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May 2008



Vista Engineering Limited

Wall Ties

Engineered Strength





Vista Engineering understands that as a front line to rely on a combination of proven building of a strong, professional and reliable

Proven Products

Vista Engineering gives you access to a truly comprehensive range of proven products. With everything from wall ties, windposts and support systems through to angle beads, joist hangers and other associated items.

Our range offers exactly the type of products your customers demand, even down to custom-made products for individual projects.

Proven Quality

Because we also understand that quality is equally important, we use only the best raw materials and manufacture our products to meet the most demanding levels of performance and we offer them at extremely competitive prices.

Proven Support

As a professional, family-run company we are flexible in our approach. We work with you to understand what your customers really want and then help you to exceed those expectations.

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 building fixings, you need the strength of Vista Engineering



Q05433

merchant you need to be able fixings, competitive prices and the support specialist supplier

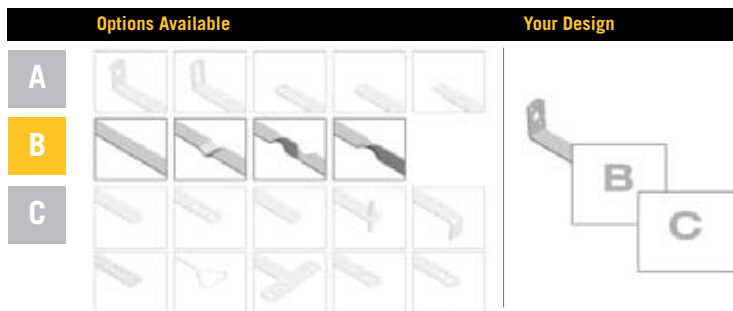
Interactive Wall Tie Designer

Because there are times when a standard tie is not suitable for a particular application we have on our web site at www.vistaeng.co.uk our Interactive Wall Tie Designer. To use simply click and drag on the various parts of the tie required and then print off the result. Afterwards simply fax through the result to us for pricing and availability.

Design

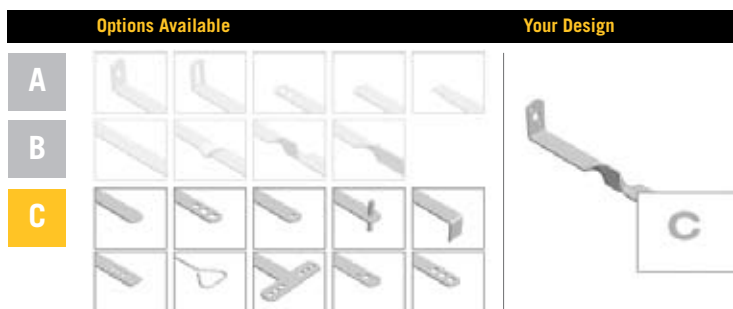
Step 2

Choose your middle piece, drag and drop it into the box 'A' on the right



Step 3

Choose your end piece, drag and drop it into the box 'C' on the right



DESIGN YOUR OWN TIE

Visit www.vistaeng.co.uk



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4 Masonry to Masonry Wall Ties

Masonry to Masonry Wall Ties

These products act to secure two leaves of a cavity wall to each other, allowing them to act as one structurally.

A cavity tie usually incorporates some mechanism, (usually a change of shape) to discourage moisture moving across the tie. Most cavity ties are available with a dedicated clip to secure insulation (usually in sheet form) within the cavity



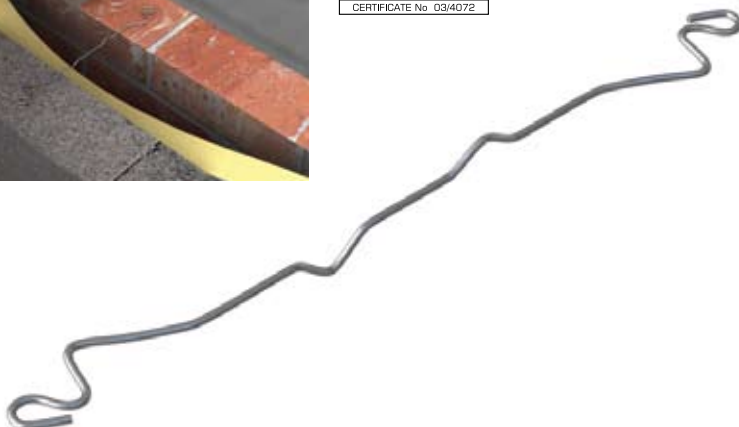
VE4 Light Duty Housing Tie

Multidrip feature to prevent moisture travelling across the cavity. The design means that the tie can be installed either way up.

Tested as Type A (sound)

Tested as Type 4 (strength) to BS EN 845-1

Sizes	Units	Per
200mm	250	Box
225mm	250	Box



EN2 General Purpose Wall Tie

Multidrip feature to prevent moisture travelling across the cavity. Design means the tie can be installed either way up.

Tested as Type B (sound)

Tested as Type 2 (strength) to BS EN 845-1

Sizes	Units	Per
200mm	250	Box
225mm	250	Box
250mm (non-BBA)	250	Box

VST1
Heavy Duty Formed Safety Tie

Constant drip feature to prevent moisture travelling across cavity.

Tested as Type B (sound)

Tested as Type 1 (strength) to BS EN 845-1

Sizes	Units	Per
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	250	Box
300mm	250	Box



V01
Traditional Butterfly Wall Tie

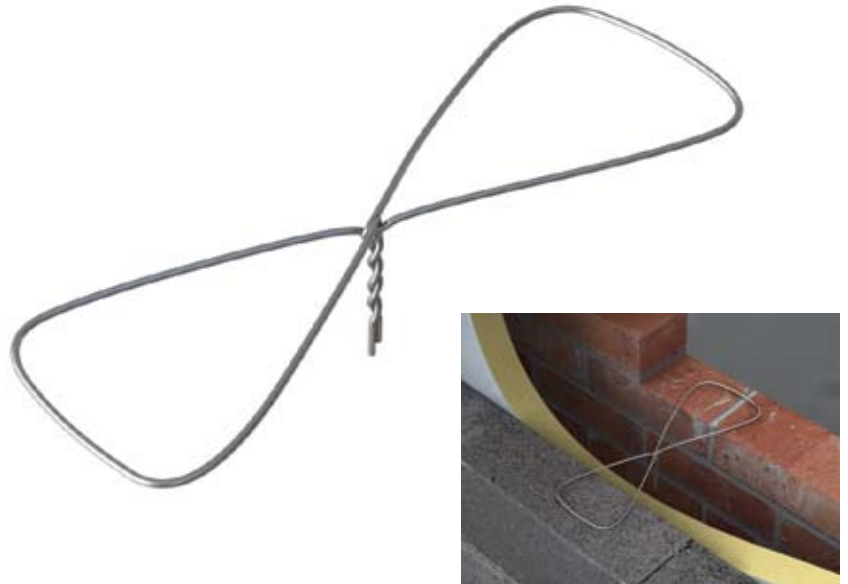
Traditional Butterfly Wall Tie previously to BS1243.

Twist central is used to prevent moisture travelling across cavity (twist must be placed down the cavity).

