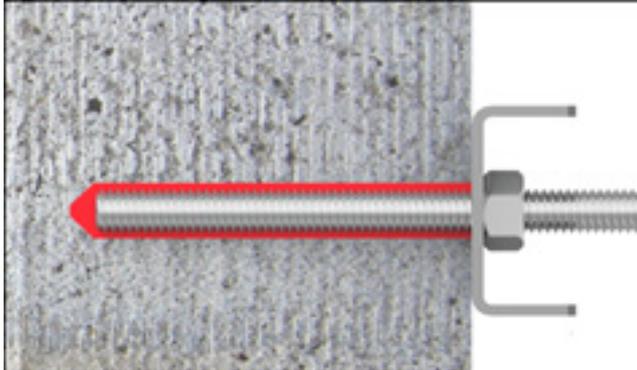


High performance pure epoxy 3:1 resin cartridge system, for anchoring reinforcement and fixings into a variety of substrates.



Uses

For concrete (solid, porous and light) and solid masonry.

- Accredited for use in dry, damp and flooded concrete substrates.
- Can be used with cracked concrete
- Fixing of post installed reinforcement
- Anchoring of threaded rod fixings
- Anchoring of internal threaded rod sleeves
- Internal, external and submerged conditions
- Can be applied to almost any size of fixing
- For horizontal, vertical and overhead application

Advantages

- High Bond strengths
- No additional mixing equipment required
- C1 and C2 seismic resistance*
- Does not apply expansive force to the substrate
- Fixings can be spaced closer together
- Enables fixings closer to edges
- Resistant to a variety of chemicals
- Low VOC
- Tested with diamond drilled bore holes
- Fire rated up to 2 hours*
- Re-usable
- Slow gel times allow for deeper embedment depths
- 24 month shelf life

*consult test data for specific conditions

Description

Lokfix E75 is a two-component Epoxy anchoring material, supplied in 3:1 ratio side-by-side cartridges, with a static mixer nozzle. When applied it sets and cures rapidly to firmly secure a variety of steel fixings into concrete and solid masonry substrates.

Other grades of Lokfix are also available

Lokfix E35 Resin anchor cartridge system based on styrene free Polyester for lightweight anchoring.

Lokfix E55 Resin anchor cartridge system based on styrene free vinyl-ester for medium and heavy duty anchoring.

Specification Clause

The anchor grout shall be Berger Fosroc Lokfix E75 cartridge system. The Anchoring grout shall comply with EAD 330087-00-0601 systems for post-installed rebar connections, which supersedes EOTA TR023.

Standards Compliance

Lokfix E75 complies with the following standards :

- European approval according to EAD 330499-00-0601, anchoring in cracked and un-cracked concrete (which supersedes ETAG 001 includes fire testing, threaded rod only, 120 minutes and C1 & C2 seismic approval.
- European approval according to EAD 330499-00-0601, diamond drilled holes in un-cracked concrete, which supersedes EOTA TR029 in concrete.
- Emissions dans l'air interieur : A+
- LEED compliant VOC Level

Lokfix E75



Table 1. Material Properties

Compressive Strength	>110 MPa
Flexural strength	>40 MPa
E Modulus	10,800 MPA
Shore D Hardness	85
Density	1.41kg/L
Temporary Service Temperature	-40 to +72°C
Permanent Service Temperature	-40 to +43°C
Electrical resistance (IEC93)	1.2 x 10 ¹² Ωm
Thermal Conductivity (IEC 600093)	0.47W/m.K

Chemical resistance

Lokfix E55 has resistance to a wide variety of chemicals. Consult Berger Fosroc technical department for specific data.

Table 2 - Lokfix E75 Gel & *Dry Curing Times

For optimal use the cartridge temperature should be between +10°C to +25°C.

Installation temperature range +5°C to +40°C.

Substrate Temp.	Gel Time (mins)	Fixing Time (hrs)
+5°C	120	50
+10°C	90	30
+20°C	30	10
+30°C	20	6
+40°C	12	4

*The table is for dry conditions. In wet/damp conditions, the curing time will be double.

