



Fosroc Solutions for Chemical Anchoring

www.fosroc.com



constructive solutions

ABOUT FOSROC INTERNATIONAL

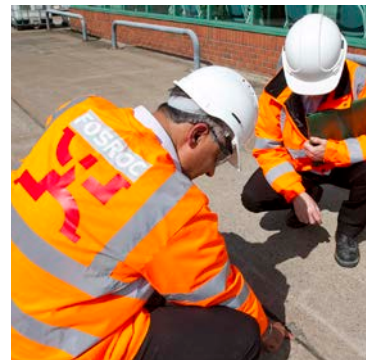
Since the company's beginnings over 80 years ago, Fosroc has developed into an International leader in delivering Constructive Solutions for projects across a broad range of market segments including transport, utilities, industrial and general buildings.

Fosroc's commitment to customer service and technical support is second to none. We work closely with architects, structural engineers, contractors and owners to best understand their requirements. Together we can develop a bespoke solution for a construction project, adding value and becoming more than just a materials supplier, but a solution provider.

Fosroc has an extensive network of offices and manufacturing locations across Europe, the Middle East, Africa, India, North, South and East Asia, and is further represented in other regions across the world by distributor and licensee partners.

Selecting from the full portfolio of Fosroc products and services and integrating expert technical support, world class customer service and innovation, Fosroc goes beyond just product selling to ensure that we partner with our customers to deliver complete constructive solutions.

- > Admixtures
- > Adhesives
- > Protective Coatings
- > Concrete Repairs
- > Industrial Flooring
- > Grouts & Anchors
- > Joint Sealants
- > Surface Treatments
- > Grinding Aids
- > Waterproofing



FOSROC DELIVER SOLUTIONS NOT JUST PRODUCTS

CAD Details

A library of standard CAD details are available, bespoke CAD details can be created for your specific project

Project Specifications

Dedicated specification managers on hand to assist with correct system choices and tailored solutions

Site Support

Expert product and application support made available from our specialist teams.

Seminar & Training

Comprehensive programme of seminars and training courses designed to expand and reinforce your knowledge.

Leader in delivering
Constructive Solutions
Worldwide!



LOKFIX E RANGE COMMON USES

- > Fixings to masonry and rock
- > Post installation re-bar
- > Wall bracing & column jacketing
- > Replacing lost rebar
- > Anchoring structural steels
- > Surface crack sealing
- > General construction bonding
- > Ventilation ducts
- > Railing and barriers
- > Anchors for machinery & cranes
- > Securing formwork

Visit the Fosroc Lokfix Site for design info, product data, certification downloads application guides.



VISIT
LOKFIX.COM



FIXINGS MADE EASY WITH LOKFIX E RANGE

Chemical anchors and fastenings offer specific benefits to the designer and user, compared to mechanical fastening.

- > Does not add expansive stress to the concrete
- > Uniform distribution of load
- > Fixings may be closer to edges
- > Fixings may be closer together
- > Adjustable
- > Waterproof
- > Chemical resistance
- > Fits varied fixing/rebar sizes
- > Prevents corrosion of embedded fixing
- > Dry, damp & wet substrates

Fosroc Lokfix resins have been holding fixings for decades. Lokfix E range brings with it an new wave of fixing opportunities to the market. Combining the industry trusted brand with a clean and easy approach to application. Lokfix E has been tested to the European Standards and comes with accreditation and a new wave of design support to ensure that the correct product is in use every time. Now there are two NEW Lokfix E products in the range; Lokfix E77 a high performance epoxy with a design life of up to 100 years and Lokfix E45T, a vinylester resin for use in hot climates.

LOKFIX E



EASY DESIGN

Fosroc's bespoke software will guide you right through the design process



EASY SPECIFY

Lokfix E products have industry leading accreditation and design life of 50 to 100 years



EASY MIX

Let the cartridge system do the mixing for you. - No more mess!



EASY APPLY

Use a standard cartridge gun for most applications



EASY ON THE PLANET

Fosroc E range contains no styrenes and cartridges can be re-used



**LOKFIX
E77**

**Pure Epoxy Resin
BPA Free**

Ideal for Heavy to very heavy weight fixings into cracked and un-cracked concrete, and post-installation of reinforcement. 100 year design life.

