

Preblended, polymer-modified, cementitious repair mortar

weber.cem mortar



Uses

- General-purpose high-strength mortar
- Patch repairs to concrete floors and other horizontal surfaces
- Thin bonded vertical repairs to concrete

Constraints

For deep repairs in excess of 100 mm, **Weber** has other products available. Please consult the Technical Department.

Do not add water above quoted recommendations. Use only clean water; do not use water which has a dissolved salt content.

Do not place when substrate temperature is below 5°C or when ambient temperature is below 5°C. **Protect from frost.**

weber.cem mortar has greater chemical resistance to mild acid attack than normal sand/cement mixes, but in situations liable to chemical spillage **weber.tec** resin-based systems are more suitable. Please contact our Technical Department for details.

About this product

weber.cem mortar is a general purpose mortar for the repair of concrete, to both horizontal and vertical surfaces. This product has been formulated to comply with the requirements of BS EN 1504-3:R4 mortar.

Technical data

25 kg **weber.cem mortar** with 2.5 litres of water cured at 20°C and 50–60% RH.

		3 days	7 days	28 days
Compressive strength	BS EN 12190:1999	35 N/mm ²	45 N/mm ²	50 N/mm ²
Tensile strength	BS 6319-7:1985	—	2.5 N/mm ²	3.5 N/mm ²
Flexural strength	BS 6319-3:1983	—	5.0 N/mm ²	9.0 N/mm ²
Resistance to capillary absorption	BS EN 13057:2002			0.09 kg/m ² h ^{0.5}
Adhesion to concrete	BS EN 1542:1999			2 N/mm ²
Modulus of elasticity in compression	BS EN 13412:2006			24000 N/mm ²
Coefficient of thermal expansion	BS EN 1770:1988	8.5 µm/(m°C)		
Restrained movement	BS EN 12617-4:2002	2 N/mm ²		
Thermal compatibility:				
freeze thaw cycling	BS EN 13687-1:2002	2 N/mm ²		
thunder shower cycling	BS EN 13687-2:2002	2 N/mm ²		
dry thermal cycling	BS EN 13687-4:2002	>2 N/mm ²		
Resistance to carbonation	BS EN 13295:2004	Better than control concrete		
Water soluble chloride content	BS EN 1015-17:2000	0.01% by mass		
Plastic density		2200 kg/m ³		
Dry bulk density		1540 kg/m ³		

Permeability

Tests carried out by Queens University Belfast using CLAM test. Samples soaked for 24 hours prior to test (permeability coefficient only)

	Permeability coefficient (m/sec)	Initial absorption (m/sec)
weber.cem mortar with 2.5 litres water per 25 kg	1.35 x 10 ⁻¹⁴	12.2 x 10 ⁻¹⁴
OPC concrete mix, with w/c ratio 0.6	48 x 10 ⁻¹⁴	211 x 10 ⁻¹⁴
OPC Concrete mix, with w/c ratio 0.4	2.3 x 10 ⁻¹⁴	19.6 x 10 ⁻¹⁴

Air permeability by Figg Permeability Method – 570 seconds. Ref: Magazine of Concrete Research Vol 36, No. 129, Dec. 1984.

Features and benefits

- ▲ Resistant to water penetration
- ▲ Excellent adhesion
- ▲ Faster strength development than ordinary sand-cement mortar
- ▲ Formulated to comply with the requirements of BS EN 1504-3: R4 mortar
- ▲ Agrément approved as part of the **weber.cem** Concrete Repair System



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Preparation

Concrete

Concrete substrates must be adequately prepared either by use of a suitable mechanical method such as scabbling, grit blasting, needle gunning, or other appropriate means.

Old concrete surfaces contaminated with oil or grease require suitable preparation, such as steam cleaning in conjunction with a suitable detergent. Care must be taken to ensure that the oil or grease is removed from the surface and not simply spread over a large area.

New concrete should be cured for at least 14 days using an approved curing technique e.g. polythene film. Spray-on curing membranes are unsuitable for use on substrates where **weber.cem** mixes are to be applied.

Where repairs are carried out, feather edging is not recommended; therefore, the perimeter of area to be repaired should be cut back to provide a square edge, minimum 10 mm.