Accepted as Type A (sound)

Previously to BS1243

Sizes	Units	Per
150mm	250	Bundle
200mm	250	Bundle
225mm	250	Bundle
250mm	250	Bundle
300mm	250	Bundle



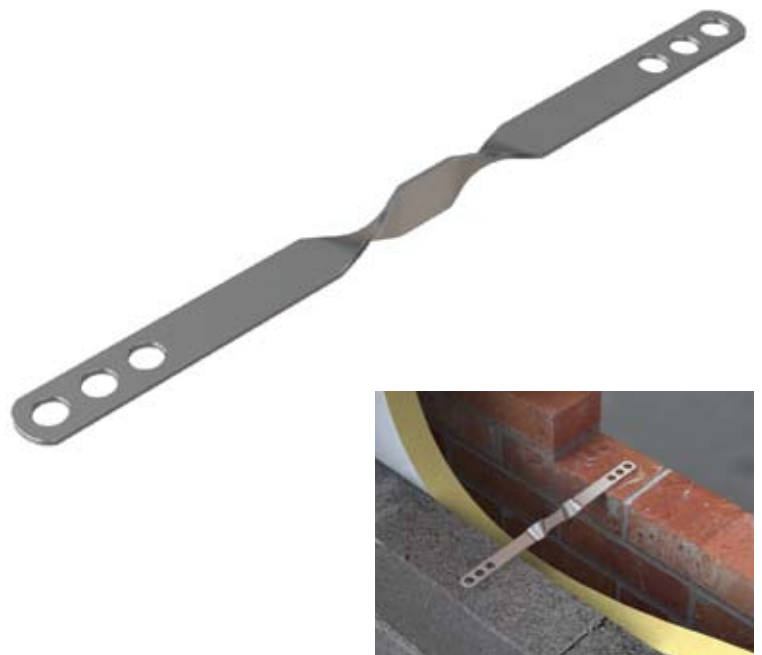
VE1
Heavy Duty Safety Vertical Twist

Vertical twist feature to prevent moisture travelling across the cavity.

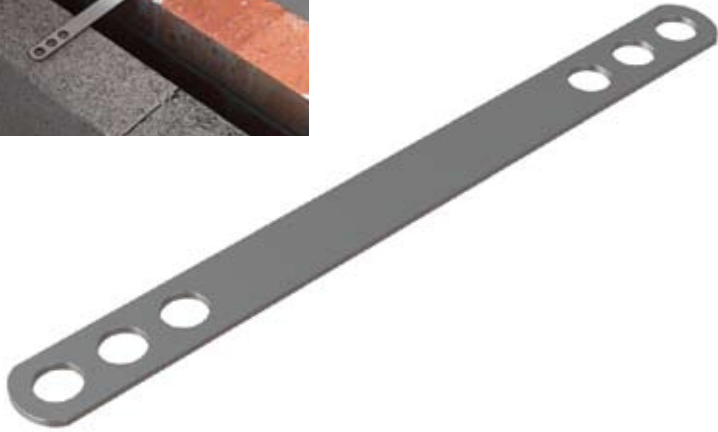
Tested as Type B (sound)

Tested as Type 1 (strength) to BS EN 845-1

Sizes	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box



6 Masonry to Masonry Wall Ties



VS4 Heavy Duty Flat Safety Tie

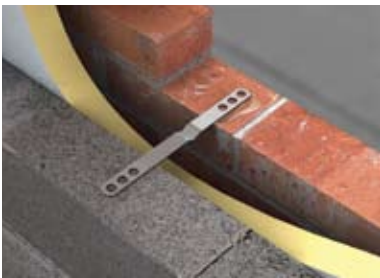
Used in full fill cavities or where the prevention of moisture travelling across the cavity is not an issue.

Also for collar jointed walls.

Tested as Type B (sound)

Tested as Type 1 (strength) to BS EN 845-1

Sizes	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box



VS6 Heavy Duty Dripped Safety Tie

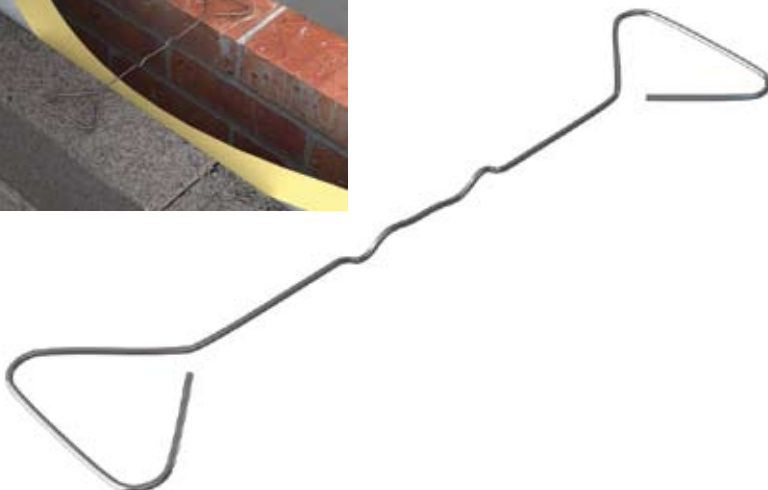
Drip feature to prevent moisture travelling across the cavity (taking less space than vertical twist).

Tested as Type B (sound)

Tested as Type 1 (strength) to BS EN 845-1

Drip position 90mm from safety end as standard.

Sizes	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box



V26 Traditional Double Triangle Wall Tie

Traditional Double Triangle wall tie previously to BS1243.

Multidrip feature to prevent moisture travelling across the cavity. Design means the tie can be installed either way up.

Tested as Type B (sound)

Tested as Type 2 & 3* (strength) to BS EN 845-1

Sizes	Units	Per
150mm	250	Bundle
200mm	250	Bundle
225mm	250	Bundle
250mm	250	Bundle
300mm*	250	Bundle

V23
Insulation Clip - universal

Universal insulation retaining clip used to hold insulation material against the inner wall of a cavity.

Sizes	Units	Per
75mm DIA	250	Bag (inner)
75mm DIA	2000	Box (outer)



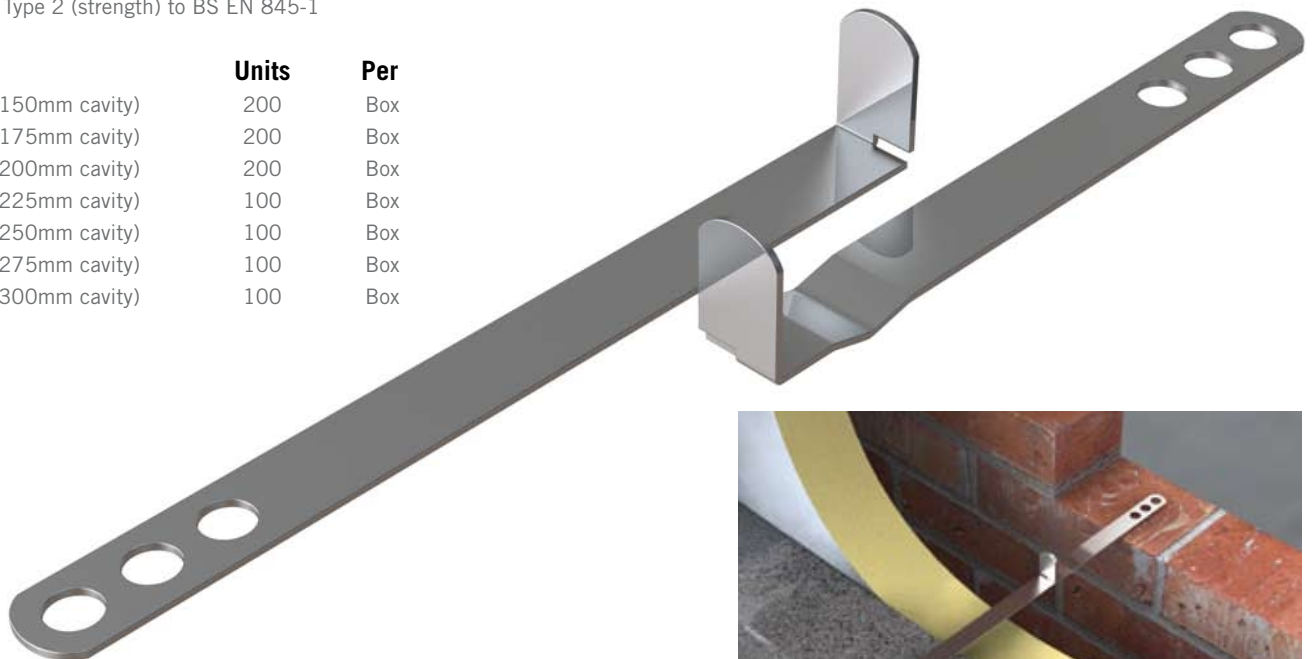
TPT
Two Part Ties

As a result of problems experienced over wider cavities (150mm to 300mm) and their weight causing long ties to overturn, the Vista two part tie allows larger cavities to be spanned, (up to BS EN 845 - 1 standard for a type 2 tie). The shorter section is built into the inner leaf as construction proceeds, whilst the longer section is locked into the inner section and built into the outer leaf as it lifts.

