CI/SfB Xt6
May 2018

Vista Engineering Limited

Masonry Support

CE

Engineered Strength

vista

Vista Engineering masonry support.

A comprehensive choice of high quality, value engineered support solutions.

Choose Vista masonry support products and you're choosing from an exhaustive range that includes continuous and individual support angles and brackets, stone support brackets and a wide variety of fixings and anchors.

Every support solution is developed to meet the precise needs of each project, so our engineers will work closely with you to create a bespoke support package that takes into account structural frame type, cavity size, masonry loads and other critical factors in your building design.

Like all Vista products, our support systems meet the very highest standards. Every solution we provide is designed and manufactured to meet EN 1993 (Eurocode 3) for CE marking under the Harmonised European Standard BS EN 1090-1: Execution of Steel and Aluminium Structures.

So you can be completely confident that the support systems we create for you meet the exact requirements of your project as well as every relevant UK and EU regulation.

As a specifier, engineer or builder you need to be sure the materials you choose are up to the job. You can rely on Vista Engineering to deliver the strength, support and reliability your reputation is built on.

Proven Products

Vista Engineering gives you access to one of the widest ranges of products in the industry. Not just masonry support, but wall ties, windposts, angle beads, joist hangers, reinforcement products and other associated items. All tried, tested and proven in construction projects of every kind.

Proven Quality

We understand that quality is everything. Not just the quality of materials, but the quality of workmanship too. Our ISO 9001 Quality Management System (QMS) certification provides a comprehensive set of checks and procedures to ensure complete traceability of every product, starting with its raw material, through every phrase of its manufacture to the finished item.

We're fully compliant with CE marking regulations, which means we're able to undertake welded fabrication work to Execution Class 2 of harmonised standard BS EN 1090-1:2009 +A1:2011.

Proven Support

We're a family business. That makes us more flexible than most in our response to your enquiries - not to mention more committed. We work with you to understand exactly what your project requires and the best way to achieve your aims and deadlines.

We provide full technical support. We offer a quick and reliable delivery service and pay careful attention to those small details that make all the difference.

So if you're looking for a strong partner to supply your building fixings, you can rely on the strength of Vista Engineering.

CE

THE BRITISH ASSESSMENT BUREAU ISO9001
Cert No: 205433

THE BRITISH ASSESSMENT BUREAU ISO14001
Cert No: 213904

ISOQAR REGISTERED UKAS MANAGEMENT SYSTEMS 0026
Certificate Number: 1473
BS EN 1090

Contents

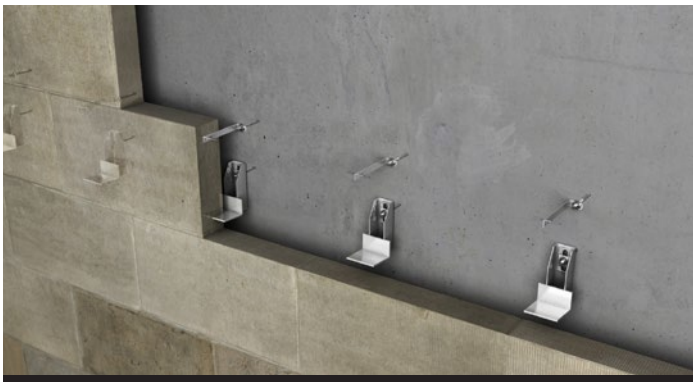
Masonry Support

Our products and systems for masonry support can all be customised to suit the requirements of your project, ensuring the best performance and the most cost effective solution.

VEAS Masonry Support Angle

VESS Masonry Support System

VEIB & VEIBS Individual Bracket Masonry Support



VESB Stone Support Brackets

VEAS Masonry Support Angle

Suitable for jobs with cavities less than 50mm or where the underside of the masonry panel is exposed and the cavity needs to be closed.

VEIB & VEIBS Individual Bracket Masonry Support

Individual masonry support brackets are generally used when the continuous support is difficult to achieve such as curved brickwork.

