construction solutions

Low-viscosity and thixotropic resins for injection of cracked concrete, masonry and brickwork

weber.tec EP injection resin

epoxy plus injection resin

About this product

weber.tec EP injection resin LV is a two-component resin for crack injection systems. The resin will structurally bond the fractured sections and seal fine cracks against ingress of water and/or aggressive agents.

weber.tec EP injection resin T is a moisture-tolerant gel epoxy resin for structural repairs to cracked concrete and masonry. The resin will repel dampness in the cracks and bond the broken sections.

Technical data

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

		Low viscosity resin (LV)	Thixotropic resin (T)
Useable pot life:		45 – 60 minutes	45 – 60 minutes
Gel time:		80 minutes	105 minutes
Mix ratio by volume:	resin hardener	4 1	4½ 1
Specific gravity:		1·09 kg/litre	1·20 kg/litre
Compressive strength, 7 days		75 N/mm²	65 N/mm²
Tensile strength, 7 days		20 N/mm²	22 N/mm²
Flexural strength		55 N/mm²	45 N/mm²
Bond strength: (failure of concrete)	dry concrete wet concrete	2·8 N/mm² 2·5 N/mm²	2·5 N/mm² 2·4 N/mm²
Slant shear strength		61 N/mm²	60 N/mm²
Modulus of elasticity	in flexure in compression	4·5 kN/mm² 2·75 kN/mm²	4·0 kN/mm² 2·50 kN/mm²
Coefficient of thermal expansion		5.98 x 10^{-15} mm/mm/°C	5.50 x 10^{-15} mm/mm/°C
Viscosity Brookfield spindle 3 speed 20		250 cP	2800 cP

Uses

Low viscosity injection resin (LV)

- Fine cracks to concrete and masonry
- Repair crack widths from 0.2 mm – 2 mm
- Structural repairs to concrete and masonry
- Application temperature range 5°C to 40°C
- Fine cracks to suspended concrete floors and decks
- Concrete bridges and highway structures
- Car parks
- Plastic shrinkage and drying shrinkage cracks in new construction

Thixotropic injection resin (T)

- Structural repairs to concrete and masonry construction
- Repair crack widths from 0·5 mm – 8 mm
- Settlement crack repair in masonry buildings
- Repair of cracks to cavity walls
- Refurbishment of old buildings and strengthening work to car parks
- Application temperature range 5°C to 40°C
- Concrete bridges, retaining walls and highway structures
- Crack injection to liquid retaining structures and treatment works

Features and benefits

Low viscosity injection resin

- Injects into cracks down to 0.2 mm width and structurally bond hairline cracks
- Good penetration into the crack due to low viscosity
- Easy-to-use two-component mix
- Can be applied in damp environments
- Non-shrinkage properties ensuring excellent bond durability

Thixotropic injection resin

- Will bond to damp substrates allowing greater flexibility in site use
- Can be injected from one side only
- Gel consistency allows injection to floors, walls and soffits – only one product required
- High physical strength
- Non shrinking properties with durable bond

FM 1209

weber.tec EP injection resin

Preparation

The crack must be thoroughly clean, dry and all loose debris removed. Blow out the surface of the crack to remove any dust.

Bond injection nipples onto the surface of the crack using **weber.tec filler**. For thixotropic injection resin, bond at intervals to coincide with the depth of penetration.

Seal the remainder of the exposed crack surface, between the nipples, with **weber.tec filler** and allow upto 1 hour to dry before injection.

For low viscosity resin, ensure the other side of the cracked structure is sealed to prevent resin squeezing out during the injection process.

Mixing

Mix the resin and hardener in a mix ratio by volume of 4:1 (4·5:1 for thixotropic resin), resin/hardener, and place into an injection cartridge.

Mix only enough material that can be used within the useable pot life time.

Application

Attach the plastic injection hose over the nipple with a jubilee clip, opening restrictor clamp and gently pump the resin through the hose. Inject the resin until either the desired amount of resin is injected or resin is detected in the next nipple. Close the restrictor clamp, remove the injection hose and plug the injected nipple. Move the injection hose up to the next nipple and repeat the injection process progressing along the crack line until all the nipples are injected.

Always start at the bottom of the crack so air is displaced upwards through the crack as work proceeds. Setting time is 40 minutes at 20°C; the set time will be delayed in colder weather and will accelerate in temepratures above 20°C.

Allow 24 hours for curing, then the plugged nipples may be broken off using a hammer and cold chisel. Any depressions or making good can be carried out with **weber.tec filler**.

To achieve a smooth finish to the surface remove any excess **weber.tec filler** using a grinding wheel.

Summary of injection process

1. Throughly clean the crack surface.
2 Fix the injection nipples with **weber.tec filler**.
3 Space the nipples according to the depth of penetration.
4. Seal the remainder of the crack surface **weber.tec filler**, ensure all exit routes are sealed.
5. Mix the injection resin, load cartridge and attach injection hose.
6. Inject the resin through the nipple and progressively work up the crack.
7. Wait 24 hours, then take off injection nipples and make good.

Cleaning

Clean tools with **weber.tec solvent 3**.

Packaging

weber.tec EP injection resin is supplied in 5 litre packs.

A special kit is available for crack injection and contains all the necessary equipment together with 1 litre of thixotropic resin. See **weber.tec EP IK** data sheet.

Coverage

Approximate yield: 1 litre of mixed resin will fill 10 metres of crack at 1 mm wide and 100 mm depth.

Storage and shelf life

Shelf life of 12 months when stored in cool dry conditions out of direct sunlight.

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
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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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