Before application of **weber.cem keycoat**, the concrete should be thoroughly wetted but all surface water must be removed.

Steel

Steel reinforcement which has been exposed during preparation should be completely uncovered to the full circumference of the bar. Rust scale, corrosion products and other deposits shall be removed from reinforcement by grit blasting or other approved methods to achieve first quality to BS 7079-A1 (equivalent to Swedish Standard SA 2^{1/2}).

Steel cleaning shall include hidden faces at the back of bars and at intersections, and the bonding agent/holding primer applied immediately after. In many instances where chloride-induced corrosion is absent, and where grit blasting is not practical, wire brushing or other techniques may be acceptable to the engineer, provided that care is taken not to polish the surfaces of the rust on the steel.

weber.cem keycoat bonding slurry

Mix in the ratio of 3 volumes of **weber.cem keycoat** to 1 volume of clean water. Slowly add powder to water mixing continuously to a smooth creamy consistency.

Apply the slurry by a stiff brush and scrub well in. **The slurry must be tacky when applying weber.cem mortar.**

In hot weather the slurry dries quickly and, therefore, it is advisable that **weber.cem mortar** is mixed ready for application before the bonding slurry is applied. If **weber.cem keycoat** does dry, it must be removed mechanically and a further coat applied.

In certain circumstances, especially in warmer conditions, it is more appropriate to use an epoxy primer such as **weber.tec EP bonding aid**.

Mixing

weber.cem mortar must be mixed in a forced-action mixer such as a Mixal or Creteangle.

Slowly add the contents of a 25 kg bag of **weber.cem mortar** to 2.5 litres of clean water until a uniform colour and consistency is attained.

Application

When fully cured **weber.cem keycoat** and **weber.cem mortar** are stable to freeze thaw conditions but should not be applied when conditions are not suitable for good concreting practice.

Apply the mortar to the tacky **weber.cem keycoat** or **weber.tec EP bonding aid**, compact into position and finish with a steel float. For vertical or soffit repairs, carefully tamp the mortar into position in layers of about 10 – 12 mm, and allow to reach initial set before applying the next layers of **weber.cem keycoat** or **weber.tec EP bonding aid** and **weber.cem mortar**.

When replacing cover on steel reinforcement, the minimum cover should be 12 mm.

However, where this is not practical, for long term reinforcement protection where low cover replacement is undertaken (this must be a minimum of 6 mm thickness), we would recommend that all repairs are overcoated with a protective coating appropriate for the service conditions: please contact **Weber's** Technical Department.

On small floor repairs, cut out the damaged concrete to ensure the repair is 'toed' into the surrounding concrete. It is recommended that the surrounding concrete is sealed with **weber.tec acrylic sealer**, which is a low-viscosity in-surface sealer, to reduce the problems of degradation of concrete adjacent to the repair.

After carrying out vertical and soffit repairs, clean the surface, apply one coat of **weber.cote primer** to stabilise and then two coats of an anticarbonation coating such as **weber.cote smooth** or **weber.cote EC**.

Curing

Good curing is essential. Immediately after the finishing operation, spray with water and cover with closely-fitting polythene sheeting or spray with **weber.cote primer** and cover with close contact polythene sheet.

Packaging

weber.cem mortar is supplied in 25 kg polylined bags.

Coverage

1 bag yields 12.5 litres when mixed with 2.5 litres clean water.

Coverage: 1 m² at 12.5 mm thick

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.

To the best of our knowledge and belief, this information is true and accurate, but as conditions of use and any labour involved are beyond our control, the end user must satisfy himself by prior testing that the product is suitable for his specific application, and no responsibility can be accepted, or any warranty given by our Representatives, Agents or Distributors. Products are sold subject to our Standard Conditions of Sale and the end user should ensure that he has consulted our latest literature.

Technical services

Weber's Customer Services Department has a team of experienced advisors available to provide on-site advice both at the specification stage and during application. Detailed specifications can be provided for specific projects or more general works. Site visits and on-site demonstrations can be arranged on request.

Technical helpline

Tel: 01525 722137
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Sales enquiries

Weber products are distributed throughout the UK through selected stockists and distributors. Please contact the relevant Customer Services Team below for all product orders and enquiries.

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