VESS Masonry Support System

Our support systems are made up of brackets welded to continuous angles at pre-designated fixing centres and are suitable for cavities in excess of 45mm.

VESB Stone Support Brackets

We follow BS8298-1,-2,-3,-4:2010 “Code of Practice for the Design and Installation of Natural Stone Cladding and Lining” as the basis for our stone support systems.

Design Considerations

Expansion Joints

Large masonry panels usually require horizontal and vertical movement joints to avoid differential movement, cracking or distorting the masonry.

At horizontal movement joints, support angles are used to support the masonry, allowing the movement joint to expand and contract as necessary. BS5628: Part1 recommends that the external leaf should be supported at intervals of no more than every third storey or every 9m, whichever is less. However, for buildings not exceeding four storeys or 12m in height, whichever is less, the outer leaf may be uninterrupted for its full height.

Connections

Careful consideration must be given to the method of fixing the masonry support angles back to the concrete or steel frame.

When fixing back to concrete frames, cast-in channels used in conjunction with T-Head bolts offer the greatest flexibility and allow adjustment both horizontally and vertically. Expansion and chemical anchors are also widely used.

For steel frames, isolated setscrews are used to fix back to universal beams and channel sections. In the case of universal beams, additional plates or cleats are usually required between the flanges at the fixing positions. Vista offer a drawing layout service detailing the required fixing positions enabling the steelwork to be shop fabricated. Molabolts are used when fixing back to hollow sections.

Corrosion

Bi-metallic corrosion may occur when dissimilar metals are in direct contact in a common electrolyte such as rain or condensation.

If current flows, the less noble metal (anode) corrodes at a faster rate. In the case of stainless and carbon steel being in contact, the carbon steel is the anode and would therefore corrode at a faster rate than normal. The increased rate of corrosion is difficult to predict, as it depends on a number of factors, including the relative areas of contact, temperature and the nature of the electrolyte.

The risk of bi-metallic corrosion can be prevented by isolating the metals from each other with gaskets, by painting contact surfaces or by excluding water from the contact area. This is achieved by painting over the assembled joint.

Applications

Material selection is an important stage of the design process with the environment, material properties, design life, fabrication and cost among the major factors that should be considered.

Most Vista support systems are manufactured from grade 304 stainless steel, which is considered suitable for most construction fixing applications. Systems in grade 316 stainless steel can also be manufactured for more corrosive environments such as coastal and heavy industrial sites.

VEAS Masonry Support Angle

Use our masonry support angles where cavities are 50mm or less, or where the underside of the masonry panel is exposed and the cavity needs to be closed.

Introduction

Vista Masonry Support Angles are suitable for applications where the cavity does not exceed 50mm or where the underside of the masonry panel is exposed and the cavity needs to be closed.

Support angles can be designed for walls with cavities larger than 50mm but the VESS Support System is usually a more economical option.

Vista design each system separately ensuring the most cost effective solution is achieved for any given criteria. The angle design itself is dependent on load, cavity, fixing type and the support level position.

Service

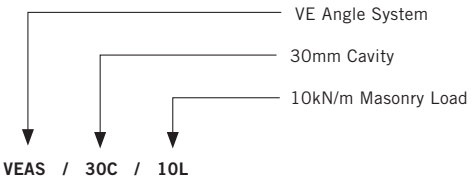
Vista undertake the design of the angle section and fixings required and will also produce layout drawings detailing the fixing positions, angle lengths and sectional details for approval prior to manufacture.

Once approved, the layout drawings are then marked up to show individual angle references for ease of location and setting out on site.

