

High strength anchoring for
horizontal bars or bolts

Epoxy Plus

Thixotropic Anchor Grout (EPTAG)

ep. TAG

About this product

Epoxy Plus Thixotropic Anchor Grout (EPTAG) is a specially formulated epoxy resin system for securing horizontal fixings, such as dowel bars, starter bars, threaded studding and bolt into concrete or brickwork. A high strength, corrosion and chemical resistant anchoring is obtained where speed of installation and early application of load is required.

The thixotropic nature of the material ensures that the mixed resin stays in the hole after injection.

Features and benefits

- Large pack economy with the facility of small mixes to minimise wastage
- Easy to mix and place
- Very high strengths - approximately 60 N/mm² at 3-4 days
- No shrinkage of any significance - when used in anchoring, the grout remains in contact with all faces of the hole and fixing

Preparation

Holes should be rotary percussive drilled and must be clean, dry, free from dust. Diamond drilled holes must be roughened. Bars or bolts must be free of rust or scale, grease or oil or other surface coating or contamination: best results are obtained to freshly cleaned, bright steel. For optimum performance smooth bars should be deformed, i.e. threaded.

Mixing

Thoroughly stir the resin with a flat bladed palette knife or stick. Add the hardener and mix together thoroughly before consistency is achieved.

When mixing mechanically, use a low speed stirrer or an electric drill with a stirring attachment producing 200 to 400 rpm.

NB. If smaller quantities are required the mix ratio is 4 resin: 1 hardener by volume and filler to suit.

Type of application

1. Disposable cartridge and applicator gun

Transfer the mixed grout to the assembled cartridge insert the plunger, load the cartridge into applicator gun and then pump the grout into the back of the hole, ensuring that it is completely filled and no voids are left. Leave the grout just short of the face of the concrete and then insert the fixing, using a slight twisting motion to displace the grout. Once the fixing has been placed, do not disturb until the grout has set.

2. Re-usable pump

Insert the end of the pump into the mixed grout and slowly pull back the plunger until the pump is full. Wipe excess grout from the outside of the pump and then insert to the back of the hole. Push in the plunger, slowly withdrawing the pump at the same time. Fill the hole to just short of the surface and then insert the fixing as above.

Solvent will be needed to clean all equipment before the

Pot life

The gelation time depends on temperature: a guide is given below but do not apply below 5°C (41°F).

5°C (41°F)	: 12 hours
10°C (50°F)	: 4 hours
50°C (68°F)	: 1.5 hours

These values are very bulk dependent, particularly at lower temperatures and large quantities can gel up to 25% faster than suggested. Do not mix more material than can realistically be used within the setting time.

Strength development

The ultimate strength of the anchor is determined by:

- The strength of the concrete.
- The hole depth.
- Hole preparation.
- Type and size of bar.
- Cure of the grout.

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With good installation, after 24 hours cure at 20°C, the grout will achieve a compressive strength in excess of 60 N/mm² and the anchor will sustain its design load.

After this time failure under test will generally occur in the bar or the concrete.

For anchorage strength use the graph to calculate depth of bar or bolt embedment required.

The annular gap (half the difference between the hole diameter and the bolt/bar diameter) should not exceed 5mm.

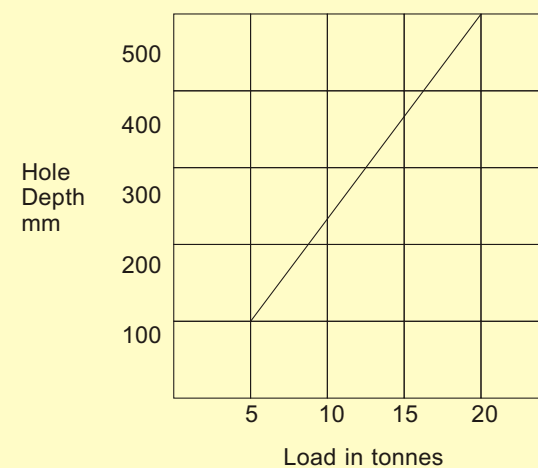


Figure 1: Pull-out vs. Depth of Bolt Embedment

Minimum safety factors of 1.5 in non-critical and of 2 in

Estimating guide

Volume of grout required (ml) for bolt diameter per 100mm depth.

Hole diameter	Bolt diameter							
	12	16	20	25	32	38	45	51
20mm	20							
25mm	38	29	18					
32mm		60	49	31				
38mm			82	64	33			
45mm				110	79	63		
52mm				155	123	91	41	
57mm					174	141	100	51
64mm						232	166	117

Packaging and yield

Epoxy Plus Thixotropic Anchor Grout is supplied in a 6.4kg pack producing 4 litres. Each pack contains 2 tins of resin, 2 bottles of hardener and 2 packs of filler to enable the pack to be split into 2.

Storage

The shelf life of this material is at least 12 months if stored in a cool dry place.

Quality assurance

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

Health and safety

The 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 cleaning 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 (CO₂) extinguishers in service above normal U.K. ambient temperatures (or up to 40°C) under sustained or dynamic load or when there is a fire risk, please contact our Sales Department. Please refer to the

Material Safe Handling Guide, which also contains all data and information relating to the Control of Substances Hazardous to Health (COSHH) regulations.

Other products available

When anchoring is to be carried out in temperatures below 5°C or when a very rapid set is required to enable early loading to be applied, Certite Resin Anchor Grout 'T' should be used. Please consult our Technical Department.

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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