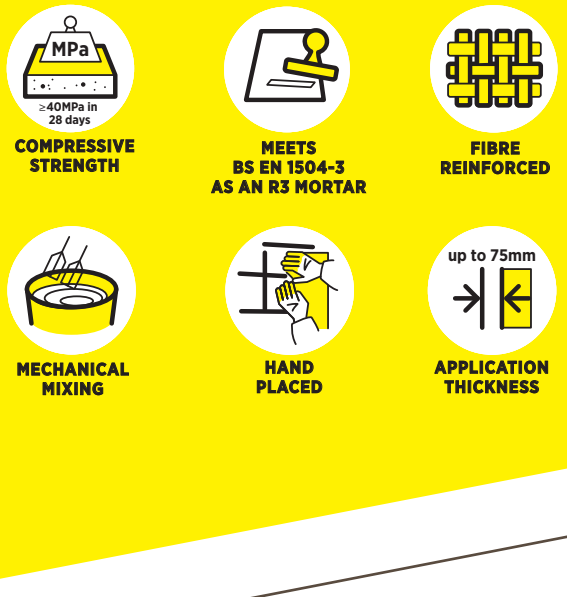
webercem HB40

Acrylic polymer-modified, highbuild structural repair mortar

- Lightweight mortar ≥40 MPa 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
- Easy to apply, with excellent application properties

Uses

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

Preparation

Concrete substrates

Concrete substrates must be adequately prepared by use of scabbling, needle gunning or other means, as appropriate. Oil and grease must be removed by suitable means. 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.

New concrete must be at least 14 days old.

Thoroughly saturate the concrete but remove excess water.

Steel substrates

Steel substrates should be prepared in accordance with BS EN 1504-10 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.

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

Mixing

Mixing of bonding slurry

Mix 2.5 parts of **webercem bondcoat** powder to 1 part 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 2-3 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 dry, 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 20mm. Where very thick sections are required multiple applications may be necessary. Intermediate surfaces should be scratched to give a good mechanical key. Successive applications requires 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.

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 **webercem fairing coat** or **webercote smooth** an anti-carbonation coating. 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. All application should only be carried out where temperatures are a minimum of 5°C and rising.

Packaging

webercem HB40 is supplied in 20kg polythene lined bags.

Yield

webercem HB40

Approximately 13.0 litres per 20kg bag, i.e. 77 bags per m^3.

webercem bondcoat

Approximately 5kg per $1m^2$.

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

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

Technical data

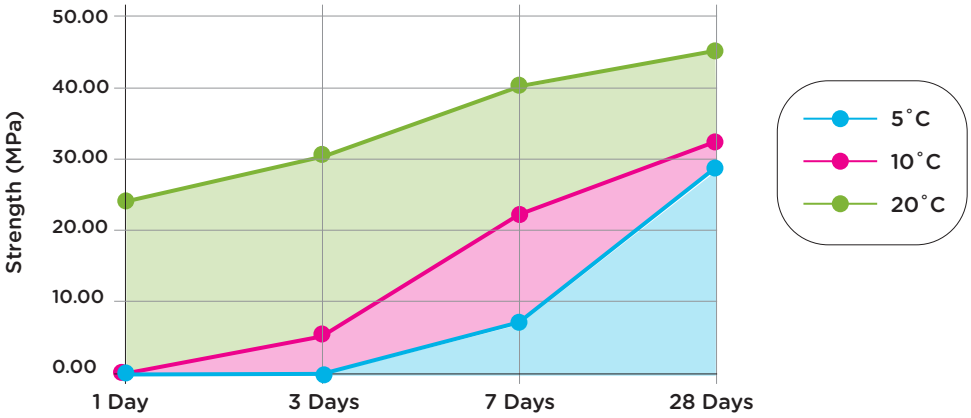
These results were obtained under laboratory conditions. Batch to batch results may fluctuate due to common cause variation.

EN1504-3	All tests carried out at 20°C unless otherwise stated		
Performance characteristic	**Method**	**Requirement**	**Result**
Compressive strength	EN 12190	≥25 MPa	>40 MPa
Chloride ion content	EN 1015-17	≤0.05 %	0.01 %
Adhesive bond	EN 1542	≥1.5 MPa	>2.7 MPa
Carbonation resistance	EN 13295	dk ≤ control concrete	dk ≤ control concrete
Elastic modulus	EN 13412	≥15 GPa	15.2 GPa
Thermal compatibility Part 1 Freeze-thaw	EN 13687-1	Bond strength after 50 cycles ≥1.5 MPa	≥1.5 MPa
Capillary absorption	EN 13057	≤0.5 $kgm^{-2}h^{-0.5}$	≤0.1 $kgm^{-2}h^{-0.5}$
Reaction to fire	EN 13501-1	Declared class	A2-s1, d0
Coefficient of thermal expansion	EN 1770	Declared value	2 x 10^{-6} /°C

Other data

Performance characteristic	Method	Result
Tensile strength of hardened mortar	BS 6319	1.3 MPa
14 day drying shrinkage	BS 1920-8	0.010%
21 day drying shrinkage	BS 1920-8	0.035%
28 day drying shrinkage	BS 1920-8	0.055%

Compressive strength gain



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