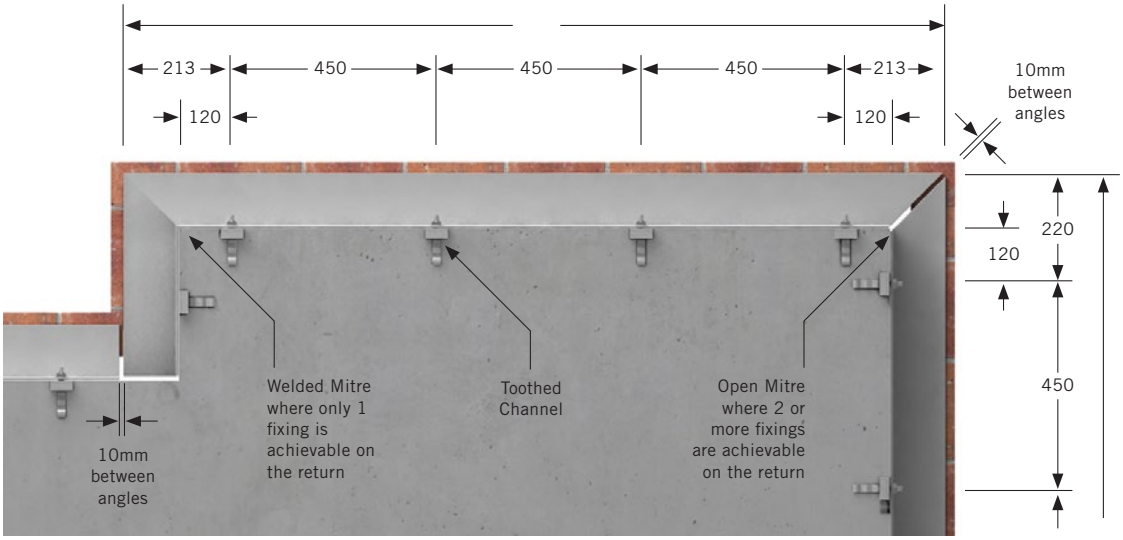
Typical Support Angle Condition

Specifying

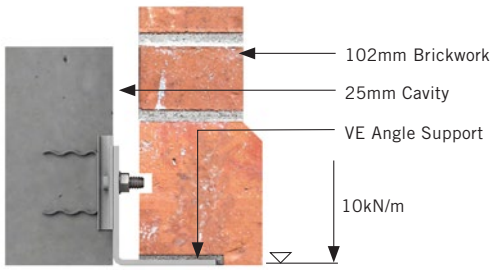
To specify Vista Support Angles follow the code as shown to the right:



In some instances an inverted angle may be required. This should be stated at the end of the code:- VEAS / 30C / 10L INVERTED.



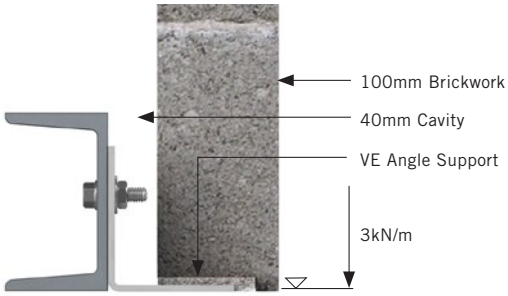
Examples of VEAS Masonry Support Angles



Example 1

Example shows a support angle fixed back to concrete via 41/22 toothed channel. The 41/22 toothed channel provides vertical adjustment while punched horizontal slots provide horizontal adjustment.

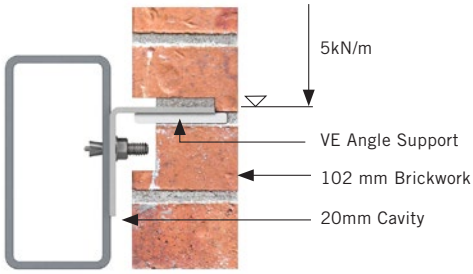
Specify: VEAS / 25C / 10L



Example 2

Example shows a support angle fixed back to steelwork using isolated setscrews. The steelwork is drilled/slotted to suit the angle fixing centres. Serrated pads can be used to provide vertical adjustment if required.

