mortar.

Features and benefits

- Lightweight, low density structural repair mortar which allows speedier completion of work
- High build properties – up to 75mm vertically and 50mm in a soffit repair, without formwork
- Contains fibres and spray dried acrylic polymer
- Low permeability to water, carbon dioxide and chlorides
- Easy to apply, with excellent application properties
- This product has been formulated to comply with the requirements of BS EN 1504-3 as an R3 mortar



Uses

- Structural concrete repairs, particularly where high, overhead build is required
- Repairs to car park soffits, bridge structures and columns

Technical data EN1504

Performance Characteristic	Method	Requirement	Result	Pass/Fail
Compressive Strength	EN 12190	≥25 MPa	>40 MPa	Pass
Chloride ion content	EN 1015-17	≤0.05%	0.01%	Pass
Adhesive bond	EN 1542	≥1.5 MPa	>1.5 MPa	Pass
Carbonation resistance	EN 13295	$dk \leq \text{control concrete (1.3)}$	0.3	Pass
Elastic modulus	EN 13412	≥15 GPa	17.5 GPa	Pass
Thermal compatibility Part 1 Freeze-thaw	EN 13687-1	"Bond strength after 50 cycles ≥1.5 MPa"	>1.5 MPa	Pass
Capillary absorption	EN 13057	≤0.5 kgm ⁻² h ^{-0.5}	0.052	Pass
Coefficient of thermal expansion	EN 1770	Declared value	$9.5 \times 10^{-6}/^{\circ}\text{C}$	N/A
Capillary absorption	EN 13057	≤0.5 kgm ⁻² h ^{-0.5}	0.13	Pass

Preparation

Concrete substrates

Concrete substrates must be adequately prepared by use of scabbing, needle gunning or other means, as appropriate. Oil and grease must be removed by steam cleaning together with suitable detergent. Any contaminated concrete must be removed. All damaged concrete should be cut back to a sound surface and at least 15mm behind any exposed reinforcement. The edges of the repair should be cut perpendicular to the surface of the repair.

Note: Disc cutting is not recommended due to hazardous respirable crystalline silica that can be produced.

New concrete must be at least 14 days old.

Thoroughly saturate the concrete but remove excess water.

Steel substrates

These should be grit blasted to Swedish Standard SA 2 $\frac{1}{2}$ equivalent to BS 7079-A1 and degreased immediately prior to application. Where corrosion is absent, wire brushing to a clean, bright surface may be adequate. Care must be taken not to polish the rust. Apply a protective coating of **webercem bondcoat** as described below to act as a holding primer.

Note: Preparation of both concrete and steel must achieve a clean, sound, roughened surface.

Mixing

Mixing of bonding slurry

Mix 2.5 volumes of **webercem bondcoat** powder to 1 volume of clean water. Mix vigorously to a brushable, slurry consistency.

For detailed application instructions, see separate **webercem bondcoat** data sheet.

Mixing webercem HB40

A low-shear, forced-action mixer must be used e.g. Mixal Mixer or Creteangle. Hand mixing of the mortar is not recommended.

Mix for 2 minutes from adding the powder to the water.

Over mixing will entrain air and reduce compressive strength. Do not over mix.

Water addition is 2.4 to 2.7 litres of clean water per 20kg bag. Start at 2.4 litres and adjust as required upwards to 2.7 litres. Do not add more than 2.7 litres of water.

Application

Priming of steel reinforcement

Apply one full, unbroken coat of **webercem bondcoat**, ensuring the back of the cleaned reinforcing bars are coated.

Priming of concrete substrate

Ensuring the prepared concrete substrate is saturated but surface damp, use a stiff brush to scrub the slurry well into the surface.

Apply the mortar to the substrate whilst the bonding slurry is still tacky and compact well into place, ensuring no air is trapped.

The minimum application thickness is 10mm. Where very thick sections are required, multiple applications may be necessary. Intermediate surfaces should be scratched to give a good mechanical key. Successive applications require the use of **webercem bondcoat**.

Finishing

If subsequent materials or coatings are to be applied, finish with a wooden or plastic float or sponge to present a lightly textured surface. Otherwise, finish with a steel float for a tightly closed surface.

Curing

Unless a levelling mortar, coating, inhibitor, sealer or other system is to be applied to the surface, cure immediately after finishing with a suitable membrane.

Before application of a coating or a levelling mortar, cure the repairs by covering with closely-fitting polyethylene sheeting.

webercem HB40 can be overcoated by the levelling mortar **webercem fairing coat** or one of the anti-carbonation coatings in the **webercote** range. Overcoating times are dependent on weather conditions.

When cured, **webercem HB40**, and **webercem bondcoat** are stable to freeze/thaw conditions but, following good concreting practice, they should not be applied in freezing weather or onto frozen surfaces or at temperatures below 5°C.

Packaging

webercem HB40 is supplied in 20kg bags

Yield

webercem HB40

Approximately 15.0 litres per 20kg bag, i.e. 67 bags per m³ or 1.5 m² per bag at 10mm thickness.

webercem bondcoat

Approximately 5kg per 1m².

Storage and shelf life

When stored unopened in a dry place at temperatures above 5°C, shelf life is 12 months from date of manufacture.

Health and safety

Contains cement (Contains chromium (VI). May produce an allergic reaction). Harmful by inhalation. Irritating to eyes and skin. Keep out of the reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical help. After contact with skin, wash immediately with plenty of soap and water. Wear suitable protective clothing, gloves and eye/face protection.

For further information, please request the Material Safety Data Sheet for this product.

Saint-Gobain Weber
Dickens House, Enterprise Way
Maulden Road, Flitwick, Bedford, MK45 5BY

+44 (0) 8703 330070
✉ technical@netweber.co.uk
🌐 www.uk.weber
📱 @SGWeberUK

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