**LOKFIX
E55**

**LOKFIX
E45**

**Vinylester Resin
Styrene Free**

Ideal for Medium to heavy weight fixings into cracked and un-cracked concrete, and post-installation of reinforcement

**LOKFIX
E35**

**Polyester Resin
Styrene Free**

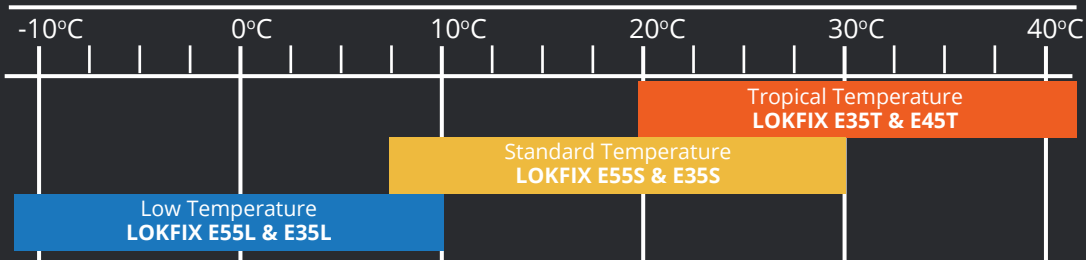
Ideal for Light to Medium weight fixings into un-cracked concrete and fixings in masonry

LOKFIX E RANGE

Fosroc's Lokfix E range has a variety of products so you can select a Lokfix to meet your application needs.



The Lokfix E range has varying grades to suit the working temperature. This ensures that their performance in application is optimised. Having the correct grade means easier extrusion of the material, manageable working time and fast setting time.

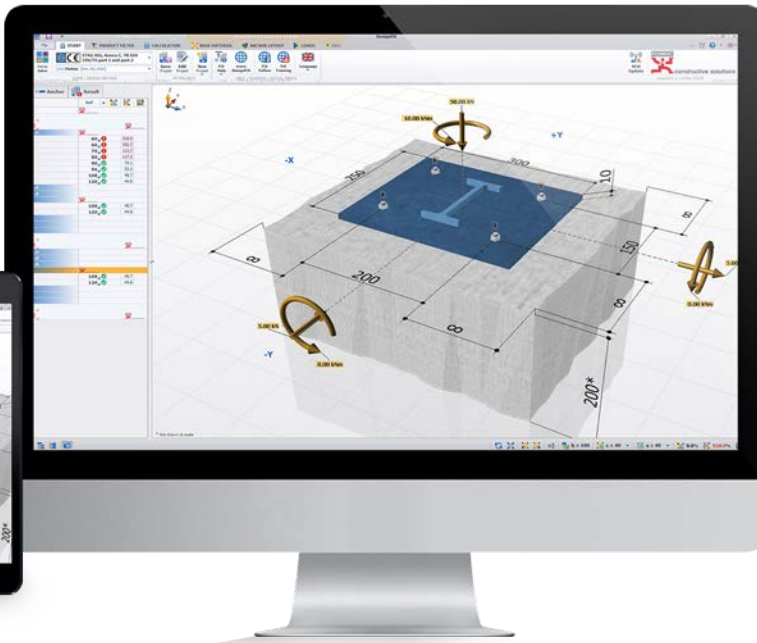


Optimal substrate and cartridge temperatures. See TDS for specific information

DESIGNING & SPECIFYING



Software Download



Lokfix E range has been created with the aim of meeting the needs of the designer and user. Fosroc has provided a wide range of supporting information to assist our clients to rapidly engineer the right solution.

Design software is available and free to download. This enables engineers to rapidly check common calculations in accordance with the regulations.

Lokfix E materials are rigorously tested and validated to the most up-to-date European EAD standards (superseding ETAG accreditations). This means they require less site testing and customers can be assured of the highest quality.

Quick consumption guides and product selection tools are provided.