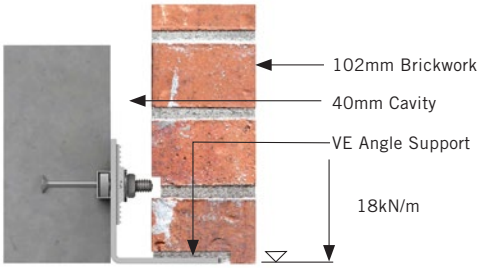
Specify: VEAS / 40C / 3L



Example 3

Example shows a support angle fixed back to steelwork using Molabolts. The steelwork is drilled to suit the angle fixing centres. Serrated pads can be used to provide vertical adjustment if required.

Specify: VEAS / 20C / 5L INVERTED



Example 4

Example shows a support angle fixed back to concrete via 38/17 cast-in channel. The 38/17 channel provides horizontal adjustment while the use of serrated pads provides vertical adjustment.

Specify: VEAS / 40C / 18L

VESS Masonry Support System

A range of brackets welded to continuous angles at pre-designated fixing centres. Suitable for cavities wider than 45mm, masonry support systems are fabricated to your specific requirements.

Introduction

Vista Masonry Support Systems comprise of brackets welded to continuous angles at pre-designated fixing centres. They are suitable for cavities in excess of 45mm.

Support systems are ‘tailor made’ to suit every individual application ensuring cost effective design solutions for every masonry support requirement.

CE

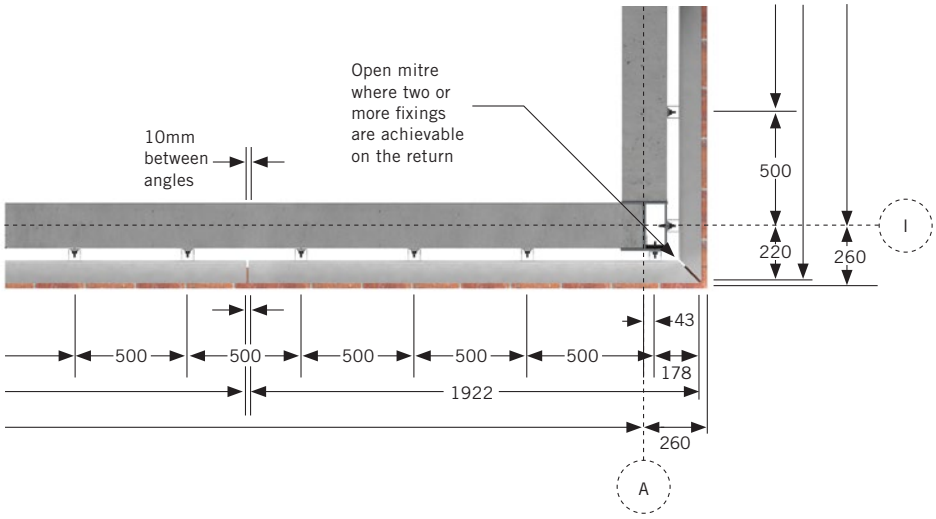
Adjustment

The brackets offer up to +/- 30mm vertical adjustment by utilising an 18 x 70 vertical slot in conjunction with a welded serrated pad. The welded serrated pad stops any potential slip.

Service

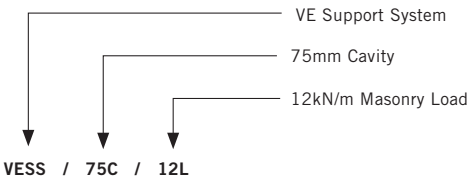
Vista undertake the design of the system and fixings required. Vista will also produce layout drawings detailing the fixing positions, angle lengths and sectional details for approval prior to manufacture.

Once approved, the layout drawings are marked up to show individual angle references for ease of location and setting out on site.

