

Epoxy Plus Structural Adhesive

Moisture tolerant epoxy
adhesive for structural
adhesive

Standard and Tropical Grade

About this product

Epoxy Plus Structural Adhesive is a two component epoxy resin based adhesive suitable for both dry and damp surfaces. It is an excellent easy to use adhesive for jointing precast elements including segmental bridge construction, steel plate bonding and other applications where exceptional adhesion is required.

Epoxy Plus Structural Adhesive will bond to concrete, steel, timber, glass, rubber glass fibre and carbon fibre. When fully cured it will resist a wide range of chemicals and solvents.

Two grades are available for Specified Temperature Application Ranges (STAR).

Tropical Grade has been specially formulated for use in tropical climates and has in particular an extended pot life.

Standard: STAR 10°C - 25°C

Tropical: STAR 15°C - 35°C

Typical properties

| | Standard | Tropical |
|----------------------------------|----------------------|----------------------|
| Compressive strength | | |
| BS6319 (N/mm ²) | | |
| 10°C 24hours | 32 | - |
| 10°C 7days | 75 | - |
| 15°C 24hours | - | 35 |
| 15°C 7days | - | 75 |
| 20°C 24hours | 70 | - |
| 20°C 7days | 85 | - |
| 35°C 24hours | - | 80 |
| 35°C 7days | - | 85 |
| Flexural strength 20°C | | |
| BS6319 (N/mm ²) | 35 | 35 |
| Tensile strength 20°C | | |
| BS6319 (N/mm ²) | 17 | 17 |
| Bond strength at 24hrs | | |
| FIP 5.5 (N/mm ²) | | |
| 10°C | >20* | - |
| | | 15°C |
| | | >20* |
| *Concrete failure | | |
| E Modulus (20°C) | 9800 | 10000 |
| Shear strength FIP 5.15 | >12N/mm ² | >12N/mm ² |
| Colour (BS 4800) | 00A05 | 00A05 |
| Pot life (mins) FIP 5.1** | | |
| 25°C | 31 | - |
| 35°C | - | 45 |
| ** 1 kg sample | | |

Note: Results are not given outside of the STAR.

Further technical information in respect of other properties is available on request.

Using Epoxy Plus Structural Adhesive

Surface preparation

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

a) Concrete

The surface must be prepared by mechanical means such as grit blasting, scarifying, bush hammering, wire brushing to remove all laitance etc. When the surface strength is in question, pull off tests should be carried out to ensure it is of adequate strength before adhesion. New concrete should be cured for at least 14 days. Old concrete contaminated with grease must be thoroughly steam cleaned in conjunction with a suitable detergent to remove all trace of oil or grease.

b) Steel

Steel surface should be grit-blasted to BS7079: Part A1 (equivalent to Sa2½ Swedish Standard) and then degreased with a suitable solvent, e.g. Solvent No. 2. For specific applications such as steel plate bonding, more stringent requirements may apply. Please consult our Technical Department.

Pack sizes greater than 1 kg must be mixed mechanically. A Spiral Mixing Head, suitable for use with a slow speed drill is available and should be used when mixing larger packs i.e. 5kg. Do not use other types of mixing head as they can entrain air. Always mix by adding the dark grey hardener to the white resin and mixing for 3 to 5 minutes until a uniform consistency and colour is obtained. In cold weather it is advisable to store the product unopened in a warm environment for several hours before mixing.

Epoxy Plus

Structural Adhesive

Application

The material should be buttered onto both surfaces whenever possible, these pushed together and the surplus cleaned away. When bonding a steel plate to the soffit of a structure, the mixed adhesive is to be placed on the steel plate in sufficient thickness to ensure there are no voids when the plate is offered up to the soffit and surplus material is squeezed out. Please consult our Technical Department in respect of any specific application where advice may be needed. Clean tools after use with suitable solvent.

Packaging and yield

5kg buckets with hardener component in the recessed lid. The yield is 3.1 litres.

Coverage

| Thickness of Adhesive | kg/m ² (approx) |
|-----------------------|----------------------------|
| 2mm | 3.4 |
| 4mm | 6.7 |

Shelf life

Shelf life is at least 12 months when it is kept unopened, in proper storage conditions in a cool dry area. Store at 5°C - 25°C.

Health and safety

Keep containers closed when not in use. Operatives are advised to use barrier creams and wear protective clothing including gloves and goggles or glasses. Any contact with skin should be cleaned with proprietary cleansing cream. If product enters the eye wash with copious amounts of clean water. Seek medical advice if discomfort continues. Only mix and use in well ventilated areas. In the event of fire, use foam, dry chemical or carbon dioxide (CO²) extinguishers. Flash point is in excess of 100°C.

For further information on safe handling, please refer to the

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 and representation

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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To the best of our knowledge and belief, the information contained in this leaflet 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. Test results shown reflect typical figures based on laboratory testing under

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