



Vista Engineering Limited

Wall Ties

Engineered Strength





In today's market you need a brand you can turn to for proven construction fixings, reliable support and competitive prices.



Welcome to Vista Engineering Limited

Formed in 1979, Vista Engineering is an established UK manufacturer of galvanised and stainless steel building components. We offer a proven and extensive range of wall tie products backed up by reliable support at competitive prices.

Part of the Vista Group

The Vista Group is the UK's largest independent manufacturer of builders' metalwork. Created following Vista Engineering's acquisition of BPC Building Products and GA Fixings in 2018 and Locusrite in 2022. Our brands share common values of proven products, reliable support and competitive prices.

We are committed to the continuous development of our products, people and processes. Our products and UK facilities are certified to the very highest levels so you can be confident you're choosing the very best for your building project.



PROVEN
CONSTRUCTION
FIXINGS

Tested and approved to all relevant standards

- ✓ Quality management systems approved to ISO 9001:2015
- ✓ Health and safety management systems approved to ISO 45001
- ✓ Environmental management systems approved to ISO 14001
- ✓ All materials used conform to their relevant British Standards (see page 30)
- ✓ All products manufactured to their relevant British Standards (see page 30)
- ✓ Modern slavery and anti-bribery statements available upon request

Proven products

Our wall tie range is just part of a much broader choice of high-quality products, engineered to meet the demanding specifications of today's construction industry.

For over 40 years we've invested in manufacturing methods and product designs to provide a superior product to our customers and meet their needs more effectively.

Our ISO certification is your guarantee of quality in our manufacturing process, from the high grade steel that enters our factory to the high performance finished products that leave it.

Reliable support

Strong, supportive relationships have always been at the heart of our business. It's how we develop a clear understanding of what our customers need and how we work closely with them to deliver their requirements.

Our friendly, knowledgeable customer service team are there to deal with your enquiries and make sure you get the products you want, when and where you need them.

With a large stock-holding facility and a reliable delivery network, we can provide mixed loads of products wherever they're needed at a moment's notice.

We also provide a full technical design service for products such as windposts and masonry support where it's required.

Competitive prices

Being more efficient in our approach to product design, manufacturing, service, packaging and distribution means we can be more competitive with our prices. That's because we pass on the benefits that come from economies of scale and more efficient operations in every area of our business. All with the aim of giving our merchant customers better margins and healthier profits and providing builders and contractors with even better value for money.

Please note: for clarity products illustrated in situ are shown without mortar. All Vista ties and restraints should always be embedded firmly into a mortar joint.

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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

A light-duty wall tie used in domestic dwellings. Suitable for buildings with a maximum height of 10m and numerous cavity widths from 50-150mm. 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
*Featuring offset drips which sit within the clear cavity

Code	Size	Cavity	Units
VE4-200-STST	200mm	50-75mm	250 Box
VE4-200-50 BAG	200mm	50-75mm	50 Bag
VE4-225-STST	225mm	76-100mm	250 Box
VE4-225-50 BAG	225mm	76-100mm	50 Bag
VE4-250-STST	250mm	101-125mm	250 Box
VE4-250-50 BAG	250mm	101-125mm	50 Bag
VE4-275-STST*	275mm	126-150mm	250 Box
VE4-275-50 BAG*	275mm	126-150mm	50 Bag



Available
with TiePac
dispenser



EN2 General Purpose Wall Tie

General-purpose wall tie used in small commercial buildings and domestic dwellings. Suitable for buildings with a maximum height of 15m and cavity widths from 50-125mm. 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

Code	Size	Cavity	Units
EN2-200-STST	200mm	50-75mm	250 Box
EN2-200-50 PK	200mm	50-75mm	50 Pack
EN2-225-STST	225mm	76-100mm	250 Box
EN2-225-50 PK	225mm	76-100mm	50 Pack
EN2-250-STST	250mm	101-125mm	250 Box



VE2 General Purpose Wall Tie

General-purpose wall tie used in small commercial buildings and domestic dwellings. Suitable for buildings with a maximum height of 15m and a cavity width of 125-150mm. Multidrip feature to prevent moisture travelling across the cavity. The design means that the tie can be installed either way up. Tested as Type B (sound)
Tested as Type 2 (strength) to BS EN 845-1

