

Moisture tolerant primers for
other epoxy materials and
bonding new cementitious mixes

to existing concrete.

About this product

Epoxy Plus Tack Coat, a low viscosity epoxy resin and liquid hardener system, has been developed to provide a versatile priming coat suitable for both dry and damp surfaces, and can be used at temperatures down to 7°C. Its main use is as a primer for other epoxy compounds, but may also be used to bond freshly mixed cementitious concretes, mortars, renders etc to existing sound concrete substrates.

Uses

- As a primer for other epoxy products.
For use on both dry and damp surfaces prior to application of epoxy mortars, floorings and concrete.
- As an adhesive between existing sound concrete and freshly mixed cementitious materials.
On vertical surfaces for applications of cementitious mortars, lightweight mortars or grouts.
N.B. When applying a cementitious topping in this manner really efficient curing is essential. Use a spray on curing membrane or other approved method.
- As a general purpose construction adhesive.
E.g. bonding of mitred brickwork, bonding of neoprene bearing pads to concrete.
- As a protective coating to concrete, metal etc.
Will seal and protect concrete or metals from attack by a wide range of chemicals. Can also be used to seal concrete but should not be used where subject to negative hydrostatic pressure.

A two coat application is required to ensure a pin hole free surface.

For floors, other products may be more suitable, please consult our Technical Department.
- As a bonding aid to reinforcing bars or other metal

Typical properties

All tests carried out at 20°C.

Compressive strength (BS 6319: Part 2)	100 N/mm ²
Tensile strength (BS 6319: Part 7)	19 N/mm ²
Flexural strength (BS 6319: Part 3)	30 N/mm ²
Modulus of Elasticity (BS 6319: Part 6)	5 kN/mm ²
Bond to abraded steel surface	17 N/mm ²
Bond to concrete*	>5.3 N/mm ²
Bond of new to old concrete*	>2.8 N/mm ²
Pot life of 1 litre	22 minutes
Coverage on rough concrete	4 - 6m ² /ltr
Minimum temperature use	7°C
* Failure of substrate concrete.	

Strength development

This product will develop bond strength properties in excess of surface strength of good quality concrete within 48 hours (at 7°C). Full strength is achieved in less than 3 days depending on temperature.

Pot life and cure time

The effective workable time of mixed Epoxy Plus Tack Coat is comparatively short when left in the mixing vessel i.e. 22 minutes at 20°C in 1 litre pot.

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

Immediately after being mixed, the material should be brushed out onto the surface and whilst still tacky, any subsequent coating, mortar etc should be applied. This period of tackiness or cure time is dependent on many factors including site conditions, ambient and surface temperatures, and quantities mixed and the table below is guide only to the maximum cure time available.

	7°C	10°C	20°C
Cure time (approx.)	12 hours	7 hours	2½ hours

It is essential that these priming coats are tacky prior to the application of other epoxy or cement based products. If these primers have become tack free, a further coat must be applied, otherwise bond may be impaired if applied on to a fully cured

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.

Epoxy Plus Tack Coat

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, scarifying, 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. Steam cleaning in conjunction with a suitable detergent has proved an effective method. 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).

b) Steel substrates

Steel substrates should be grit blasted to Swedish Standard SA2½ and then degreased with a suitable solvent immediately prior to bonding.

c) Other substrates

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

Mixing and application

Although Tack Coat can be used at lower temperatures, it is recommended that they are stored overnight at a minimum temperature of 15°C prior to mixing and application. In hot climates store overnight in air-conditioned storage.

Mixing

Use a clean, dry plastic bucket or container for mixing. Pour in the resin allowing adequate time for drainage. Add the hardener and mix thoroughly to an even colour and consistency.

Small quantities can be mixed using a flat bladed palette knife or flat stick, but larger amounts should be mixed out using a paint stirrer head or Epi-mixer on an electric drill at a speed below 450 rpm. Details of proportioning is given on the pack labels.

Application

Immediately after mixing, Epoxy Plus Tack Coat should be applied by brush to the prepared surface in a thin coat at a uniform rate. On application to concrete it must be brushed right into the surface. As stated above, the material must remain tacky when applying other epoxy products or cementitious mixes. Tools and any surplus material on surfaces should be cleaned with suitable solvent before set takes place.

Packaging and coverage

Epoxy Plus Tack Coat is available in 1, 5 and 25 litres packs. Coverage is approximately 4 to 6 m² per litre depending on surface.

Shelf life

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

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 eyes 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 Material Safe 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.

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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AGE INDUSTRIES & TRADING SDN BHD
(320310-H)

No. 67, Jalan 30A/119, Taman Taynton View, 56000 Kuala Lumpur.
Tel: 603-9130 7563 Fax: 603-9130 8580
E-Mail: age@agesb.com Website: www.agesb.com