Be aware that the substrate temperature can vary significantly from the ambient temperature.

Design Criteria

Assistance and qualification

Design of fixings and reinforcement must be undertaken by suitably qualified personnel with understanding of the construction and use of the structure, the use of the fixing, as well as being in compliance with local legislation.

In applications where fixings or rebar must be designed and applied in compliance with the requirements of the relevant ETA and EAD, designers should consult the relevant Berger Fosroc accreditation documents.

Berger Fosroc provides software which may be used to aid design, available at www.lokfix.com or through your local technical office.

Lokfix E75

Table 3. Setting Parameters of Rebar

Setting Parameters of Rebar			Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32	Ø40	
Characteristic Edge Distance	$C_{cr,N}$	mm	109	137	158	184	202	253	303	339	388	484	
Minimum Edge Distance	C_{min}		40	50	60	70	80	100	125	140	160	200	
Characteristic Spacing	$S_{cr,N}$		219	273	316	369	405	506	606	678	775	969	
Minimum Spacing	S_{min}		40	50	60	70	80	100	125	140	160	200	
Standard Embedment Depth	h_{ef}		80	90	110	115	125	170	210	250	270	360	
Minimum thickness of concrete	h_{min}		$h_{ef}+30mm \geq 100mm$		$h_{ef} + 2d_o$								
Hole Diameter	d_o		12	14	16	18	20	24	32	35	40	50	
Chemical Consumption (filling 2/3rd of the Hole)	V_h	ml	6	10	12	20	27	52	113	161	227	472	

Table 4. Setting Parameters of Lokfix TR (Threaded Rod)

Setting parameters of Lokfix TR			M8	M10	M12	M16	M20	M24	M27	M30	M33*	M36*	M39*
Characteristic Edge Distance	$C_{cr,N}$	mm	113	141	170	219	263	304	342	379	417	455	493
Minimum Edge Distance	C_{min}		40	50	60	80	100	120	135	150	165	180	195
Characteristic Spacing	$S_{cr,N}$		226	283	339	437	527	607	683	759	834	910	986
Minimum Spacing	S_{min}		40	50	60	80	100	120	135	150	165	180	195
Standard Embedment Depth	h_{ef}		80	90	110	125	170	210	250	280	320	350	380
Minimum thickness of concrete	h_{min}		$h_{ef}+30mm \geq 100mm$		$h_{ef}+2d_o$								
Hole Diameter	d_o		10	12	14	18	24	28	32	35	37	42	46
Chemical Consumption (filling 2/3rd of the Hole)	V_h	ml	4.19	6.79	11.29	21.21	51.27	86.21	134.04	179.59	229.38	323.27	421.02
Installation Torque	T_{inst}	Nm	10	20	40	80	100	120	180	200	300	340	370
Installation Torque	T_{inst}		10	20	40	60	120	150	200	250	350	500	700
Material Consumption			23	31	45	67	235	343	579	715	704	1287	1776

* This diameter range is not approved as per ETA.

Note : Tables 3 and 4 are for dry un-cracked concrete only. For all other conditions including fixings into solid masonry types, fixings into cracked concrete, fixings subject to seismic conditions and post installation of reinforcement refer to the relevant method statement, EAD document or use the design software www.lokfix.com, or contact your local technical office.

Lokfix E75

Product Installation

Full details are available in the application method statement, a copy of which may be obtained from your local Berger Fosroc technical department.

The following methodology is for installation into solid substrates such as reinforced concrete. For other substrates or fixings, please request a separate method statement.

Hole Formation and Preparation

Drill hole with hammer drill ensuring sides of the concrete are rough. If using diamond drill, the hole must be flushed with clean water, cleaned with a wire brush and flushed again before using the cleaning process described below.

If rebar is hit while drilling, stop drilling and seek the advice of the designing engineer.

Clean holes immediately prior to installation of fixings to avoid them becoming re-contaminated.