Code	Size	Cavity	Units
VE2-275-STST	275mm	126-150mm	250 Bundle



NEUTRAS 4 Low Thermal Conductivity Wall Tie

Code	Size	Cavity	Units
NEUTRAS-4-200	200mm	0-75mm	250 Pack
NEUTRAS-4-225	225mm	76-100mm	250 Pack
NEUTRAS-4-250	250mm	101-125mm	250 Pack
NEUTRAS-4-275	275mm	126-150mm	250 Pack
NEUTRAS-4-300	300mm	151-175mm	250 Pack

Neutras ties will adequately resist thermal transmittance through a cavity wall. Constant drip feature to prevent moisture travelling across cavity.
Tested as Type B (sound)
Tested as Type 4, 2 and 1 (strength) to BS EN 845-1



NEUTRAS 2 Low Thermal Conductivity Wall Tie

Code	Size	Cavity	Units
NEUTRAS-2-200	200mm	0-75mm	250 Pack
NEUTRAS-2-225	225mm	76-100mm	250 Pack
NEUTRAS-2-250	250mm	101-125mm	250 Pack
NEUTRAS-2-275	275mm	126-150mm	250 Pack
NEUTRAS-2-300	300mm	151-175mm	250 Pack
NEUTRAS-2-325	325mm	176-200mm	100 Pack
NEUTRAS-2-350	350mm	201-225mm	100 Pack
NEUTRAS-2-375	375mm	226-250mm	100 Pack
NEUTRAS-2-400	400mm	251-275mm	100 Pack
NEUTRAS-2-425	425mm	276-300mm	100 Pack



NEUTRAS 1 Low Thermal Conductivity Wall Tie

Code	Size	Cavity	Units
NEUTRAS-1-200	200mm	0-75mm	250 Pack
NEUTRAS-1-225	225mm	76-100mm	250 Pack
NEUTRAS-1-250	250mm	101-125mm	250 Pack
NEUTRAS-1-275	275mm	126-150mm	250 Pack



VST1 Heavy Duty Formed Safety Tie

A heavy-duty formed safety wall tie suitable for most buildings in the UK of any height, with cavities from 50-225mm. Constant drip feature to prevent moisture travelling across cavity. Supplied with visibility caps. Used to cover protruding end of VST1, remove when building external masonry. Tested as Type B (sound).
Tested as Type 1 (strength) to BS EN 845-1.

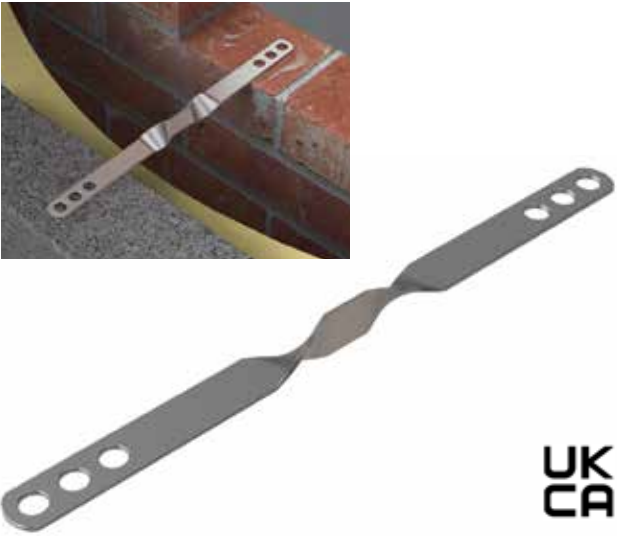
Code	Size	Cavity	Units
VST1-200-STST	200mm	50-75mm	250 Box
VST1-225-STST	225mm	76-100mm	250 Box
VST1-250-STST	250mm	101-125mm	250 Box
VST1-275-STST	275mm	126-150mm	250 Box
VST1-300-STST	300mm	151-175mm	250 Box
VST1-325-STST	325mm	176-200mm	250 Box
VST1-350-STST	350mm	201-225mm	250 Box