All of this can be viewed and downloaded on www.lokfix.com

Understanding the basic properties of each material is important when selecting the correct product. The comparison chart gives designers a quick and easy overview.

	Lokfix E77 Pure Epoxy 3:1 cartridge	Lokfix E75 Pure Epoxy 3:1 cartridge	Lokfix E55 Styrene free Vinylester resin anchor	Lokfix E45T Styrene free Vinylester resin anchor	Lokfix E35 Styrene free polyester resin anchor
Fixings into solid & hollow masonry	-	-	✓	✓	✓
Threaded rod into solid concrete	✓	✓	✓	✓	✓
Threaded rod into cracked concrete	✓	✓	✓	✓	-
Rebar into solid concrete	✓	✓	✓	✓	-
Post installation of reinforcement	✓	✓	✓	✓	-
Fire testing	F120	F120	F120	-	-
Seismic testing	C1 & C2	C1 & C2	C1	C1 & C2	-
VOC Class	A+	A+	A+	A+	A+
Use with skeleton gun	-	-	✓	✓	✓
Design software assistance	✓	✓	✓	✓	-
Max design life	100 years	50 years	50 years	50 years	50 years

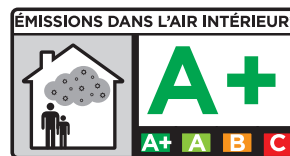
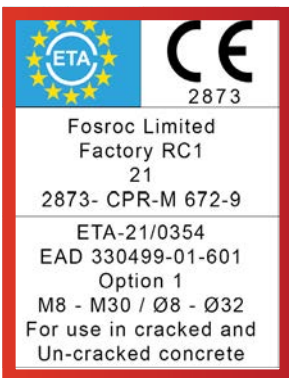
LOKFIX E77

Pure Epoxy 3:1 twin shaft cartridge

Lokfix E77 is Fosroc's solution for large and heavy duty anchoring into cracked and un-cracked concrete. It is also suitable for anchoring heavy duty rebar. It has industry leading strength and low partial safety factors with a design life tested up to 100 years. Applied with 3:1 application gun, it may be used in dry, damp and flooded conditions. Comes with industry leading accreditation and design software.

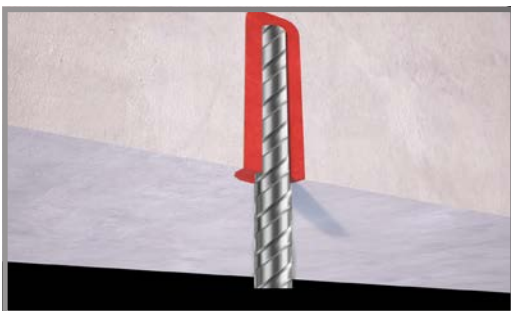
FEATURES

- ✓ Design with 50 or 100 year life*
- ✓ Low partial safety factors
- ✓ Longer working times for complex applications
- ✓ C1 & C2 seismic resistance*
- ✓ Does not apply expansive force to the substrate
- ✓ Fixings can be spaced closer together than mechanical anchors
- ✓ Enables fixings closer to edges than mechanical anchors
- ✓ Tested with diamond drilled bore holes*
- ✓ Temporary service temperature tested to 72°C*
- ✓ Fire rated up to 2 hours*
- ✓ Accredited for use in dry, damp and flooded concrete*
- ✓ Can be used with cracked and un-cracked concrete
- ✓ Available with design software