Tested as Type B (sound)

Tested as Type 2 (strength) to BS EN 845-1

Sizes	Units	Per
300mm (150mm cavity)	200	Box
325mm (175mm cavity)	200	Box
350mm (200mm cavity)	200	Box
375mm (225mm cavity)	100	Box
400mm (250mm cavity)	100	Box
425mm (275mm cavity)	100	Box
450mm (300mm cavity)	100	Box



8 Movement Ties

Movement Ties

This range of ties allows masonry walls to be tied back to other structures, (steelwork or masonry) providing restraint in one direction but allowing movement in the other. This is achieved by placing a debonding sleeve over the part of the tie which is to be embedded in the wall, allowing the tie to move within the sleeve. Also used in movement joints where they occur in long runs of brickwork, the ties spanning over a vertical joint preventing vertical movement but allowing horizontal expansion and contraction.



SPE/B20 Safety Plain End Tie/Blank

Used over a movement joint in a run of brickwork or blockwork with safety embedment detail or plain end (B20).
(sleeve supplied as extra).

Sizes	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box



V7PE Plain End Frame Cramp

Used for restraining masonry to steelwork whilst allowing lateral movement.
(sleeve supplied as extra).

Sizes (Projection)	Units	Per
75mm	250	Box
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box

V8PE
Dovetail Plain End Tie

This product allows lateral movement between masonry and a fixed channel or slot. (sleeve supplied as extra).

Sizes	Units	Per
75mm	250	Box
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



V63PE
Plain End Clasp Tie

Used for side fixing a steel column to masonry whilst allowing lateral movement. (sleeve supplied as extra).

Sizes	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



V36
Debonding Sleeves

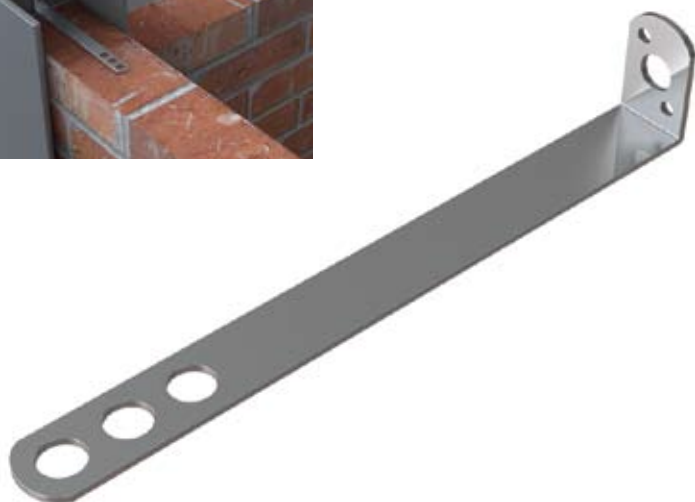
Debonding sleeve to allow for movement of the ties listed above (a 25mm wide sleeve is required for channel ties). Debonding sleeves should have a 10mm gap left at end to allow for movement once installed.

Sizes	Units	Per
100mm	250	Bag
120mm	250	Bag
150mm	250	Bag
200mm	250	Bag



Lateral Restraint Products

These products allow masonry walls to be restrained back to other elements of the structure. This could be pre-existing walls, or new or pre-existing steel work. The ties, once in position prevent sideways movement between a wall and another structure.



VE7 Frame Cramp

Frame cramp (supplied in stainless or galvanised steel) for restraining masonry to new or existing structures and for building in non-structural elements (frames etc). See fixing section for details on fixing methods.

Sizes (Projection)	Units	Per
75mm	250	Box
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



VE7D Frame Cramp With Drip

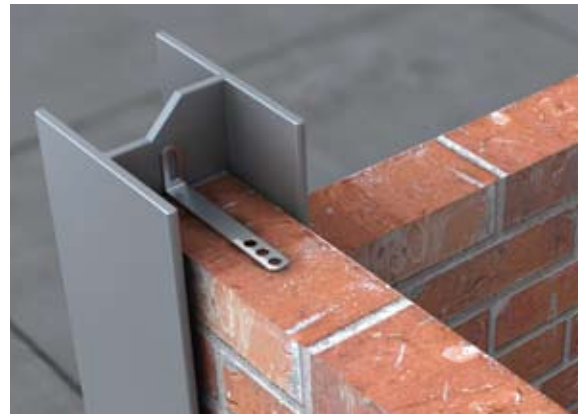
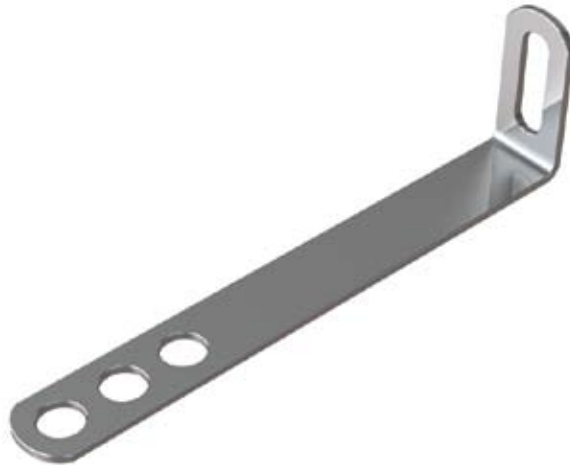
Frame cramp supplied with a drip to prevent moisture crossing the cavity. Drip position 90mm from safety end as standard.

Sizes (Projection)	Units	Per
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box

VS7
Slotted Frame Cramp

As VE7, but supplied with a slot in upstand to allow various fixings.

Sizes (Projection)	Units	Per
75mm	250	Box
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



VS7D
Slotted Frame Cramp With Drip

As above but supplied with a drip to prevent moisture crossing the cavity. Drip position 90mm from safety end as standard.

Sizes (Projection)	Units	Per
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



12 Lateral Restraint Products



V7H Frame Cramp Dowel Hole

Frame cramp with 3 x 6.5mm holes in the projection for a dowel bar. Used to restrain stone cladding and coping stones. Dowels supplied separately.

Sizes (Projection)	Units	Per
50mm	250	Box
75mm	250	Box
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



V96 Wire Frame Cramp

Welded wire frame cramp for all applications, as the VE7, with added flexibility provided by a wire projection.

Sizes (Projection)	Units	Per
100mm	200	Box
125mm	200	Box
150mm	100	Box
175mm	100	Box
200mm	100	Box
225mm	100	Box
250mm	100	Box



V63 Clasp Tie

Clasp tie, fixed to the side of a stanchion and used to restrain brickwork.

Sizes (Lengths)	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box

V97
Wire Clasp Tie

Wire clasp tie, fixed to the side of stanchion but also allowing extra movement with the flex of the wire section.