Standing water in the hole shall be removed prior to preparation. Using a hand pump or compressed air insert the nozzle to the back of the hole and blow out 4 times.

Insert a wire brush to the bottom of the hole and brush out 2 times.

Using a hand pump or compressed air insert the nozzle to the back of the hole and blow out an additional 4 times.

If dust is still present, repeat the process until no further dust is visible.

Ensure the drill bit and the cleaning brush are of suitable diameter for the fixing used. Consult tables 3 and 4 for specific diameters.

Fixings Preparation

Fixings shall be free from rust, paint, grease and contaminants which will interfere with the bond.

Mark the required depth on your fixing

Installation

Lokfix E75 requires a special 3:1 application gun.

Unscrew the fixing cap. Remove the plastic stopper. Screw the static mixer nozzle onto the cartridge. Place the cartridge into the application gun.

Pull the trigger to extrude the Lokfix E75.

Important: extrude the initial material until the colour becomes red and consistent. This typically takes two or three full squeezes. Discard material that is streaky in colour.

Insert the nozzle to the back of the hole and pump the Lokfix material gently pulling back until the hole is 3/4 full. Ensure there are no voids in the resin. If the hole is too deep for the nozzle to reach the back, use a nozzle extension pipe.

In wide/overhead holes a piston plug will help reduce slump and ensure a void free application. This is particularly recommended for fixings above 20mm diameter.

Observing the product gel time, insert the fixing into the hole using a gentle twisting motion. Ensure the fixing is inserted to the required depth and is held straight until the resin sets. There should be some extrusion of the Lokix material from the hole which indicates that there is full embedment.

Do not load or apply tension to the fixing until the product fixing time has been observed, see table 2.

Do not over-tighten fixings. Observe maximum installation torque as stated in tables 3 & 4.

If the cartridge is to be re-used, remove the mixing nozzle and re-apply the cap. When using again a new mixing nozzle will be required.

Cleaning

Wet resin should be removed from tools and equipment using Nitoflor Sol immediately after use.

Lokfix E75

Estimating

Supply

Lokfix E75 supplied in boxes of 12 no. 385ml cartridges, each supplied with a single mixer nozzle.

Berger Fosroc may also supply:

- Lokfix E75 application gun, one size.
- Steel cleaning brushes, in various diameter to clean the hole.
- Dust blower pump, one size, hand held to clean the hole.
- Hollow block sleeves, in a variety of diameters and embedded lengths for hollow bricks and blocks can be used for solid brick.
- Extension nozzle, essential where the embedment depth is greater than 190 mm. In various lengths.
- Piston plugs, required where the hole diameter is >20mm or where embedment depth is >240mm. Must be used with an extension nozzle.
- Application guns, hand held for cartridge application.
- Spare mixer nozzles, required if a cartridge is to be reused.

Yield

Standard yield estimation is provided in tables 4 based on the hole diameter, fixing size and embedded length. For non-standard consumption the following calculation of theoretical consumption may be used. Factors such as over-drilling, extrusion from bolt hole, initial gun extrusion and some wastage should also be considered.

$$2/3 \times (\pi d_o^2) / 4000 \times h_{ef} \times (\text{Wastage}\%)$$

*considering filling of hole till 2/3 of the hole depth.

d_o is the diameter of hole in mm.

h_{ef} is the embedment depth of hole in mm.

Wastage% can be considered as per site requirements.

Limitations

Load calculations should always be undertaken by a qualified engineer.

For designing under conditions where seismic forces or fire is a consideration, please consult the relevant certification to make suitable adjustments for loading.

Lokfix E75 may stain natural or decorative stone. Please check suitability before using for such applications.

Storage

385ml cartridges have a maximum shelf life of 24 months when kept in a dry warehouse at between +5°C to +25°C.

Precautions

Health & Safety

Observe the information provided on the relevant SDS.

Important note :

Berger Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Berger Fosroc endeavours to ensure that any advice, recommendation specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products whether or not in accordance with any advice, specification, recommendation or information given by it.



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