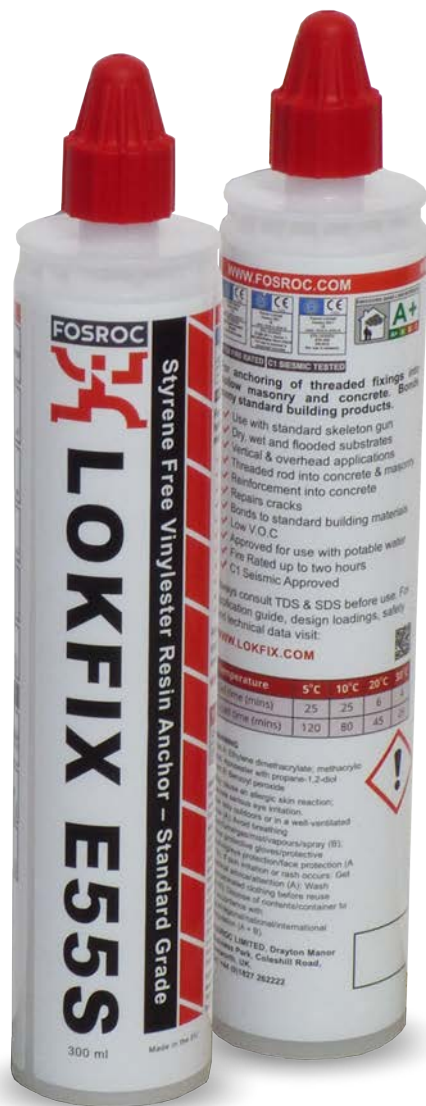
COMMON APPLICATIONS

- ✓ Anchoring heavy duty fixings such as pipework, suspended walkways, crane rails etc
- ✓ Fixing of structural steelwork to concrete
- ✓ Fixing of post installed reinforcement ,starter bars, tension anchors and shear connectors
- ✓ Column jacketing and RC wall strengthening
- ✓ Replacing lost or damaged reinforcement
- ✓ Civils fixings such as bridge joints and crash barriers
- ✓ Rock Anchoring
- ✓ For horizontal, vertical and overhead application



Software
Download

* Always consult technical information for specific details



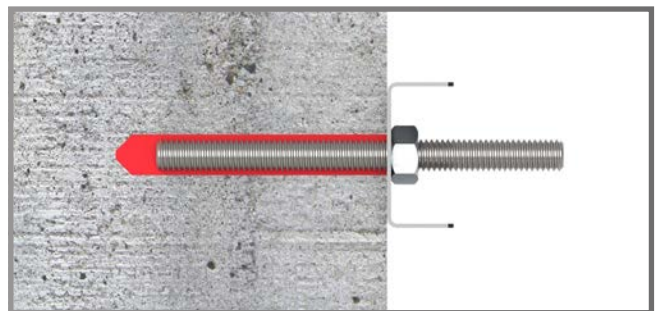
LOKFIX E55

Vinyl-ester- Styrene Free, two comp. resin in a single shaft cartridge

Lokfix E55 is Fosroc's all round fixing solution. It can anchor medium to heavy duty fixings into cracked and un-cracked concrete, masonry, hollow block and fix reinforcement. Low temperature grade is available. Comes with industry leading accreditation and design software.

FEATURES

- ✓ Fast return to service
- ✓ May be used with a good quality skeleton gun (300ml)
- ✓ C1 seismic resistance*
- ✓ Does not apply expansive force to the substrate
- ✓ Fixings can be spaced closer together and closer to edges than mechanical anchors
- ✓ Available in standard temperature grade (S) and low temperature grade (L)
- ✓ Resistant to a variety of chemicals
- ✓ Can be used with cracked and un-cracked concrete
- ✓ Fire rated up to 2 hours*
- ✓ Temporary service temperature tested to 120°C*
- ✓ Tested for use with potable water (E55S only)*
- ✓ Accredited for use in dry, damp and flooded concrete*
- ✓ Available with design software



COMMON APPLICATIONS

- ✓ Anchoring medium and some heavy duty fixings such as ducting and pipework etc
- ✓ Can be used for fixing into solid and hollow masonry
- ✓ Accredited for fixing of post installed reinforcement, tension anchors and starter bars (only for Lokfix E55S)
- ✓ Column jacketing and RC wall strengthening
- ✓ Anchoring of internal threaded rod sleeves
- ✓ Replacing lost or damaged reinforcement
- ✓ Fixing structural/non-structural steelwork to concrete
- ✓ Fixing timbers to concrete and masonry
- ✓ For horizontal, vertical and overhead application