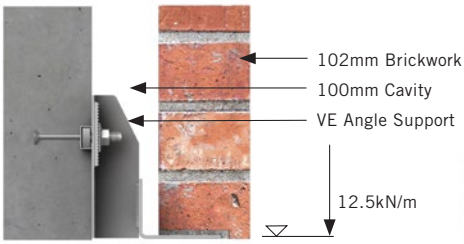


Specifying

To specify Vista Support Angles follow the code as shown below:



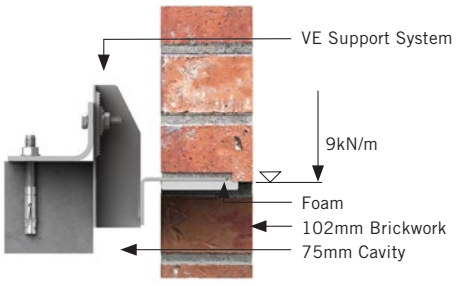
Examples of Vista VESS Masonry Support System



Example 1

Example shows a support system fixed back to concrete via 38/17 channel. The 38/17 channel provides horizontal adjustment while the bracket provides vertical adjustment.

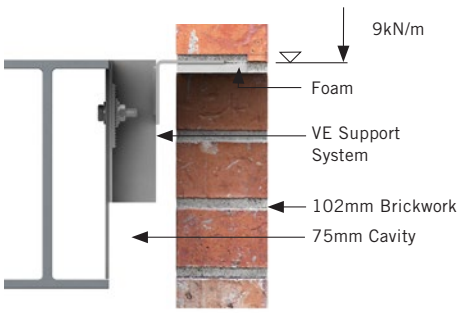
Specify: VESS1 / 100C / 12.5L



Example 2

Example shows a support system fixed back to concrete via fixing cleats anchored into the top of the slab. Slots in the fixing cleat provide horizontal adjustment while the bracket provides vertical adjustment. This method of fixing is useful for lightweight slabs and hollow core planks where fixing to the face cannot be achieved.

Specify: VESS2 / 75C / 9L



Example 3

Example shows a support system fixed back to steelwork using isolated setscrews. Plates/cleats are welded between the beam flanges and usually incorporate a punched slot for horizontal tolerance, the bracket provides vertical adjustment.

Specify: VESS3 / 75C / 9L

VEIB & VEIBS Individual Bracket Masonry Support

For use when continuous support is impractical, individual masonry support brackets are the ideal solution in non-standard construction methods such as curved brickwork.

Introduction

Vista Individual Masonry Support Brackets are generally used when use of continuous support is difficult to achieve such as curved brickwork or where masonry is supported from above such as soldier courses.

Individual brackets are designed for each specific application ensuring the most cost effective solution for any given loading criteria.

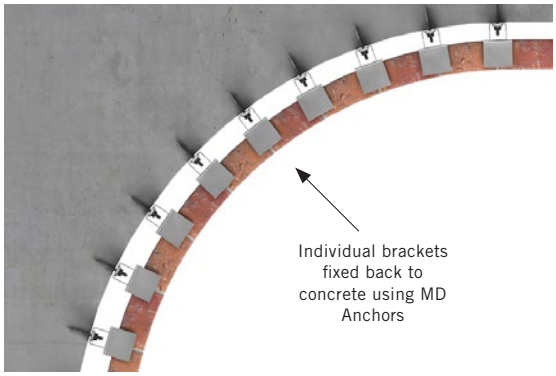
CE

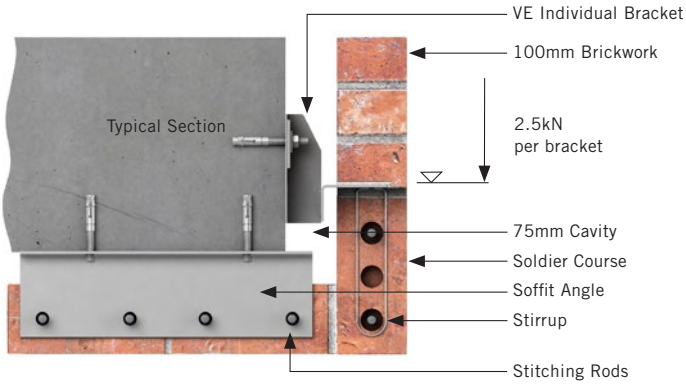
Adjustment

The use of welded serrated pads and punched vertical slots on both the angle and system type brackets offers up to +/- 30mm vertical adjustment.

