



Injection Resin Mortar Guide



Technical services from VJT

As a leading independent UK distributor of fixings, fasteners and building consumables, we pride ourselves on providing our customers with the very best service from enquiry through to delivery and everything in between. With a focus on technical connections to timber, concrete, masonry and steel, we have a qualified technical department offering guidance to support specification, impartial advice, testing and technical anchor calculations.

The technical team at VJT work in partnership with suppliers, major contractors and trade associations, whilst ensuring compliance with European/British Industry Standards and Regulations relating to the performance and safe use of fixings and consumables. Our qualified team of technical experts are on hand to help with product support and specification and performance calculations using DesignFiX anchor software. Our experts are also CFA or UKAS compliant and can perform on and off site anchor proof or allowable load resistance pull tests and toolbox talks.

Our technical specialists are on hand to help with:

Design & Specification Support

- Assistance with technical anchor design complying to responsibilities outlined in BS8539:2012+A1:2021
- Anchor guidance/recommendations covering a wide range of applications
- Early design intervention guidance
- DesignFiX impartial software - the mechanical and chemical anchor and post-installed rebar calculation software. Latest update allows design for up to 100 years working life to EN 1992-4 (on selected products)

Technical Seminars

Available on and off site:

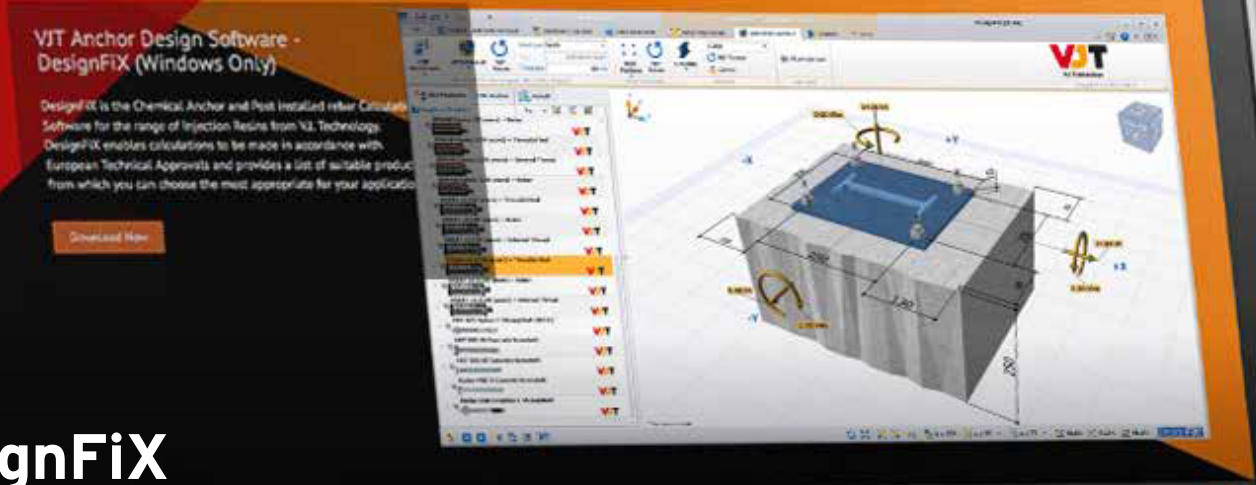
Introduction to BS8539:2012+A1:2021 - code of practice for selection and installation of post-installed anchors, latest design standard EN1992-4 (Eurocode 2 part 4) and DesignFiX anchor calculation software.

Site Support & Training

- CFA Approved on-site testing to BS 8539:2012+A1:2021 (up to 600 kN). UKAS testing on and or off site also available.
- Anchor installation training and toolbox talks

Compliance





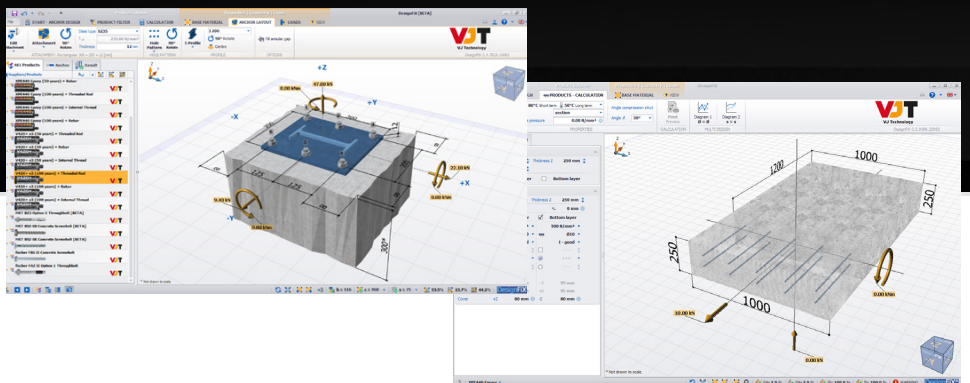
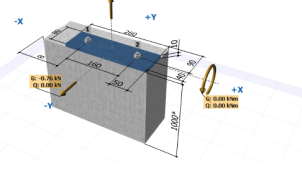
DesignFiX

DesignFiX is VJT's chemical and mechanical anchor and post-installed rebar calculation software, which supports design of ETA anchors according to the latest standards.