ETA CE 2873

Fosroc Limited
Factory RC1
18
2873- CPR-M 672-8

ETA-18/0585
EAD-330076-00-0604
M8-M12
For use in masonry

ETA CE 2873

Fosroc Limited
Factory RC1
18
2873- CPR-M 672-6

ETA-18/0586
EAD-330499-00-0601
Option 1
M8-M30/Rebar 8mm-32mm
For use in cracked & un-cracked concrete

ETA CE 2873

Fosroc Limited
Factory RC1
18
2873- CPR-M 672-7

ETA-18/0587
EAD-330087-00-0601
Ø8-Ø32
Post-installed rebar

ÉMISSIONS DANS L'AIR INTÉRIEUR

A+

A+ A B C



Software Download



* Always consult technical information for specific details

LOKFIX E45T

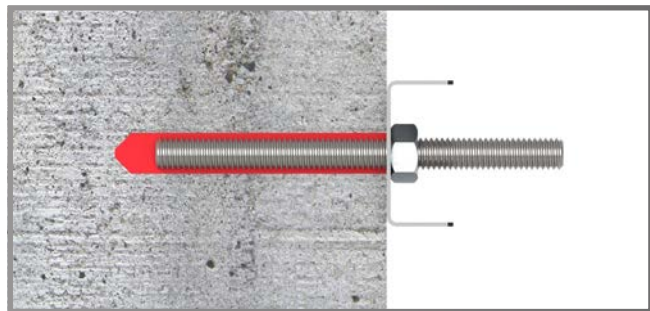
Vinyl-ester- Styrene Free two comp. resin in a single shaft cartridge.

E45T has extended working times for application in tropical climates. Used for medium duty anchoring into cracked and un-cracked concrete and post installation of reinforcement. Also used in stone and masonry. Comes with industry leading accreditation and design software.



FEATURES

- ✓ Extended working time - ideal for use in temps. >30°C
- ✓ May be used with a good quality skeleton gun (300ml) size)
- ✓ C1 & C2 seismic resistance*
- ✓ Does not apply expansive force to the substrate
- ✓ Fixings can be spaced closer together than mechanical anchors
- ✓ Enables fixings closer to edges than mechanical anchors
- ✓ Resistant to a variety of chemicals
- ✓ Can be used with cracked and un-cracked concrete
- ✓ Temporary service temperature tested to 80°C*
- ✓ Accredited for use in dry, damp and flooded concrete*
- ✓ Available with design software



COMMON APPLICATIONS

- ✓ Anchoring medium duty fixings such as ducting and pipework etc
- ✓ Can be used for fixing into solid and hollow masonry
- ✓ Accredited for fixing of post installed reinforcement, tension anchors and starter bars
- ✓ Column jacketing and RC wall strengthening
- ✓ Replacing lost or damaged reinforcement
- ✓ Fixing structural/non-structural steelwork to concrete
- ✓ Fixing timbers to concrete and masonry
- ✓ For horizontal, vertical and overhead application

2873	
Fosroc Limited Factory RC1 21 2873- CPR-M 672-12	
ETA-21/0327 EAD 330076-00-604 M8 - M16 For use in masonry	

2873	
Fosroc Limited Factory RC1 21 2873- CPR-M 672-13	
ETA-21/0326 EAD-330499-01-601 Option 1 M8-M24/ Ø8-Ø25 For use in cracked and un-cracked concrete	

2873	
Fosroc Limited Factory RC1 21 2873- CPR-M 672-11	
ETA-21/0325 EAD 330087-00-601 Ø8 - Ø25 Post-installed rebar	

ÉMISSIONS DANS L'AIR INTÉRIEUR	
A+ A B C	



Software Download



* Always consult technical information for specific details



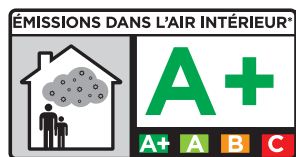
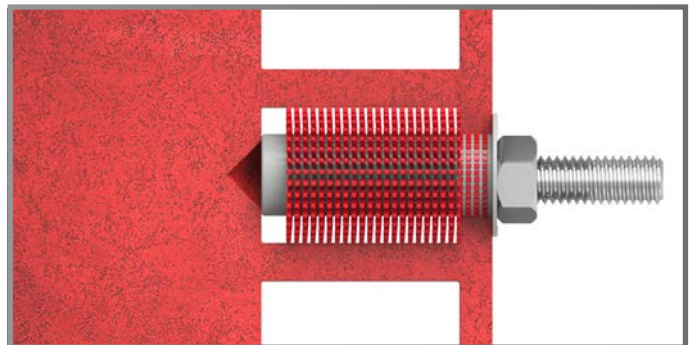
LOKFIX E35