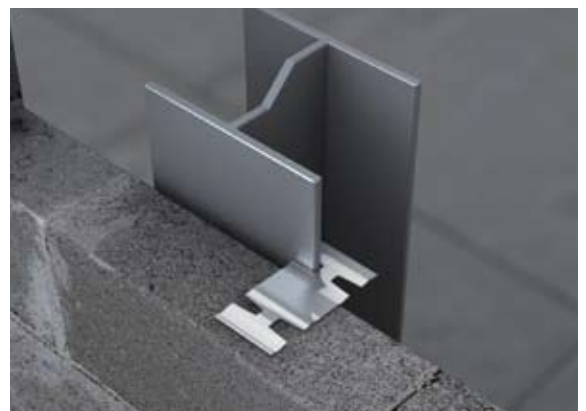
Sizes (Lengths)	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box



VCT
Column Tie

A simple and cost effective product for restraining masonry back to 'H' section stanchions, providing four different slots to suit differing flange thicknesses.

Sizes	Units	Per
145mm	100	Box



Channel Systems

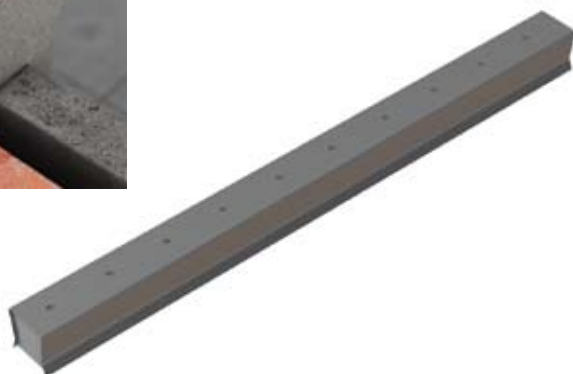
These products both allow vertical movement whilst offering horizontal restraint. The channel system tends to be face-fixed, whilst the slot is usually cast into concrete. These systems may be used to overcome differences in coursing between masonry leaves.



SFC Steel Frame Channel

The steel frame channel system is designed to tie brickwork to steel studding. self-drill / self-tap screws fix through the channel and insulation into the steel studding.

Sizes	Units	Per
2700mm	20	Bundle



V29 Dovetail Slot

Cast in dovetail slot, available in stainless steel or pre-galvanised steel, pre filled with polystyrene (to prevent concrete ingress). Used in conjunction with ties to restrain brickwork.

Sizes	Units	Per
100mm	250	Box
150mm	250	Box
3000mm	25	Bundle



V60 28/15 Plain Back Channel

28/15 plain back channel for surface fixing (welding). Used in conjunction with ties to restrain brickwork.

Sizes	Units	Per
100mm	100	Box
150mm	100	Box
3000mm	10	Bundle

V60S

28/15 Slotted Back Channel

28/15 slotted and holed channel for surface fixing. Slots and holes repeat every 75mm to ensure a fixing point is available along the entire length. Various fixings can be used in conjunction with ties to restrain brickwork. (see fixing section).

Sizes	Units	Per
100mm	100	Box
150mm	100	Box
3000mm	10	Bundle



V60T

28/15 Tanged Back Channel

28/15 tanged back channel for casting into concrete or building into brick/blockwork. Polystyrene infill available upon request. Used in conjunction with ties to restrain brickwork.

Sizes	Units	Per
100mm	25	Pack
150mm	25	Pack
3000mm	10	Bundle



VS8

Dovetail Safety Tie

Universal head enables this tie to be used with all V60 channel systems and V29 slot to restrain brickwork.

Sizes (Projection)	Units	Per
75mm	250	Box
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box
300mm	200	Box



16 Channel Systems



VS8D

Dovetail Safety Tie With Drip

Universal head enables this tie to be used with all V60 channel systems and V29 slot to restrain brickwork supplied with a drip to prevent the passage of moisture across cavity. Drip positioned 90mm from safety end as standard.

Sizes (Projection)	Units	Per
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	200	Box
250mm	200	Box



V98

Dovetail Wire Tie

Universal head enables this tie to be used with all vista channel systems to restrain brickwork the wire section allows for extra movement.

Sizes (Projection)	Units	Per
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box



VS9

Steel Channel Tie

Head specific for Vista steel frame channel. Tie designed to suit a variety of cavities.

Sizes (Projection)	Units	Per
100mm	250	Box
125mm	250	Box
150mm	250	Box
175mm	250	Box
200mm	250	Box

Head Restraints

These types of products are generally used to restrain the tops of free standing walls by tying them securely to an overhead structure, so preventing sideways movement.

VIR

Internal Head Restraint

The VIR head restraint is designed to resist lateral movement in wall heads, restraining them to structural soffits whilst allowing vertical movement (in order, for instance, to accommodate beam deflection).

Sizes	Units	Per
215mm	50	Box



VHR

Head Restraint

The VHR is a very simple, economical head restraint product. Twice holed to accommodate 100 or 140mm walls. Vertical movement can be accommodated only by allowing clearance between the top of the blockwork panel and the underside of the restraint angle.

Can also be manufactured to fit 215mm blockwork.

Sizes	Units	Per
For 100 - 140mm blockwork	50	Box
For 215mm blockwork	50	Box



Sliding Anchor Systems

A range of heavy duty (welded) and light duty (bent and/or twisted) stems. Available in standard stem lengths, head sizes and hole configurations with other options available by request. The range of products act to restrain cavity walls to overhead structures, whilst accommodating vertical movement. Used in conjunction with one or two way sliding ties (ordered separately).



WAS

Welded A Stem

Soffit fixed both sides where fixings can be made directly above. Heavy Duty.

Sizes

300mm
350mm
400mm
450mm
500mm
550mm
600mm



WTS

Welded T Stem

(also available)



WBS

Welded B Stem

Offset head where there is no fixing directly above. Heavy Duty.

Sizes

300mm
350mm
400mm
450mm
500mm
550mm
600mm



WES

Welded E Stem

Fixed to the side of structure and offset to drop down centre of cavity. Heavy Duty.

Sizes

300mm
350mm
400mm
450mm
500mm
550mm
600mm

BCS

Bent C Stem

Used as a soffit fixed head restraint. Light Duty, fixed in line with cavity below.

Sizes

- 300mm
- 350mm
- 400mm
- 450mm
- 500mm
- 550mm
- 600mm



TDS

Twisted D Stem

Used as a soffit fixed head restraint. Light Duty, twisted head allows for fixing a right angle to cavity.

Sizes

- 300mm
- 350mm
- 400mm
- 450mm
- 500mm
- 550mm
- 600mm



TFS

Twisted F Stem

Used as a side fixed head restraint. Light Duty, and stepped to bring into centre of cavity.

Sizes

- 300mm
- 350mm
- 400mm
- 450mm
- 500mm
- 550mm
- 600mm



SOW

One way

Sizes

- 115mm
- 135mm
- Plus special sizes to order



STW

Two way

Sizes

- 200mm
- 230mm
- Plus special sizes to order



20 Timber Frame Tie/Dowel Bars

Timber Frame Tie

This product is specifically designed to secure an inner timber frame to an outer brick skin. The main property of these ties is that they can absorb substantial vertical movement between the brick and timber, whilst still performing their structural function.



V61 Timber Frame Tie

Stainless Steel masonry-timber tie for 50-100mm cavities in timber frame buildings.
Accommodates vertical movement.
Tested as type B (sound)
Tested as type 6 (strength) to BS EN 845-1.

Sizes	Units	Per
125mm (50-75 cavity)	250	Box
175mm (100 cavity)	250	Box



Dowel Bars

Stainless steel dowel bars.

Available in 6,8,10,12 and 20mm diameter and can be cut into lengths from 30mm to 3000mm.



Brickwork Reinforcement

This type of product increases the rigidity of masonry panels by introducing steel into the bed joint of the wall, either to merely resist cracking or in a more structural sense.

V44 Coil Mesh

An expanded metal mesh available in various widths, stainless or galvanised steel. Designed to be incorporated into masonry for crack control.

