SAFEGUARD
MAKING BUILDINGS DRY

Epoxy AC

Epoxyacrylate Resin Anchoring System.

Description

Epoxy AC is a rapid curing "one-shot" two-part chemical anchoring cartridge system based on a modified epoxy acrylate resin. It is applied in a single action to produce a tough, chemical-resistant fixing. Epoxy AC is ideal for close-to-edge applications (unlike expansion anchors) as no stress is placed on the surrounding substrate. Versatile in use, Epoxy AC is suitable for fixing wall ties, starter bars, studs, bolts, or large screws in a wide range of substrates, including brickwork, concrete, masonry, stone, and PFA blocks. Hollow base materials can be securely fastened into by using Epoxy AC in conjunction with a sleeve or sieve.

Preparation

1) Drill hole to the correct diameter and depth (see table), ideally using a rotary percussion machine. For optimum results the hole must be coarse sided. If the holes are formed by diamond drilling, the surfaces should be thoroughly roughened.
2) Remove dust and debris from the hole using a hand air pump or a stiff rotary brush.
3) All bars should be clean and free from oil or grease and all flaking rust should be removed. Threaded rods or studs should be chisel-ended to prevent them from being unscrewed from the cured resin.

Application

1) Remove the cap, and then attach the mixing nozzle to the cartridge (screw down hand-tight)
2) Place the cartridge into the dispensing gun.
3) Gradually pressurize the cartridge by activating the hand trigger a few times until material passes through the mixing nozzle.
4) Stop pressurizing and allow the material to flow until an even colour is obtained (approx. 12-15cm of extruded material should be adequate).
5) Insert the nozzle into the base of the hole and activate the trigger. Withdraw the muzzle as the hole fills.
6) Once the required fill is achieved, wipe off excess material. Insert the fixing slowly with a rotating action to the desired depth. Once all applications have been carried out, release the pressure by pressing the slide release arm on the back of the trigger and pulling back the slide rail.

NB: Once material has started to extrude through the nozzle, over-pressurising the system will not increase flow rate, and can cause leakage from the rear of the cartridge.

Curing Times

Temperature °C	Gel Time (minutes)	Minimum Loading Time (minutes)
5	12	240
15	6	150
25	3	60

Ultimate Physical Properties

Compressive Strength (ASTM 695) 58.4 N/mm^2
Tensile Strength (ASTM 638) 14.5 N/mm^2
Flexural Strength (ASTM 790) 26.5 N/mm^2
Elastic Modulus 4941 N/mm^2
Flexural Modulus 4472 N/mm^2
Mixed Density 1.65 g/cm^2

Fixing Specification

Size	Concrete, $f_{ck,\,cube}$ = 30N/mm² (C20/25)								
	Characteristic Resistance *(kN)*		Design Resistance *(kN)*		Recommended Load *(kN)*		Characteristic Edge Distance *(mm)*		Characteristic Spacing *(mm)*
	Tension (N_{Rk})	Shear (V_{Rk})	Tension (N_{Rd})	Shear (V_{Rd})	Tension (N_{rec})	Shear (V_{rec})	Tension ($C_{cr,N}$)	Shear ($C_{cr,V}$)	
M8	20.3	10.1	8.1	8.1	5.8	5.8	80	100	100
M10	30.7	15.6	12.6	12.5	9.0	8.9	90	130	130
M12	51.7	23.1	19.7	18.5	14.1	13.2	110	150	150
M16	71.5	41.8	28.9	33.5	20.7	23.9	130	170	170
M20	91.4	66.8	41.1	53.4	29.4	38.2	150	190	210
M24	122.2	95.7	48.9	76.6	34.9	54.7	190	240	240
M30	201.6	123.0	80.6	97.0	57.6	69.3	300	350	350

Tension figures quoted are tested in accordance with BS5080 Part 1 in approximately 30 N/mm^2 concrete. The ultimate pull out is varied by:

1) The strength of both the substrate and bar/stud.
2) The length of the resin bond to the bar.
3) Hole preparation.
4) Anchor separation.

Safety factors should be considered depending on the strength and nature of the substrate.
Due to the inconsistent nature of hollow blocks and bricks, tension figures may vary. Site testing should be carried out where necessary to establish particular suitability. In order to achieve maximum performance the distance between centres should be a minimum of 2.0 times the embedment depth and 1.25 times the embedment depth for the minimum distance from the edges.

Storage

Store in a dry area between 5°and 25°C. Do not expose to direct sunlight. Storage at higher temperatures will reduce shelf-life.

Health & Safety

Epoxy AC contains styrene and is flammable. Read material safety datasheet (available on request).

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Tel: +44 1403 210204. Fax +44 1403 217529. Email: info@safeguardeurope.com