Polyester Styrene Free, two comp. resin in a single shaft cartridge

Lokfix E35 is Fosroc's solution for light to medium anchoring fixings into un-cracked concrete, solid and hollow masonry substrates.

FEATURES

- ✓ Fast return to service
- ✓ May be used with a good quality skeleton gun (300ml)
- ✓ Reliable and economic solution for lightweight work
- ✓ Fixings can be spaced closer together than mechanical anchors
- ✓ Enables fixings closer to edges than mechanical anchors
- ✓ Resistant to a variety of chemicals
- ✓ Accredited for use in dry, damp and flooded concrete*
- ✓ Does not apply expansive force to the substrate
- ✓ Waterproof, protecting the fixing from corrosion
- ✓ Temporary service temperature tested to 80°C*
- ✓ Re-usable by replacing cap and using new nozzle
- ✓ Performs over a wide variety of temperatures
- ✓ Standard (S) tropical (T) and low (L) temperature grades available



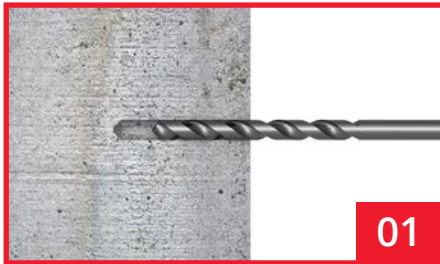
* Always consult technical information for specific details

COMMON APPLICATIONS

- ✓ Anchoring lightweight fixings such as cable trays, ducting and handrails etc
- ✓ Domestic and commercial fit-out
- ✓ Fixing timbers to concrete and masonry
- ✓ Securing formwork
- ✓ Can be used for fixing into solid and hollow masonry
- ✓ Fixing masonry supports
- ✓ Surface crack sealing prior to injection
- ✓ For horizontal, vertical and overhead application.

LOKFIX E APPLICATION GUIDE

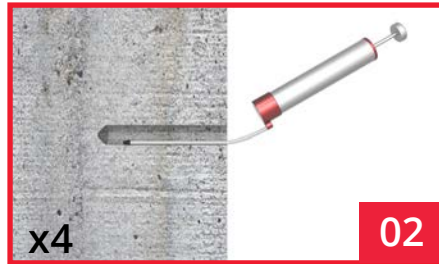
The Application of Lokfix E products is relatively simple but should be undertaken carefully and in close accordance with the designers instructions. Incorrect preparation or application can lead to failure. The following is a brief overview to the application process for dry concrete. For full details consult the application method statement specific to the material you have selected and the substrate into which you need to fix.



01

CREATE THE HOLE

Select the appropriate fixing type and determine the correct depth and diameter, using the respective Lokfix E TDS, create the hole using a rotary percussion or hammer drill. If you strike reinforcement, stop and consult the design engineer.



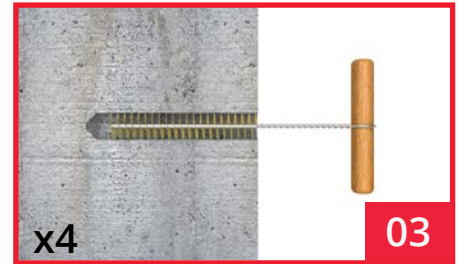
x4

02

AIR CLEAN

Using a blow out pump or an oil free compressed air lance, blow out debris from the hole four times.

If the hole is wet, use air to dry it. Pay attention to changes in setting and curing times.