Available in 20m rolls:

Stainless steel 65mm, 115mm, 178mm, 225mm

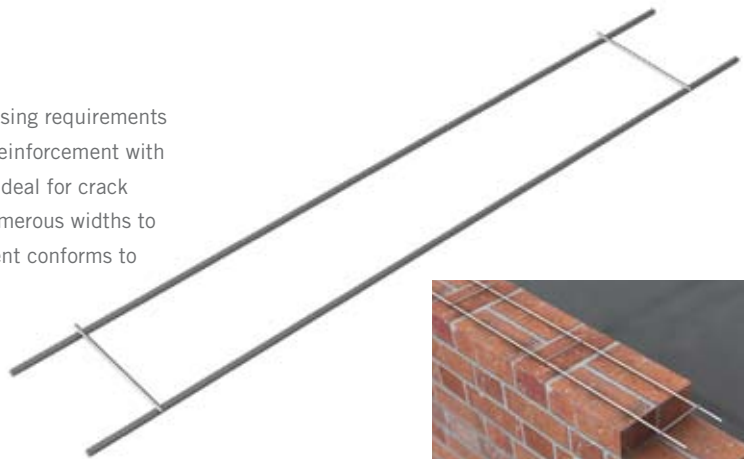
Galvanised 65mm, 115mm, 178mm, 225mm and 305mm.



VW3 Vista Weld 3

Vista have now developed Vista Weld 3 to meet the ever increasing requirements of specifiers. Vista Weld 3 is a welded ladder type Bed Joint Reinforcement with 3mm outer wires, generally used as a structural product, also ideal for crack control. Available in Stainless Steel Grade 304 S15 and in numerous widths to suit any brick and block thickness. Vista Masonry Reinforcement conforms to BS 5628 : Part 2 2000. Also available in galvanised.

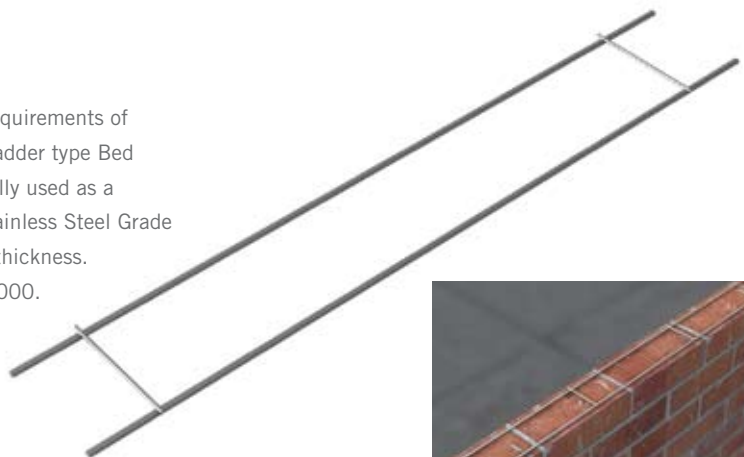
Product Width	Wall Width
60mm	100mm
100mm	140mm
150mm	190mm
160mm	200mm
175mm	215mm



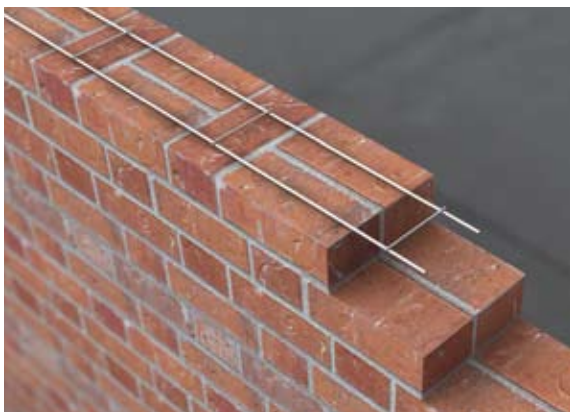
VW Vista Weld

Vista have developed Vista Weld to meet the ever increasing requirements of specifiers. Now available in two types Vista Weld is a welded ladder type Bed Joint Reinforcement with 3.5mm flattened outer wires, generally used as a structural product, also ideal for crack control. Available in Stainless Steel Grade 304 S15 and in numerous widths to suit any brick and block thickness. Vista Masonry Reinforcement conforms to BS 5628 : Part 2 2000. Also available in galvanised.

Product Width	Wall Width
60mm	100mm
100mm	140mm
150mm	190mm
160mm	200mm
175mm	215mm



22 Brickwork Reinforcement

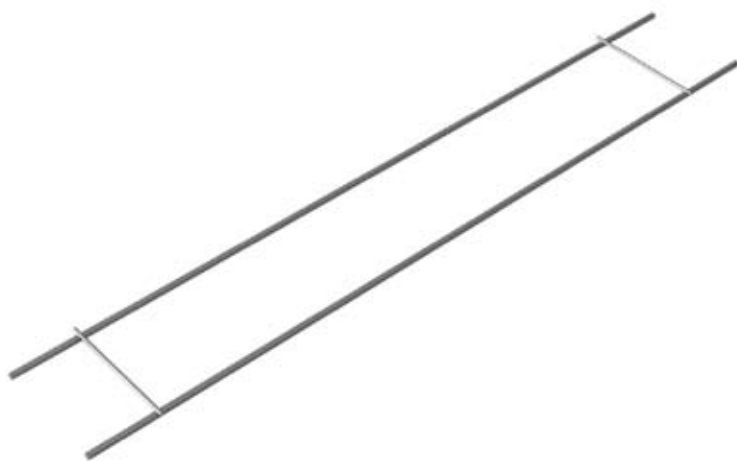
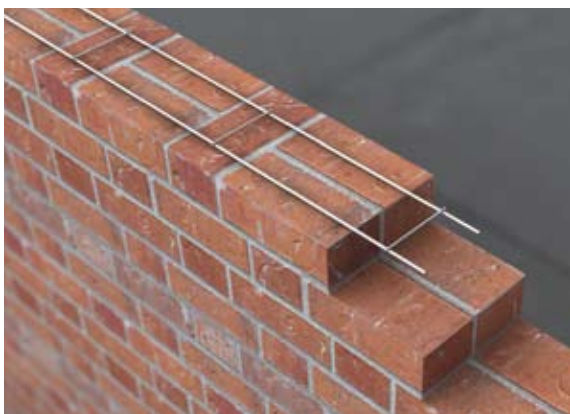


VW4 Vista Weld 4

Vista have developed Vista Weld 4 to meet the ever increasing requirements of specifiers. Vista Weld 4 is a welded ladder type Bed Joint Reinforcement with 4mm flattened outer wires, generally used as a structural product, also ideal for crack control. Available in Stainless Steel Grade 304 S15 and in numerous widths to suit any brick and block thickness.

Vista Masonry Reinforcement conforms to BS 5628 : Part 2 2000. Also available in galvanised.

Product Width	Wall Width
60mm	100mm
100mm	140mm
150mm	190mm
160mm	200mm
175mm	215mm



