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Uniclass L6421 August 2016

construction solutions

High-strength, better flowing chemically-resistant grout

webertec EP pourable grout

About this product

webertec EP pourable grout is specially formulated from epoxy resin and graded aggregates producing a specialist grout with exceptional toughness, chemical resistance, excellent flow characteristics and negligible shrinkage. Complies with BS EN 1504-3 and -6.

Technical data

		10°C	20°C
Compressive strength	6 hours	–	25 MPa
	12 hours	–	40 MPa
	24 hours	25 MPa	60 MPa
	3 days	55 MPa	70 MPa
	7 days	70 MPa	80 MPa
Flexural strength	24 hours	12 MPa	21 MPa
	3 days	20 MPa	29 MPa
	7 days	28 MPa	35 MPa
Tensile strength	24 hours	5 MPa	10 MPa
	3 days	7 MPa	15 MPa
	7 days	12 MPa	17 MPa
Adhesion to dry concrete	7days	1.95 MPa	2.25 MPa
Adhesion to damp concrete	7days	1.5 MPa	1.85 MPa
Flow (CEN flow trough)	300 mm	53 sec	7 sec
	450 mm	145 sec	41 sec
	600 mm	312 sec	212 sec
Effective bearing area		95%	90%

Pot life or working time

Temperature	
Below 5°C	Do not apply
5°C	Approx. 5 hours
10°C	Approx. 3 hours
20°C	Approx. 2 hours
35°C	Approx. 40 minutes
Above 40°C	Do not apply

Uses

webertec EP pourable grout finds a wide application in the grouting-in of:

- Bearings
- Starter bars
- Dowels
- Balustrading
- Crane rails
- Machine baseplates
- Setting-in bolts
- Fixing runway lights
- Situations where tight clearances add to the difficulties of obtaining secure fixings

Features and benefits

- Capable of withstanding high dynamic loads
- High compressive and tensile strength
- Very good chemical resistance
- Cure within the temperature range 5°C to 35°C
- Negligible shrinkage factor allows use for underplate or rail grouting. Grout remains in contact with the underside
- Can be placed in much thinner sections than cementitious grouts resulting in cost savings
- Suitable for gap sizes 5 – 75 mm

Chemical resistance

webertec EP pourable grout is shown to be unaffected by a wide range of acids, alkalis and industrial chemicals.

The results of immersion at 20°C to a typical range of chemical solutions and solvents are:

Caustic Soda	20%	Unaffected
Hydrochloric Acid	20%	Unaffected
Sulphuric Acid	20%	Unaffected
Detergent		Unaffected
Petrol and Oil		Unaffected

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Preparation

Concrete surface
Concrete must be suitably prepared by scabbling, needle gunning or grit blasting to remove all cement laitance, grease, oil and other contaminants. The surface should be roughened to provide a bond and have a minimum surface texture of ± 1 mm. Wet surfaces should be dried by using a hot, compressed-air lance. The advantages of this are: it dries the surfaces of both the concrete and the steel, it warms up the surfaces of concrete and steel, allowing the grout to flow better in colder conditions. It also ensures better drying under the plate.

Steel plate
Bearing plates must be degreased with a suitable solvent such as methyl alcohol, acetone etc. The adhesive bond to grit-blasted steel is in excess of 10 MPa This bond is reduced by coatings or galvanising on the steel plate; this will depend on the bond of the applied coating to the steel and the bond of the coating to the resin grout. Plug any holes in the steel plate and apply grease or silicone wax to any removable bolts and nuts.

Shutter design
Place and fix greased shuttering around the plate. There should be no gaps at the sides, just one at each end, one for air release (5 mm to 10 mm) and the other for grout filling (min. 25 mm). The hopper providing the pressure head must be at least 100 mm high. Normal ratio is 1:3 (height of hopper: length of pour).

To reduce wastage, construct a moveable hopper that can be shut off and placed over the next filling gap. This hopper can be made of thin steel sheet or aluminium and should have handles on the side. The bottom should be at least 25 mm wide and the top of the hopper should be about 75 mm wide to aid pouring.

Mixing

A forced-action mixer such as a Mixal or Creteangle is recommended. Alternatively, use a powerful drill (> 800 W) at a slow rotational speed (< 400 rpm) with a Refina MR4 mixing blade, which improves mixing efficiency of resin mixtures.

Use a mixing bucket of capacity 20 litres with a diameter of about 20 – 25 cm.

Pour the contents of the bottle of hardener into a suitable bucket and add the contents of one can of resin. Mix for at least 30 seconds then add one full bag of powder gradually while continuing to mix for 1 minute. Ensure that the mixing blade is below the grout level at all times and has fully mixed all the contents especially at the bottom of the bucket. The mixed material must be uniform in colour, indicating that the components are fully blended.

It is important to keep the mixing head below the level of the grout during mixing to avoid entrapment of air.

For sections thicker than 50 mm, the addition of up to 12.5 kg of dry, single-sized pea gravel (5 mm) per 25 kg mix is permitted.

Application

Pouring
Immediately after mixing, pour the mixed grout into place, using a spatula to aid transfer of contents if necessary.

It is imperative that a hopper is used to help the grout to flow quickly. Removable hoppers with valves are recommended. As soon as the grout has reached and has filled the small air slit at the opposite end of the shutter, close off the valve in the hopper and move the hopper to the next plate. Remove excess grout and any grout that has spilled onto the plate with a pallete knife or scraper.

Pumping
Pumping is best using a peristaltic pump. **Weber** can recommend suitable machinery.

When pumping, place the end of the hose under the centre of the plate so the grout radiates from the centre. When the grout has reached the far side, start to withdraw the hose very slowly with the pump running to avoid forming air pockets.

Protection
The completed grouted plates must be protected from rain, strong sun and frost for a minimum period of 24 hours during cure.

Cleaning

Fresh grout that has not yet set can be removed with **webertec solvent** using a cloth or brush to clean tools and spillages.

Set grout has to be removed with methylene chloride paint stripper and care must be taken during its use.

Packaging and yield

webertec EP pourable grout suitable for gap sizes 5 – 75 mm:
A three-component pack which makes up into one mix.
Pack size 25 kg – yield approx. 14 litres.

Storage and shelf life

The shelf life of **webertec EP pourable grout** is in excess of 12 months if stored in cool, dry, frost-free conditions.

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 (CO_2) or water fog extinguishers.

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

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: **08703 330 070**
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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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