

# Epoxy Plus

## Putty

ep. Putty

An epoxy resin adhesive for thin bed jointing and general purpose filler and adhesive.

### About this product

Epoxy Plus Putty has been developed to provide high initial grab, without the need for a primer, making it an excellent material for thin bed jointing of construction materials or for small shallow repairs to vertical or soffit surfaces. A three component pack comprising liquid resin and hardeners plus a lightweight filler produces a smooth paste material with high strength, early bond and is easily applied by trowel or palette knife.

### Uses

- Small repairs to pre-cast units or other concrete surfaces.
- Thin bed jointing - 1 to 3mm thick.
- Adhesive for vertical fixings to concrete, brickwork and steel.
- Steel plate bonding.
- Fixing slip bricks to concrete.

### Features and benefits

- Early bond and high strength.
- Easy to mix and apply.
- Impermeable to water and oil.
- Good chemical resistance.
- Good adhesion to vertical and soffit surfaces.

### Typical properties

All test carried out at 20°C.

Compressive strength (BS 6319: Part 2)	80 N/mm <sup>2</sup>
Tensile strength (BS 6319: Part 7)	15 N/mm <sup>2</sup>
Flexural strength (BS 6319: Part 3)	62 N/mm <sup>2</sup>
Modulus of elasticity (BS 6319: Part 6)	10.0 kN/mm <sup>2</sup>
Adhesion to mild steel	- shear 19.5 N/mm <sup>2</sup> - tensile 22.5 N/mm <sup>2</sup>
Adhesive to concrete	Concrete failure in all cases.

### Surface preparation

No adhesive will develop full bond strength without the surfaces of the materials to be bonded being carefully prepared to give a clean mechanically sound surface.

#### a) Concrete

When bonding to concrete it is the surface strength of the concrete in tension/shear which plays the vital part. Many engineers consider the strength of concrete only in terms of cube strengths.

Unfortunately, in practice, it is often possible to have a concrete substrate which on the basis of the cube or cylinder compressive strength is satisfactory but which has a very low surface strength and is, therefore, unacceptable.

The surface must be prepared prior to bonding either by mechanical means such as grit blasting, scabbling, wire brushing, bush hammering, flame treatment or acid etching.

Old concrete is often contaminated with oil and grease and this must be removed before preparing as above. Care must be taken to ensure the oil and grease is removed and not simply spread over a larger area.

New concrete should be cured for at least fourteen days using efficient curing techniques (NB: Spray-on curing membranes must not be used as they may impair the subsequent bond.) Concrete surfaces should not be wet. The maximum permitted surface moisture content is 3%. If higher, bond will be impaired.

#### b) Steel substrates

Steel substrates should be grit blasted to Swedish Standard Sa2½ and then degreased with a suitable solvent immediately prior to bonding. If it is not possible to apply the adhesive to the prepared steel within 30 minutes, a holding primer should be applied. Please refer to our Technical Department.

#### c) Other substrates

Information on recommended surface preparation procedures for other substrates is available on request.

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### Mixing

Epoxy Plus Putty is a three component product comprising liquid resin and hardener plus a lightweight filler. The resin and hardener should first be mixed together to a uniform colour, then add the filler, mixing until a smooth paste is achieved.

Contract packs have measuring cups included so that part mixes can be made.

### Application

For small, shallow repairs to concrete up to 5mm in depth and 20mm across the Epoxy Plus Putty can be applied using a palette knife or small trowel. To achieve a smooth finish, the knife or trowel should first be cleaned and then lightly lubricated with solvent. For thin bed joints, apply Epoxy Plus Putty to both faces, if possible, ensuring sufficient material is present to ensure complete contact and the required thickness over the whole area. Excess material should be removed immediately. Support will be required for heavy units the material has set hard.

For vertical fixings, Epoxy Plus Putty should be applied over the whole surface; spot fixing is not recommended and should not be used. Butter the Epoxy Plus Putty onto the item to be fixed and press firmly into position, remove surplus material and support if necessary until set has taken place.

Prior to fixing slip bricks, heavy angles or fixings to take heavy weights, please consult out Technical Department as mechanical or secondary fixing may also be necessary.

When using Epoxy Plus Putty for any application, the layer or bed thickness should not exceed 6mm. Should greater thickness be required we have other products which may be more suitable: please contact our Technical Department.

All tools, etc. should be cleaned with suitable solvent before material sets.

### Pot life and cure time

Epoxy Plus Putty should not be used at temperatures below 5°C or above 40°C.

The pot life and curing time are dependent on temperature and the following is given as a guide only.

### Pot life and cure time

Pot life	60 minutes at 20°C 35 minutes at 35°C
Initial cure	6 to 12 hours
Full cure	2 to 7 days

### Packaging and yield

Epoxy Plus Putty is supplied in 10kg pack, comprises of resin, hardener and specially selected filler.

10kg pack yielding approximately 5.5 litres.

### Shelf life and storage

The shelf life of Epoxy Plus Putty is in excess of 12 months if stored in cool, dry conditions.

### Health and safety

Resin component has a flash point in excess of 100°C.

Keep containers closed when not in use.

Operatives are advised to use barrier creams and protective clothing including gloves and goggles. Contaminated skin should be cleaned with proprietary cleansing creams. If product enters the eye, wash with water and seek medical advice if discomfort continues. Only mix and use in well ventilated areas or use suitable respirators. In the event of fire use foam, dry chemical carbon dioxide (CO<sub>2</sub>) extinguishers or water fog appliances. For applications in service above normal UK ambient temperatures (or up to 40°C) under sustained or dynamic load or when there is a fire risk, please contact our Sales Department.

For further information on safe handling, please refer to the Material Handling Guide.

### Quality assurance

A policy of strict quality control has always been followed and the requirements of all relevant test standards are strictly adhered to.

### Technical service

We can provide technical service at the specification stage and/or during application through our Technical Department or Laboratory. Detail specification or further information can be provided for specific projects or more general works. Site visits and on-site demonstrations can be arranged on request.



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