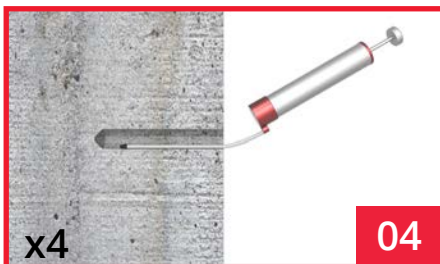


x4

03

BRUSH CLEAN

Select the correct brush for the application ensuring the bristles exceed the hole diameter and the brush can reach the bottom of the hole (use handle extensions if necessary). Brush out debris four times.



x4

04

AIR CLEAN

Blow out debris four more times. If there is visible dust at the end of this process, repeat air and brush cleaning until it is gone. Ensure there is no oil, grease or dust contamination in the hole.



05

PREPARING THE CARTRIDGE

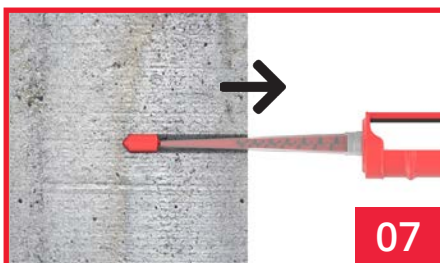
Unscrew the plastic cap (may be retained if you wish to re-use the cartridge). Using a retractable knife cut the plastic sack beneath the metal clip and discard. Screw the static mixer onto the cartridge. Place the cartridge in the application gun. For Lokfix E77 a dual cartridge application gun is required.



06

PRE-MIX

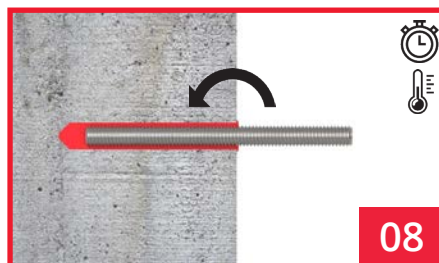
The initial extrusions of resin are NOT suitable for use and must be discarded. Extrude resin from the nozzle until a consistent colour is achieved. Colour may be compared to mixed colour patch on cartridge label. Discard unmixed resin in accordance with local regulations.



07

RESIN APPLICATION

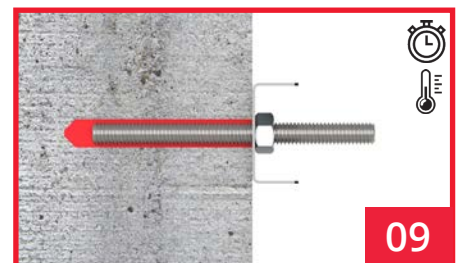
Insert the nozzle to the back of the hole and apply Lokfix. Draw the cartridge slowly back out of the hole until it is $\frac{3}{4}$ full. For wide, deep or overhead holes the use of extension tubing and resin stoppers are vital to eliminate the occurrence of voids.



08

FIXING APPLICATION

Insert the fixing into the hole using a twisting motion, setting the fixing in the centre of the hole. Some resin should extrude from the hole, this should be removed immediately. Pay close attention to application temperatures and time to ensure this is done within the setting period.

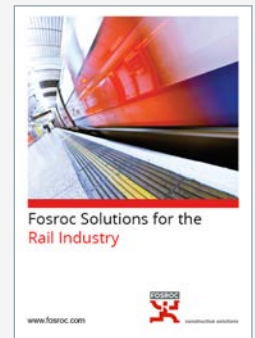
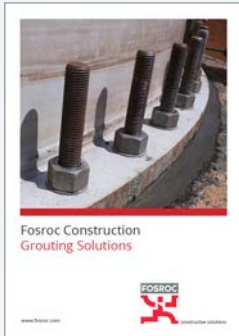


09

LOADING

Do not touch or adjust or load the fixing during the curing period. Pay close attention to application temperatures and time. Wet Areas will take longer to cure. Consult the respective TDS. Once set has been achieved the fixing may be loaded. Take care not to over-tighten nuts.

Fosroc offers a full range of construction chemical solutions, helping to protect structures throughout the world. Please refer to our brochures, which include:



Details of your local Fosroc office can be found at
www.fosroc.com

Important Note

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 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.



constructive solutions