Service

Vista undertake the design of the system and fixings required. Vista will also produce layout drawings detailing the fixing positions, angle lengths and sectional details issued for approval prior to manufacture.

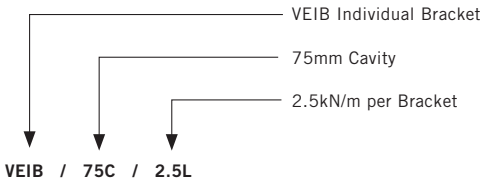




Specify: VE / IB2 / 75C /2.5L

Specifying

To specify Vista Support Brackets follow the code as shown to the right.
Note:-The cavity will determine whether an angle or a system is used.
Brackets can be supplied with a plain horizontal slot if required.



VEIB1

VEIB2

VEIB3

VEIB4

VEIB5

VEIBS1

VEIBS2

VEIBS3

VEIBS4

VEIBS5

VESB Stone Support Brackets

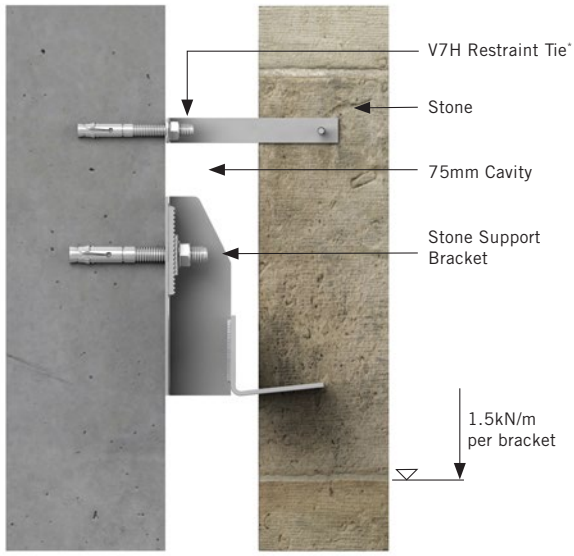
Following BS2898:2010 standards for the design and installation of natural stone cladding and lining, Vista stone support systems adhere to building industry regulations and best practice.

Introduction

Wherever possible the recommendations in BS8298-1,-2,-3,-4:2010 “Code of Practice for the Design and Installation of Natural Stone Cladding and Lining” are used as the basis for our design.

The document discusses recommendations on all aspects of natural stone support ranging from materials to fixing positions and required bearings.

In the case of cast stone units, the fixing options are increased as cast-in fixings may also be considered.



*V7H Restraint Tie available in our Wall Tie brochure

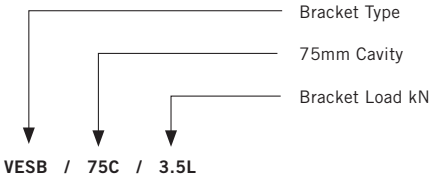
Adjustment

The use of welded serrated pads and punched vertical slots on both the angle and system type brackets offers up to +/- 30mm vertical adjustment.

Specifying

To specify Vista Stone Support Brackets follow the code as shown.

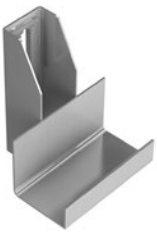
Note:- Cavity will determine whether angle or system is used.
Brackets can be supplied with a plain horizontal slot if required.