VW5 Vista Weld 5

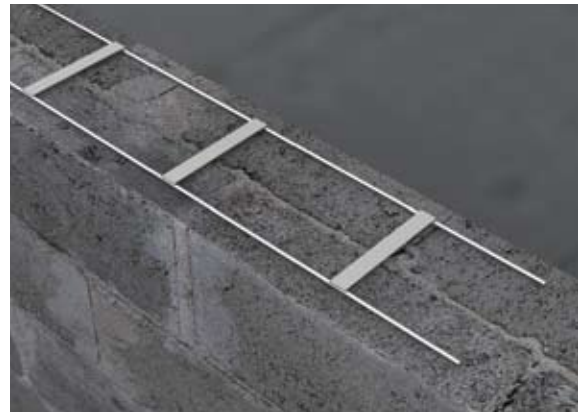
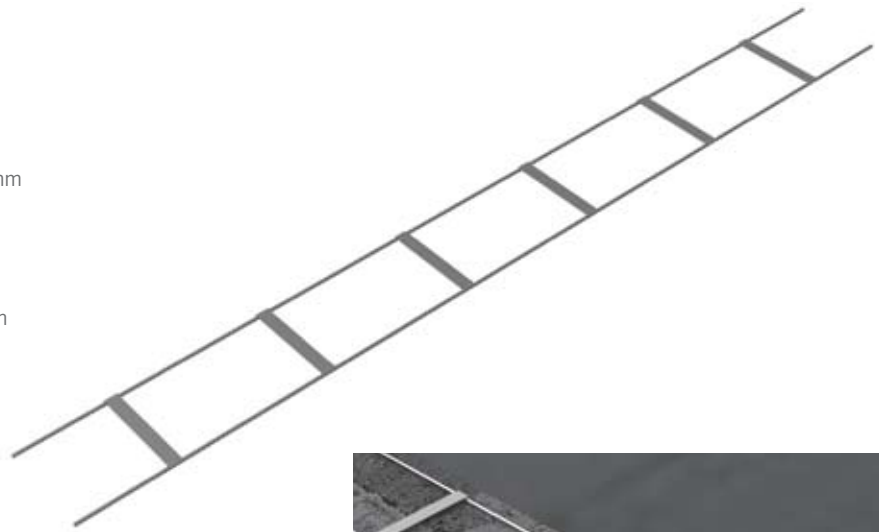
Vista have developed Vista Weld 5 to meet the ever increasing requirements of specifiers. Vista Weld 5 is a welded ladder type Bed Joint Reinforcement with 5mm flattened outer wires, generally used as a structural product, also ideal for crack control. Available in Stainless Steel Grade 304 S15 and in numerous widths to suit any brick and block thickness.

Vista Masonry Reinforcement conforms to BS 5628 : Part 2 2000. Also available in galvanised.

Product Width	Wall Width
60mm	100mm
100mm	140mm
150mm	190mm
160mm	200mm
175mm	215mm

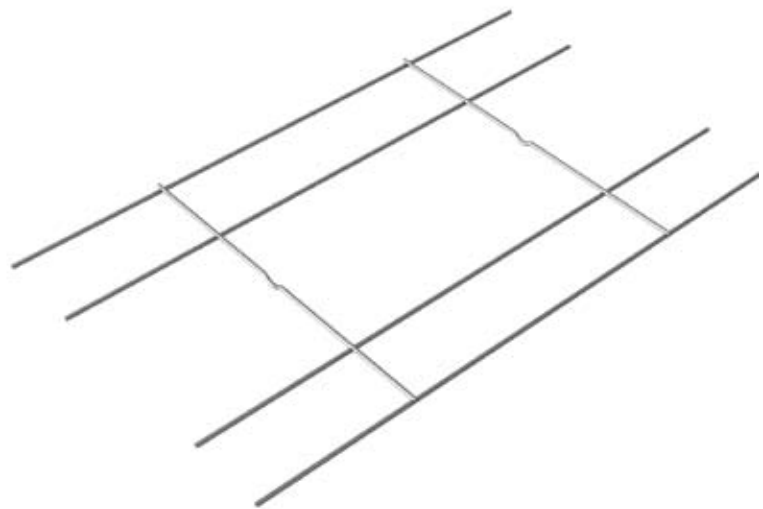
VTS
Vista Tie Span

Vista Tie Span Type 1 has been designed for use in double-leaf collar joint walls, and can reduce the problems on site with heavy blocks, using 2 x 100mm blocks tied together with Tiespan type 1 to replace a 215mm block. This method of construction also gives the wall a 6 hour fire rating. Tiespan type 1 is manufactured from stainless or galvanised steel with 4mm or 3.5mm main longitudinal wires with 20mm flat cross ties. Each length is 3.15 metres long x 175mm wide.



DVW
Double Vista Weld

Double Vista Weld is a welded structural ladder type masonry reinforcement used to reinforce both leaves of a cavity wall. Manufactured in Stainless Steel Grade 304 S15 Double Vista Weld is manufactured with 3.5mm main longitudinal wires with 3.6mm cross wires (with a drip). Each length is 3.05 metres long and is available in numerous widths to suit individual design requirements.



Fixings

The products in this section offer the end-user the ability to connect our restraint products to various substrates, metalwork and timbers. Selection of the correct product depends on the application and strengths required for the overall strength of our products in situ. Therefore careful consideration should be given to ensure the right fixing is used.



SELF Self Tapping

Vista offer a range of self drill screws designed for use when fixing products to steel work.

The high quality self drilling fastener is designed to give very rapid and accurate installation with precision drill points eliminating 'skipactions' to prevent damage to the face of the profile.

Also available double threaded for our SFC system.



HFX Hammer Fixings

Cost effective solution for fast repetitive fixing into concrete and similar materials. Available in both stainless steel and zinc plated.

Ideal for fixing products to a solid base material, these are easy to install and are used extensively for fixing of our products.

Suitable for concrete, solid blocks, perforated bricks, hollow blocks and airated concrete (aircrete). This hammer fixing is simply tapped in with a hammer - easy. Available in stainless steel or zinc plated.



NEO Neoprene Washers

When fixing a stainless steel tie to a mild steel frame, an isolation pad should be used to separate the dissimilar metals and prevent a bimetallic reaction.

GUN

Resin Gun

Vista offer high performance Epoxy Acrylate Resin suitable for using along with our remedial ties. All ties are supplied with one mixer nozzle. The resin gun is a high quality resin applicator which can be used more than once.



EXB

Expansion Bolts

Available in stainless steel and zinc plated. These bolts are heavy duty and ideal for fixing into solid substances such as concrete.



NBW

Nuts, Bolts And Washers

Supplied fully threaded complete with nut and washer. Ideal for fixing our range of head restraints to steelwork.



T - Head

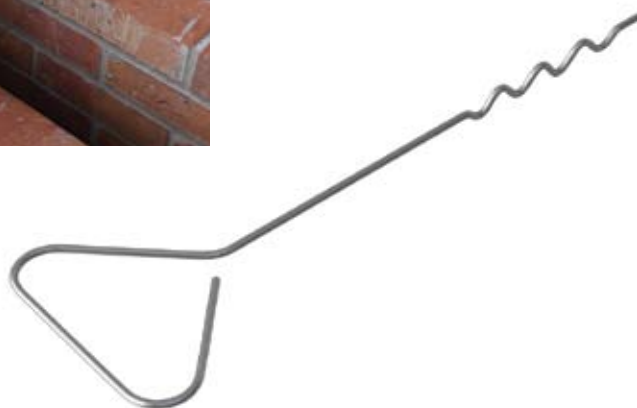
T - Head Bolts

Available to suit the Vista range of cast-in or surface fixed channels, our T-head bolts are manufactured from either stainless steel or hot dip galvanised steel and come in a variety of lengths and thread diameters to suit your requirements.



Remedial Ties

A product range used in existing cavity walls where wall ties have been omitted or have corroded.



V30 Wavy Tail Ties

These products allow the introduction of a cavity tie into a situation where no ties are present. Stainless Steel 'wavy' tail ties used for remedial applications and available in lengths of 150 - 300mm. Designed for use in conjunction with Vista resins.

Sizes	Units	Per
150mm	250	Box
175mm	250	Box
200mm	250	Box
225mm	250	Box
250mm	250	Box
275mm	200	Box
300mm	200	Box



REM Mechanical Remedial Ties

Remedial ties are used where existing cavity walls have had wall ties omitted, or where the wall ties have corroded and no longer perform their original function. Full installation instructions available on request.

Sizes	Units	Per
150mm x 11mm (Hole Size)	200	Box
200mm x 11mm (Hole Size)	200	Box
225mm x 11mm (Hole Size)	200	Box
250mm x 11mm (Hole Size)	200	Box
300mm x 11mm (Hole Size)	200	Box

Brass	Units	Per
150mm x 10mm (Hole Size)	200	Box
200mm x 10mm (Hole Size)	200	Box
225mm x 10mm (Hole Size)	200	Box

Fixing
Fixing will require a setting tool and SDS Drill bits 11mm x 310mm for Neoprene ties and 10mm x 310mm for Brass ties.