Replacing lengthy hand calculations, DesignFiX allows the user to model their application and provides a list of suitable anchors in real time, whilst checking for all possible modes of failure.

To download the latest version of DesignFiX visit our website <https://www.vjtechnology.com/designfix> or contact our Technical Department at technical@vjtechnology.com.

Supplier:	VJT Technology, Technology House Borwick Road, Colley Wood Industrial Estate Ashford Kent, TN23 1EN Phone: 01233 652520, E-mail: Technical@vjtechnology.com
Product:	VJT Technology, Technology House V420+ vs (50 years) + Threaded Rod - Material: A4-70 M10
Design method:	Threaded rod: $l = 60 + 10 + 14 + 5 + 89$ mm EN 1962-2:2018, method A
Approval:	ETA-110202 01/2021
Base material:	Cracked concrete C25/28 No or normal reinforcement / without edge reinforcement Temperature: Short term = 40°C Long term = 24°C
Installation:	Pre-positioned Hammer drilling Compressed Air Cleaning Annular gap not filled Dry or wet
Embedment depth:	$h_{ef} = 80$ mm Drill hole depth min. = 80 mm
Base plate:	Rectangular 200 x 50 x 10
Profile:	none selected
Load:	Static / quasi-static $\psi_{sec} = 0.80$ $\psi_{lim} = 1.00$
Units:	Load [kN, MN] Dimensions [mm], * Not drawn to scale



Reporting

A detailed PDF report can be generated, which shows the calculation for each mode of failure along with the anchor utilization with respect to the overall load interaction.

Anchor Configurations

Design various anchor configurations according to EN 1992-4, using the intuitive 3D input. Up to 100 year design life is supported (on selected products).

Anchorage Calculation

Post-installed rebar applications to EN 1992-1-1 are also supported - input the loads and the program will advise the anchorage length of post-fixed rebar.

XPE440

Pure Epoxy Injection Mortar

The pure epoxy injection mortar with approvals for anchoring and rebar connections in cracked and non-cracked concrete, is assessed for a working life of 100 years. XPE440 is ideal for heavy duty connections including applications with very large diameter and deeper hole depth. This product is used in conjunction with an applicator tool and static mixer nozzle.

Applications

XPE440 injection mortar can be used in conjunction with:

- Threaded rods eg. VJT Chemical Anchor Studs (zinc, HDG, A2, A4, HCR, available in various tensile strengths)
- VJT Internally Threaded Sockets
- Rebar - designed as anchors according to EN 1992-4 or as post-installed rebars according to EN 1992-1

Key Benefits

- ETA for cracked and non-cracked concrete
- ETA for post-installed rebar
- ETA for TR 069 post-installed rebar
- EPD Declaration number: EPD-VJT-20240220-CBA1-EN
- CCPI verified product information: Verification Number 002400004/1027
- Anchors designed according to the new EN 1992-4 standard (Eurocode 2 Part 4) for maximum safety and efficiency
- Additional provisions within ETA-20/0202 for a working life of 100 years
- Approved for seismic performance categories C1 and C2
- Compatible with hammer or diamond drilled holes
- Compatible with hollow dustless drill bits
- Suitable for dry and wet concrete including flooded holes (bonded anchors)
- Suitable for overhead application
- Fire rating resistance ~ R120
- NSF approval for potable water
- High chemical resistance
- Low odour
- Small allowable edge distance and anchor spacing
- Hole cleaning and installation accessories are also available
- Design check can be performed using free DesignFiX software





CCPI
ASSESSED PRODUCT INFORMATION
002400004/1027
VJT Resin Injection Mortar





V420+[®] v3

Hybrid Injection Mortar

The hybrid injection mortar with approvals for anchoring and rebar connections in cracked and non-cracked concrete now assessed for a working life of 100 years and ideal for heavy duty connections. This product is used in conjunction with an applicator tool and static mixer nozzle.

