

Moisture-tolerant epoxy bonding adhesive for weber.tec force composite sheets

weber.tec force EP bonding adhesive

enforce bonding adhesive



Uses

- Bonding adhesive for carbon fibre, glass fibre sheets and aramid sheets
- A component of **weber.tec force composite strengthening system**

About this product

weber.tec force EP bonding adhesive is a two-component epoxy resin adhesive for concrete and masonry surfaces. It is used to structurally adhere **weber.tec force** composite sheets and transfer all loads into the fibre composite.

Features and benefits

- ▲ High initial adhesion to bond composite sheets
- ▲ Moisture-tolerant, allowing work to proceed on site
- ▲ Once hardened is resistant to water, diluted acids, saline solutions and oils
- ▲ Resistant to constant and varying temperatures
- ▲ Allows transfer of stress to the individual fibres in the composite sheet
- ▲ Easy to mix and apply

Technical data

The following test results were obtained in laboratory conditions at 20°C.

Physical properties

Colour	White, transparent
Density	1.3 kg/litre
Thickness of application	300 µm
Application viscosity	650 mPa s

Mechanical properties

Compressive strength at 7 days	80 N/mm ²
Tensile strength	17 N/mm ²
Flexural strength	28 N/mm ²
Bond to concrete	> 4 N/mm ²
Young's modulus	5 kN/mm ²
Coefficient of expansion	6 x 10 ⁻⁶ mm/mm °C
Glass transition temperature	60°C

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Preparation

No adhesive will develop full adhesion to the surface of the substrate without the substrate being carefully prepared. The substrate should be clean and mechanically sound to receive the primer.

When bonding **weber.tec force** composites to concrete it is important to check the tensile bond strength f_{ctm} of the concrete surface.

A high-strength concrete may have a poor quality surface with a low tensile bond strength and be unsuitable for bonding.

Minimum f_{ctm} values shall be:

1 N/mm ²	weber.tec force carbon sheet
1 N/mm ²	weber.tec force aramid sheet
1 N/mm ²	weber.tec force glass sheet

Tensile bond pull-off tests shall be conducted after the surface has been prepared using light grit blasting or grinding.

Old concrete may be contaminated with oils, grease or salts and these must be removed prior to priming.

New concrete should be cured for at least 14 days using efficient curing techniques. If a spray-on curing compound has been used, this must be removed by light grit blasting prior to priming.

Once prepared, the surface shall be primed with one coat of **weber.tec force EP primer**. The bonding adhesive must be applied whilst the primer is still tacky.

Do not let the primer cure before applying the adhesive.

Mixing

Use a clean, dry plastic bucket or container for mixing. Pour in the resin and slowly add the hardener component. Alternatively, mix within the resin tin. Mix thoroughly to an even colour and consistency using a slow-speed drill and spiral head mixer.

Application

Immediately after mixing, **weber.tec force EP bonding adhesive** should be applied by brush or roller to the prepared surface.

Apply to a uniform thin coat and brush into the surface. Avoid material running down the substrate.

For application of composite sheets, see individual data sheets.

Pot life and cure time

The effective workable time of mixed **weber.tec force EP bonding adhesive** is comparatively short when left in the mixing vessel, i.e. 20 minutes at 20°C.

The pot life can be extended by pouring the mixed material into a shallow tray to dissipate the heat created during the polymerisation hardening phase.

Temperature	5°C	10°C	20°C
Pot life	6 hr	3 hr	1 hr

Packaging

5.5 kg pack yielding 5 litres

Coverage

2 – 3 m²/litre per coat.

Storage and shelf life

Shelf life is at least 12 months when kept unopened in correct storage conditions in a cool, dry area.

Health and safety

Contains epoxy constituents. Refer to information supplied by manufacturer (see Material Safety Data Sheet).

All skin contact with epoxy resin products should be avoided. Barrier creams should be used and operatives should wear protective clothing including gloves. Working areas should be well ventilated.

The hardener content is alkaline and labelled as corrosive. The resin content is labelled as an irritant. The flash point of all components is in excess of 100°C. In the event of fire use foam, dry chemical, carbon dioxide (CO₂) or water fog extinguishers.

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

*weber.tec force EP bonding adhesive can be used in conjunction with the **weber.tec force laminator** for wet lay-up process techniques.*



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) 722110

Sales enquiries

Weber products are distributed throughout the UK through selected stockists and distributors. For UK sales enquiries and overseas projects, contact **Weber's** Sales office.

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