Setting Tool



Universal Stainless Steel Wall Starter System

V63

Universal Stainless Steel wall Starter System

The Vista Stainless Steel Wall Starter System joins new walls to existing masonry. Suitable for both internal and external brick or block walls, the connectors can be slotted together up to a maximum of 8 metres or 3 storeys high, from 60 to 250mm thick.

The pack contains the fixings necessary for a single leaf wall up to 2.4m / 8'

- 2 no. wall connectors 1.2m long, stainless steel
- 5 no. Plugs, coach screws and washers
- 10no. wall connector ties, stainless steel

Packed in boxes of 10



INSTALLATION GUIDE

Installation Note

Prior to installation remove any render or debris from the existing wall.

Internal Walls

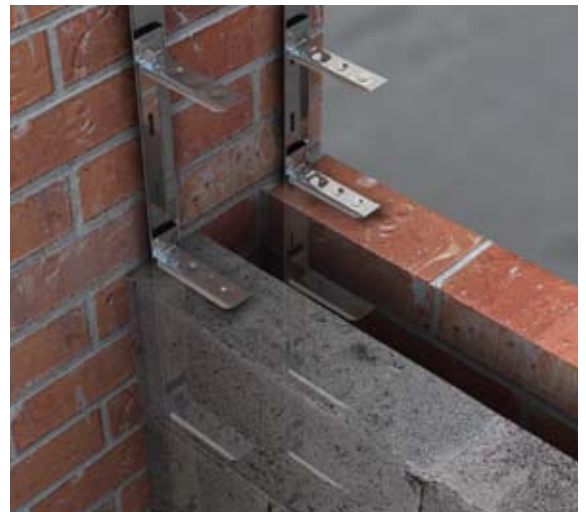
1. Plumb the lower connector against the existing wall so that it will be central to the new wall.
2. Mark the position of the fixing holes.
Each connector should be fixed at three points, the first and last slot and in the centre.
Ensuring that one fixing is at the point where the two connectors slot together and overlap. Fixings should be into brickwork and not mortar joints.
3. Drill and plug using an 8mm masonry drill bit and the plugs provided.
4. Fix the bottom two holes lightly using the stainless steel coach screws and washers.
5. Slot the upper connector into the lower one and repeat the above stages. The upper connector can be cut to length if required.
6. Tighten all fixings using a 10mm socket or box spanner.
7. Build wall in the conventional way with a full mortar joint between the existing and the new wall. Ties should be inserted at a maximum of 300 centres, every third brick course or each block course.
Ensure that the ties and connectors are completely embedded with mortar.

Cavity Walls

Each leaf requires a separate starter system.

External Walls

Ensure that the bottom edge of the connector is above the damp-proof course. A weather seal of approximately 10mm should be created between the connector and the existing wall using a flexible mastic sealant or a compressible sealing strip. Consult your Local Authority, as additional weatherproofing may be required in accordance with local building regulations



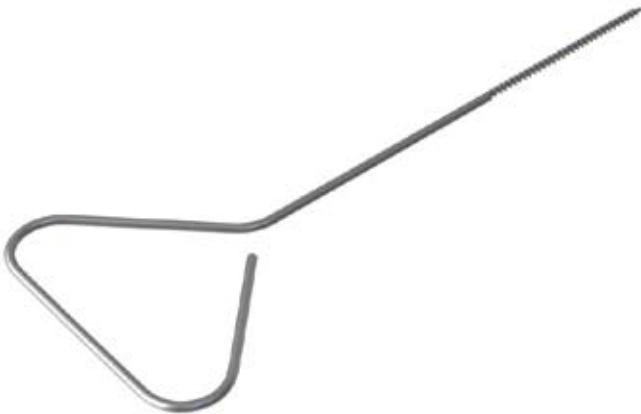
28 Starter/Cavity Starter Ties



SST Starter Tie

SST Starter Tie supplied complete with nylon plug. Used where new walls are being built directly from existing brickwork. Alternatively can be used without plug and screwed directly into timber door or window frames.

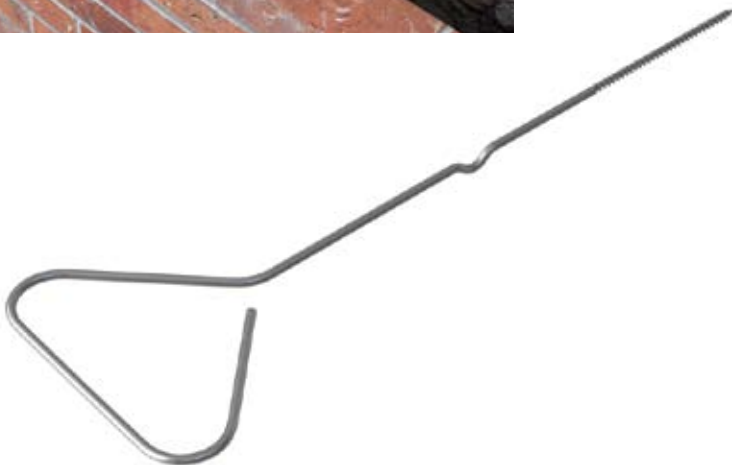
Sizes	Units	Per
130mm	200	Box



SST Cavity Starter Tie

SST Starter Tie supplied complete with nylon plug. Used where there is a cavity and a new wall needs to be built. Supplied with drip.

Sizes	Units	Per
180mm	200	Box
200mm	200	Box
225mm	200	Box
250mm	200	Box
275mm	200	Box



Helical Ties and Bar

HELI

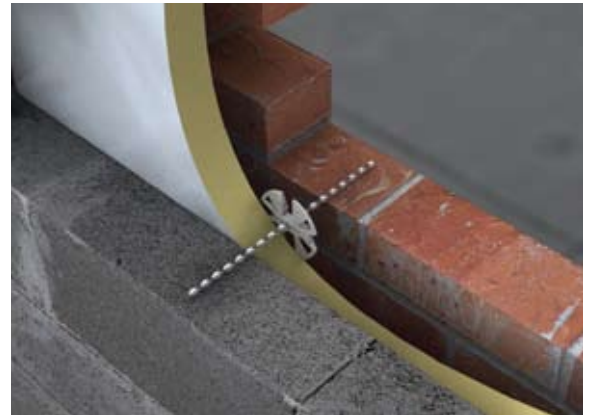
Helical Tie Bars

A range of ties and fixings offering solutions for new build, thin joint walling, roof fixing, crack stitching and other remedial work, and in situations where there may be irregular coursing of brickwork to blockwork. As well as the helical ties and bars the range includes fixing tools, both hand and power tool adaptors, grouts and grout guns, in fact everything needed for correct and successful fixing of the products.

Tie and batten fixings. Sizes 6mm and 8mm diameter, lengths from 100mm up to 300mm.

Helical Bar sizes 3mm, 4.5mm, 6mm, 8mm and 10mm.

Packing Wall ties and Batten fixings in 100's, Helical Bar supplied in individual lengths of 3m, 1.5m, 1m and 500mm.



Accessories



Hand Support Tool



Power Support Tool



Grout



Grout Gun Set complete with Nozzle



Insulation Clip

Relevant British/European Standards

Design Considerations

When selecting which wall tie to use in a given condition, a number of factors must be considered e.g. cavity size, building type, location and height. In order to determine the correct wall tie to use, guidance must be sought from several statutory documents. Generally, the purpose of the British (and now European) standards is to ensure a common minimum standard to which all products and services must adhere.

B.S 1243:1978

The “old” standard which covers the manufacture of butterfly ties, double triangle and fishtail vertical twist ties. This standard was concerned with consistency of manufacture for these products, the standard itself goes into no detail regarding the performance or application of the products.