Applications

V420+ v3 injection mortar can be used in conjunction with:

- Threaded rods eg. VJT Chemical Anchor Studs (zinc, HDG, A2, A4, HCR, available in various tensile strengths)
- VJT Internally Threaded Sockets
- Rebar - designed as anchors according to EN 1992-4 or as post-installed rebars according to EN 1992-1

Key Benefits

- ETA for cracked and non-cracked concrete
- ETA for post-installed rebar
- ETA for TR 069 post-installed rebar
- EPD Declaration number: EPD-VJT-20250481-CBA1-EN
- CCPI verified product information: Verification Number 002400004/1027
- Anchors designed according to the new EN 1992-4 standard (Eurocode 2 Part 4) for maximum safety and efficiency
- Additional provisions within ETA-17/0570 for a working life of 100 years
- Approved for seismic performance categories C1 and C2
- Compatible with hollow dustless drill bits
- Suitable for dry and wet concrete including flooded holes (bonded anchors)
- Suitable for overhead application
- Fire rating resistance ~ R120
- NSF approval for potable water
- High chemical resistance
- Low odour
- Small allowable edge distance and anchor spacing
- Hole cleaning and installation accessories are also available
- Design check can be performed using free DesignFIX software



E410+[®] Injection Mortar

E410+ is an epoxy acrylate injection mortar with approvals for concrete and masonry substrates. This product is used in conjunction with a hand, battery or pneumatic tool and static mixer nozzle.

Key Benefits

- ETA for non-cracked concrete
- ETA for use in masonry applications
- Slower cure formulation, ideal for warmer temperature months
- Suitable for dry and wet concrete including flooded holes
- Suitable for overhead application
- High chemical resistance
- Low odour
- CCPI verified product information: Verification Number 002400004/1027

Applications

EC410+ injection mortar is designed to be used in conjunction with the following:

- Threaded rods eg. VJT Chemical Anchor Studs, available in carbon steel (zinc/ HDG) and stainless steel (A2/A4). High corrosion resistant anchor studs available on request. Available in various tensile strengths.



EC410+[®] Injection Mortar

EC410+ is an express cure epoxy acrylate injection mortar with approvals for concrete and masonry substrates. This product is used in conjunction with a hand, battery or pneumatic tool and static mixer nozzle.



Key Benefits

- ETA for non-cracked concrete
- ETA for use in masonry applications
- Special express cure formulation, ideal for colder temperature months
- Suitable for dry and wet concrete including flooded holes
- Suitable for overhead application
- High chemical resistance
- Low odour
- CCPI verified product information: Verification Number 002400004/1027

Applications

EC410+ injection mortar is designed to be used in conjunction with the following:

- Threaded rods eg. VJT Chemical Anchor Studs, available in carbon steel (zinc/ HDG) and stainless steel (A2/A4). High corrosion resistant anchor studs available on request. Available in various tensile strengths.



Setting Equipment & Anchor Accessories

Chemical anchor studs and all thread studding

M8 up to M30 mild steel in various grades (self-colour, zinc plated and HDG), A2-70 and A4-70 stainless steel. Other materials or coatings available upon request, HCR 1.4529 and other diameters of studding also available to order.



Applicator tools

Co-axial applicator tools to suit V420+ v3, E410+, EC410+ and P410+ cartridges.



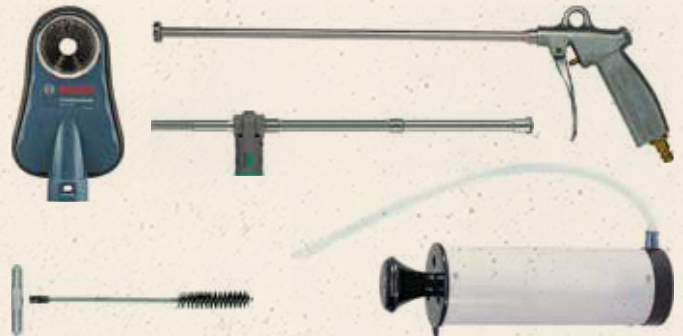
Shuttle applicator tools to suit XPE440 and most 3:1 ratio epoxy mortar cartridges.



Hole cleaning equipment

Please refer to injection mortar ETA or UKTA data sheet prior to ordering cleaning equipment to remain compliant to the products ETA or UKTA, bond strength performance can be reduced if installation instructions are not followed.

Extractor hoods for M-class dust extraction machines, a wide range of metal wire hole brushes, compressed air tools, hand dust pumps and wide range of SDS plus and SDS Max hollow drill bits.



Additional installation equipment

Please refer to injection mortar ETA or UKTA data sheet prior to ordering installation equipment to remain compliant to the products ETA or UKTA, bond strength performance can be reduced if installation instructions are not followed.

Filling washer packs, PGM marked drill bits, plastic sieves, mixer nozzles and extensions, piston plugs and 1m length metal sieves (not part of ETA or UKTA).





For technical information:

Email technical@vjtechnology.com

Call: 01233 652520

For order enquiries:

Email: enquiries@vjtechnology.com

Call: Ashford 08000 828 828 or Glasgow 08000 828 830

www.vjtechnology.com