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a.b.e.® Construction Chemicals

abe® chemical anchor

CHEMICAL ANCHOR BASED ON TWO PART POLYESTER RESIN, STYRENE FREE

DESCRIPTION

Low VOC, styrene free, two part polyester resin chemical anchor in a single, easy dispensing cartridge.

USES

- Anchorage on any supporting material, especially hollow materials.
- For structural anchoring from medium to heavy loads.
- On brick, masonry and concrete.
- On marble, natural stone and wood.
- Suitable for fixing screw sleeves, threaded concrete rods, anchoring hollow panels, railings, shutters, façade cladding, reinforcement bars, screw sleeves, etc.
- In solid and hollow masonry, concrete and bricks.

ADVANTAGES

- Easy application.
- Does not expand, does not create additional stresses on base material.
- Quick application and turnaround time.
- High penetration into porous areas.
- Low odour, can be used indoors.
- Good chemical resistance to corrosion by acids and alkalis.
- Thixotropic texture.
- Rapid cure & strong grip.
- Suitable for applications in damp conditions.
- Static mixer included.

SURFACE PREPARATION

Surfaces must be clean, dry, free from grease, dust, loose particles and other contaminants. This is carried out by using a brush and/or oil free compressed air.

MIXING

The resin and hardener are mixed only during extrusion. Fix the static mixer onto the cartridge and ensure that the extruded product is perfectly mixed (uniform in colour). This is done by extruding 5 cm of product to ensure that the mix is homogeneous and ready for the application.

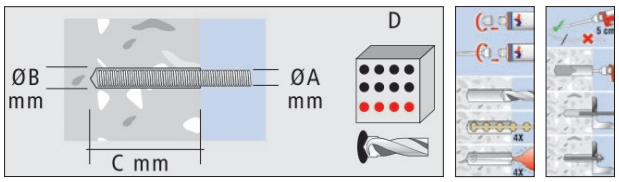
APPLICATION

Fill the hole approximately halfway and insert the stud. Rotate the stud slightly to ensure it is well encapsulated. In case of hollow bricks/blocks, completely fill the sleeve. Allow for the polymerization of the resin.

PROPERTIES		
Specific Gravity	ca.1.56 g/ml	
Application Temperature	-10 to 35 ˚C	
Service Temperature	-40 to +40 ˚C	
Maximum Long Term Temp	+24 ˚C	
Compressive Strength	(EN ISO 604) 43.5 MPa	
Flexural Strength	(EN ISO 178) 15.9 MPa	
Flexural Modulus	(EN ISO 178) 2803 MPa	
Tensile Strength	(EN ISO 527) 9.3 MPa	
E Modulus	(EN ISO 527) 4874.5 MPa	
Gel Time at	5 ˚C	15 minutes
	15 ˚C	8 minutes
	25 ˚C	5 minutes
	35 ˚C	3 minutes
Minimum Curing Time at (Resin temperature at least 20 ˚C)	5 ˚C	120 minutes
	15 ˚C	60 minutes
	25 ˚C	45 minutes
	35 ˚C	30 minutes
Full Cure	24 hours	

COVERAGE

SOLID MATERIAL: CONCRETE



For threaded rods refer table below.

Before injecting the resin, thoroughly clean the hole ensuring that all loose particles, dust and other contaminants are removed by using oil free compressed air. Fill the hole approximately halfway and insert the threaded rod, rotating the rod slightly to ensure it is well encapsulated. Allow for the polymerization of the resin.

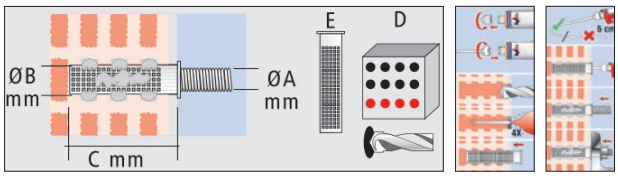
Characteristic and design load resistance based on characteristic bond strengths for hef 4 x diameter (min. embedment) to 20 x diameter – threaded rod.								
Concrete								
ØA	ØB	C	Characteristic resistance (kN)		Design resistance (kN)		Recommended load (kN)	
mm	mm	mm	Tension	Shear	Tension	Shear	Tension	Shear
8	10	80	15.71	9.00	7.27	7.20	5.20	5.14
10	12	90	17.53	15.00	8.12	12.00	5.80	8.57
12	14	110	23.09	21.00	10.69	16.80	7.64	12.00
16	18	125	33.38	39.00	15.45	31.20	11.04	22.29
20	24	170	43.60	61.00	20.18	48.80	14.42	34.86
24	28	210	49.01	88.00	22.69	70.40	16.21	50.29
30	35	280	61.07	142.50	28.27	114.00	20.20	81.43
Minimum base material thickness hef +30 mm > 100 mm for M8 to M12 and for M16 to M30 hef +2d – maximum long term loading.								