B.S 5628 pts 1, 2 & 3

This standard (which was an updated version of CP110 - code of practice), refers to B.S 1243 and goes some way towards clarifying applications for the three different types of tie, in particular regarding their use in different cavity widths. Also advises on density of ties per square metre and number of ties around openings. The standard also discusses movement joints, their position and construction.

B.S.D.D 140

Although only a draft for development (D.D) this standard has generally been adopted as an industry standard for wall tie designs and applications.

The document is a performance standard, i.e. it is unconcerned with the appearance of the tie, but is more aimed at indicating minimum tensile and compressive resistances for the products.

The document grades ties from type 1 (heavy duty) to type 6 (light duty) timber frame ties.

Type 2 being a general purpose tie for domestic and small scale commercial developments, and type 4 being for housing.

Since the purpose of a wall tie is to assist the cavity wall in resisting wind load, the document is also concerned with indicating areas of the country with differing average wind speeds which, along with height and building type, affect choice of wall tie.

Density and Positioning of Ties

This varies according to cavity width, generally vertical spacings are 450mm, horizontal spacing is 900mm (up to a 75mm cavity) or 750mm (above 75mm). For estimating purposes the use of 5N° wall ties per square metre is appropriate. In addition wall ties spaced not more than 300mm vertically apart should be provided within 225mm of unbonded openings.

Length and Embedment of Ties

Whilst the British Standards suggest a minimum embedment of 50mm, in order to allow for site variation and reasonable working tolerance, Vista Engineering would suggest a minimum of 63-75mm.

Material Specification

The bulk of Vista Engineering's product range is produced in Grade 304, 18/8 austenitic stainless steel. Galvanised material (with the exception of internal fixings) has lost favour due to poor anti-corrosion performance.

There is a standard of stainless steel known as 316 (or marine grade) whose corrosion resistance is higher than 304, for information on products in this range please consult Vista Engineering Sales or Technical departments.

Strip products conform to BS EN 10088-2.1.4301, wire products to B.S. 1554 1990.

B.S.EN845-1:2003 and B.S.EN846-5:2000

The above European standards specify the requirements for ancillary components for masonry-ties, tension strips, hangers and brackets (B.S.EN845-1) and their method of testing and determination of tensile and compressive load capacity and load displacement characteristics (B.S.EN846-5).

The testing produces a declared value for each type of wall tie tested and this value then enables engineers to calculate the type of tie to be used and density of wall ties in any given situation.

From the test results we are able then to relate our cavity wall ties to the strength requirements of B.S.DD140 as listed in B.S.5628-2005 Code of practice for the use of Masonry and B.S.5628-6:1 1996 Structural use of timber-Dwellings not exceeding seven storeys for Timber Frame Tie usage.

Wall Tie Selection to B.S.5628-1:2005

D.D.140 Classification	Application Height	Maximum Building Height	Geographical Location	Vista Tie Reference
Type 1	Heavy Duty Tie suitable for most building sizes and Types. Not very flexible and not recommended for applications where there is expected to be excessive differential movement between masonry leaves	Any Height	Suitable for most sites	VST1 VE1 VS6
Type 2	General Purpose Tie suitable for small commercial buildings and domestic dwellings	15m	Suitable for flat sites where the basic wind speed is up to 31m/s and altitude is not > 150m above sea level	EN2 V26 (Up to 250mm long) TPT
Type 3	As Type 2 above	15m	As Type 2 above but where the basic wind speed does not exceed 25m/s and altitude is not > 150m above sea level	V26 300mm long
Type 4	Light Duty Wall Tie suitable for box form domestic dwellings with leaves of similar thickness	10m	Suitable for buildings on flat sites where the basic wind speed does not exceed 25m/s and altitude is not > 150m above sea level	VE4

Selection to B.S.5628-6: 1:1996

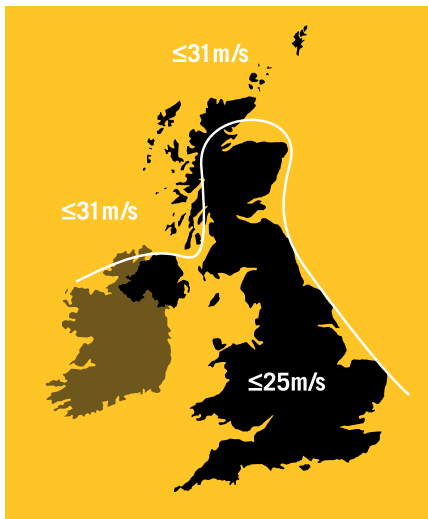
Type 6	Timber Frame Tie suitable for domestic dwellings and small commercial developments up to four storeys	15m	As Type 4 above	V61
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Relevant British/European Standards

Wall Tie Selection table (exterior cavity walls)

Type 1 As page 30	Cavity width	Tie length
VST1, VE1, VS6	50 - 75mm 76 - 100mm 101 - 125mm 126 - 150mm	200mm 225 or 250mm 250mm 275 to 300mm
Type 2 As page 30	Cavity width	Tie length
EN2, V26, TPT	50 - 75mm 76 - 100mm 101 - 125mm 150 - 300mm	200mm 225 or 250mm 250mm (EN2) 300 to 450mm (TPT)
Type 3 As page 30	Cavity width	Tie length
V26	125 - 150mm	300mm
Type 4 As page 30	Cavity width	Tie length
VE4	50 - 75mm 76 - 100mm	200mm 225mm
Type 6 As page 30	Cavity width	Tie length
V61	50 - 75mm 76 - 100mm	125mm proj. 175mm proj.

Wind Zones



Information taken from BS 6399-2: 1997.
Code of Practice for Wind Loads.

Approved Document E-Resistance to the Passage of Sound

Part E of the building regulations states the performance requirements for walls for resistance to the passage of sound. The document not only covers domestic dwellings but all buildings with rooms for residential use including hotels, hostels, student and nurses accommodation and homes for the elderly.

Two types of wall ties come into this classification:

Type A for party walls or external walls

Type B for external walls

To meet Part E the dynamic stiffness of wall ties has to be measured and the results are shown as MN/m³. The dynamic stiffness is measured by a research laboratory by casting ties into 100mm square concrete blocks after which the blocks are suspended and one of the blocks vibrated. The frequency response is then measured and from the test the mean dynamic stiffness is calculated for the specific cavity and multiplied by the tie density (2.5 per square metre). The results are then shown in MN/m³.

Type A ties for internal separating walls of new build attached dwellings up to any height* or external walls where sound transmission is critical

(*Restrictions may apply to very tall buildings or coastal/exposed regions-the contractor needs to check these situations with relevant authorities.)

These ties must either be butterfly ties to BS1243 (only used in 50mm-75mm cavities) or ties with a measured dynamic stiffness of $\lt;4.8\text{MN/m}^3$ taking both cavity width and tie density into account.

Tests at Ceram Building Technology have proved that the **Vista VE4 Housing Tie** has a measured dynamic stiffness of **2.77MN/m³** in a 75mm cavity and is therefore more than suitable for party walls at a standard density of 2.5 per square metre, the dynamic stiffness in a 100mm cavity will be similar or less.

Type B ties for external walls where a Type A tie is not suitable

These ties must be either double triangle to BS1243 (only used in 50mm-75mm cavities) or ties with a measured dynamic stiffness of $\lt;113\text{MN/m}^3$ taking both cavity width and tie density into account.

Tests at Ceram Building Technology have proved that the **Vista EN2 General Purpose Tie** has a measured dynamic stiffness of **12.5MN/m³** in a 100mm cavity and the **Vista VST1 Heavy Duty Tie** has a measured dynamic stiffness of **86.3MN/m³** in a 100mm cavity. Both are therefore suitable for use in external cavity masonry walls.

Health and Safety

To find out more about our health and safety advice on handling and packaging please contact us for an information sheet or go online at www.vistaeng.co.uk

Available from:

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