VESB1


VESB2


VESB3


VESB4


VESB5


VESB6


VESB7


VESB8

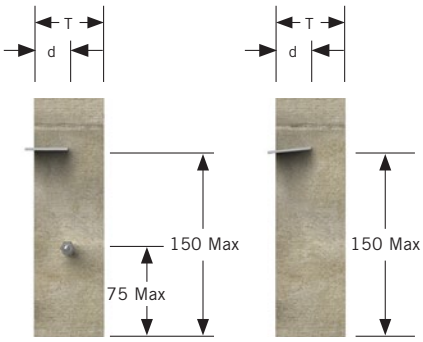

VESB9


VESB10

Recommended Stone Thicknesses and Mortices

	Stone Type			
	Granites, Slates, Homogenous Marbles,Quartzites, Hard Limestones, Travertines		Limestones, Sandstones	
LOCATION	Min "T"	Min "d"	Min "T"	Min "d"
Fascias less than 3.7m above ground	30	20	50	25*
Fascias more than 3.7m above ground	40	25	75	37*

*Half thickness if stone is more than 75mm thick.

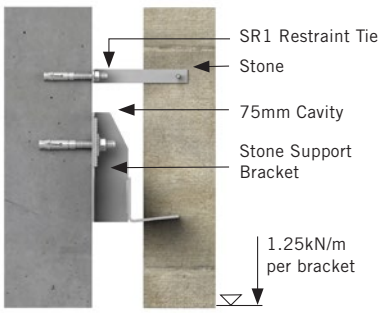


Support bearing into stone = T/2

Example 1

Example shows stone support bracket fixed back to concrete using an M.D. Anchor.

The use of a VESB1 type bracket with overbent angle ensures that the base of the stone unit is both supported and restrained with additional ties only required at the head of the unit.

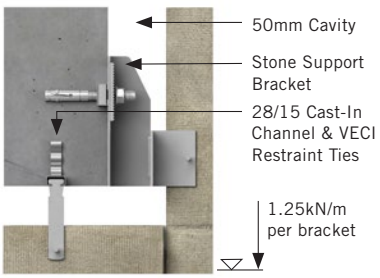


Specify: VE / SB1 / 75C /1.5L

Example 2

Example shows VESB5 support bracket fixed back to concrete using an M12 M.D. Anchor. The stone unit is both supported and restrained by the dowel with additional ties only required at the head of the unit.

The soffit stone is suspended using Vista C1 restraint ties fixed back to concrete via 28/15 cast-in channel.



Specify: VE / SB5 / 50C /1.25L

Fixings and Anchors

Because masonry support systems can only be as strong as the fixings that hold them in place, we only specify high quality anchors from leading suppliers.

Vista offer a wide variety of fixings and anchors to deliver optimum performance and security in all applications. Our engineers will help you choose the most appropriate solution for the materials and load bearing requirements of your project.

M.D. Anchors

M.D. Anchors are used for fixing back to concrete, they are quick to install and offer good load performance in both shear and tension.

M.D. Anchors are available in zinc plated and stainless steel versions.

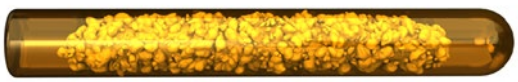
Chemical Anchors

Anchor Studs

Chemical anchor studs are used with both the chemical capsule and chemical injection type fixing. The studs are available in zinc plated, galvanised and grade A2 stainless steel. (A4 available on request).

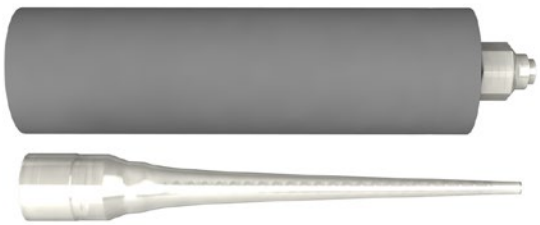
C.C. Anchors - Fisher Type R

Chemical capsules consist of a resin mixture and a small internal tube of hardener which when mixed cure to give a high load anchorage point.



C.I. Anchors - FIS VL 410 C

Chemical injection mortars are used where close edge and centre distances are required together with high load performance.