For rebar refer table below.

Before injecting the resin, thoroughly clean the hole ensuring that all loose particles, dust and other contaminants are removed by using oil free compressed air. Fill the hole approximately halfway and insert the threaded rod, rotating the rod slightly to ensure it is well encapsulated. Allow for the polymerization of the resin.

Characteristic & design load resistance based on characteristic bond strengths for hef 4 x diameter (min. embedment) to 20 x diameter – rebar.								
Concrete								
ØA	ØB	C	Characteristic resistance (kN)		Design resistance (kN)		Recommended load (kN)	
mm	mm	mm	Tension	Shear	Tension	Shear	Tension	Shear
8	10	80	13.30	11.63	6.33	9.30	4.52	6.64
10	12	90	15.91	18.38	7.58	14.70	5.41	10.50
12	14	110	19.84	25.88	9.45	20.70	6.75	14.79
16	18	125	27.87	45.88	13.27	36.70	9.48	26.22
20	24	170	32.23	71.63	15.35	57.30	10.96	40.93
25	29	210	38.80	112.50	18.48	90.00	13.20	64.29
28	32	280	46.30	140.88	22.05	112.70	15.75	80.50
32	36	320	54.05	184.13	25.74	147.30	18.38	105.22
Minimum base material thickness hef +30 mm > 100 mm for M8 to M12 and for M16 to M32 hef +2d – maximum long term loading.								

HOLLOW MATERIAL: HOLLOW CONCRETE AND BRICK



For threaded rods and internal threaded sockets of 8/10/12mm drill holes according to the installation data in the table below.

Insert the perforated plastic sleeve and fill it to the brim with resin and insert the threaded rod. Allow for the polymerization of the resin.

Fixing ØA	Sleeve E	Drill diameter ØB	Embed-ment depth C	Effective anchorage depth (hef)
Concrete hollow block				
M8 threaded rod	15 x 130	15 mm	135 mm	130 mm
M10 threaded rod	15 x 130	15 mm	135 mm	130 mm
M12 threaded rod	20 x 85	20 mm	90 mm	85 mm
M8 internal threaded socket	15 x 80	15 mm	85 mm	80 mm
M10 internal threaded socket	20 x 85	20 mm	90 mm	85 mm
M12 internal threaded socket	20 x 85	20 mm	90 mm	85 mm
Hollow brick				
M8 threaded rod	15 x 80	15 mm	85 mm	80 mm
M10 threaded rod	15 x 80	15 mm	85 mm	80 mm
M12 threaded rod	20 x 85	20 mm	90 mm	85 mm
M8 internal threaded socket	15 x 80	15 mm	85 mm	80 mm
M10 internal threaded socket	20 x 85	20 mm	90 mm	85 mm
M12 internal threaded socket	20 x 85	20 mm	90 mm	85 mm
300 ml extruding tool: inject six pressure shots into a 15 x 80 sleeve, inject nine pressure shots into a 15 x 130 sleeve and inject 7 pressure shots into a 20 x 85 sleeve.				
For 6 ml of resin at 25 ˚C, 8 minutes processing time and 20 minutes minimum loading time is required.				

* hef = effective anchorage depth (mm)

CLEANING

Clean tools immediately after use, before material has set with **abe® super brush cleaner**, followed by washing with soap and water.

The cured product can only be removed mechanically.

CAUTION

- Causes serious eye irritation.
- Causes skin irritation.
- May cause an allergic skin reaction.
- Wash the skin thoroughly after handling.

- Wear protective gloves and protective clothing, eye protection and face protection.
- IF ON SKIN: Wash with plenty of soap and water.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing and seek medical advice.
- If skin irritation occurs: Get medical advice / attention.
- Take off contaminated clothing and wash before reuse.
- Contains: Dibenzoyl peroxide.
- Keep out of reach of children.

VOLUME/SIZE

300 ml

COLOUR

Grey

HANDLING & STORAGE

abe® chemical anchor has a shelf life of 12 months from production date if kept in the original container in a cool, dry place (temperature < 30 ˚C). In more extreme conditions this period might be shortened.

HEALTH & SAFETY

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The safety data sheet is available from your local **a.b.e.®Construction Chemicals** sales representative.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavors to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot – because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied – accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. **a.b.e.® Construction Chemicals** has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in flooring and concrete technology.