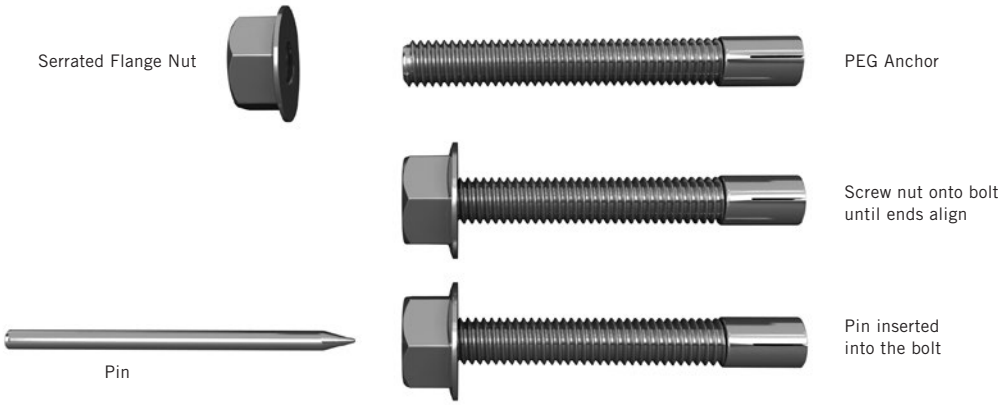
Setscrews

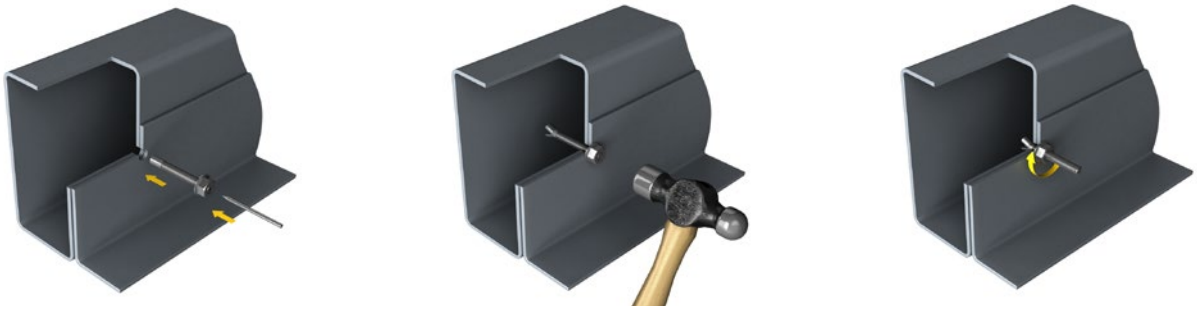
Setscrews are available in mild steel, galvanised and stainless steel in a wide range of diameters, lengths and material grades.

Stainless steel setscrews can be supplied shrinkwrapped and are supplied with nylon washers to prevent bi-metallic corrosion when fixing to mild steel.

Molabolt

The Molabolt is fast, easy to use and requires no specialist tools to create a completely secure hold.





Bolt assembly placed In hole

Strike pin home

Tighten bolt to recommended torque

Cast-In Channels and T-Head Bolts

The Vista Cast-In Channel has a toothed edge to its return lips, matched by a serrated surface on the underside of the T-Head bolt. This arrangement creates a high resistance to slip and shear loads along the line of the channel.

Available from:

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Elnor Lane,

Whaley Bridge

High Peak SK23 7JN

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Fax: +44 (0) 1663 733232

web: www.vistaeng.co.uk

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Fax: +44 (0) 141 613 3031

Contact us to enquire about our other product ranges or request a catalogue.

THE BRITISH ASSESSMENT BUREAU ISO9001
Cert No: 205433

THE BRITISH ASSESSMENT BUREAU ISO14001
Cert No: 213904

ISOQAR REGISTERED UKAS MANAGEMENT SYSTEMS 0026
Certificate Number: 1473
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