VE1 Heavy Duty Safety Vertical Twist Tie

A heavy-duty safety vertical twist wall tie suitable for most buildings in the UK of any height, with cavities from 50-150mm. The vertical twist feature prevents moisture travelling across the cavity. Tie can be installed either way up. Tested as Type B (sound) Tested as Type 1 (strength) to BS EN 845-1

Code	Size	Cavity	Units
VE1 -200 -STST	200mm	51-75 mm	250 Box
VE1 -225 -STST	225mm	76 -100mm	250 Box
VE1 -250 -STST	250mm	101-125mm	250 Box
VE1 -275 -STST	275mm	126-150mm	250 Box
VE1 -300 -STST	300mm	126-150mm	250 Box



UK
CA

VS4 Heavy Duty Flat Safety Tie

A heavy-duty wall tie suitable for most buildings in the UK of any height, with cavities up to 150mm. Used for collar jointed walls, in full cavities or where the prevention of moisture travelling across the cavity is not an issue. Tested as Type B (sound) Tested as Type 1 (strength) to BS EN 845-1

Code	Size	Cavity	Units
VS4-150-COLLAR	150 x 3mm	0mm	250 Box
VS4-150-STST	150mm	0mm	250 Box
VS4-175-STST	175mm	0mm	250 Box
VS4-200-STST	200mm	51-75mm	250 Box
VS4-225-STST	225mm	76-100mm	250 Box
VS4-250-STST	250mm	101-125mm	250 Box
VS4-275-STST	275mm	126-150mm	200 Box
VS4-300-STST	300mm	126-150mm	200 Box



UK
CA

VS6 Heavy Duty Dripped Safety Tie

A heavy-duty wall tie suitable for most buildings in the UK of any height, with cavities from 50-150mm. Drip feature to prevent moisture travelling across the cavity (taking less space than vertical twist). Drip position 90mm from safety end as standard. Tested as Type B (sound) Tested as Type 1 (strength) to BS EN 845-1

Code	Size	Cavity	Units
VS6-200-STST	200mm	51-75 mm	250 Box
VS6-225-STST	225mm	76 -100mm	250 Box
VS6-250-STST	250mm	101-125mm	250 Box
VS6-275-STST	275mm	126-150mm	200 Box
VS6-300-STST	300mm	126-150mm	200 Box

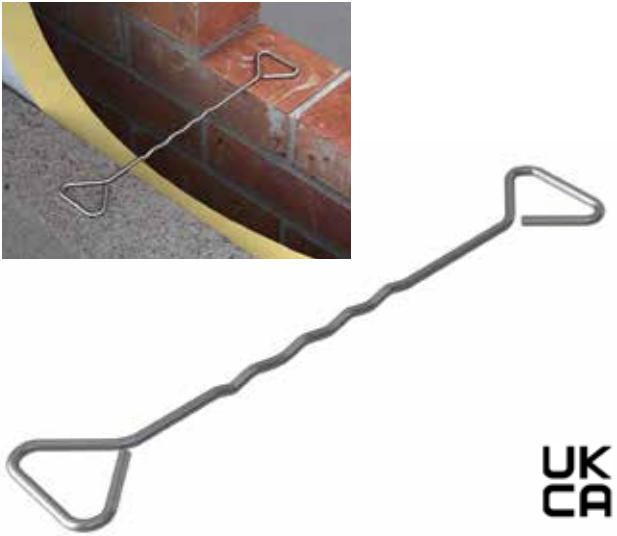


UK
CA

V26 Traditional Double Triangle Wall Tie

Traditional double triangle, general-purpose wall tie used in small commercial buildings and domestic properties. Suitable for buildings with a maximum height of 15m and cavity widths from 0-150mm. 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 *For a Type 3 tie ask for the V26-275-STST or V26-300-STST †These products feature an offset drip.

Code	Size	Cavity	Units
V26-150-STST	150mm	0mm	250 Bundle
V26-250-STST	250mm	101-125mm	250 Bundle
V26-275-STST*†	275mm	126-150mm	250 Bundle
V26-300-STST*†	300mm	151-175mm	250 Bundle



UK
CA

ECO-CLIP Universal Insulation Clip

Universal insulation clip made using less plastic for reduced environmental impact.

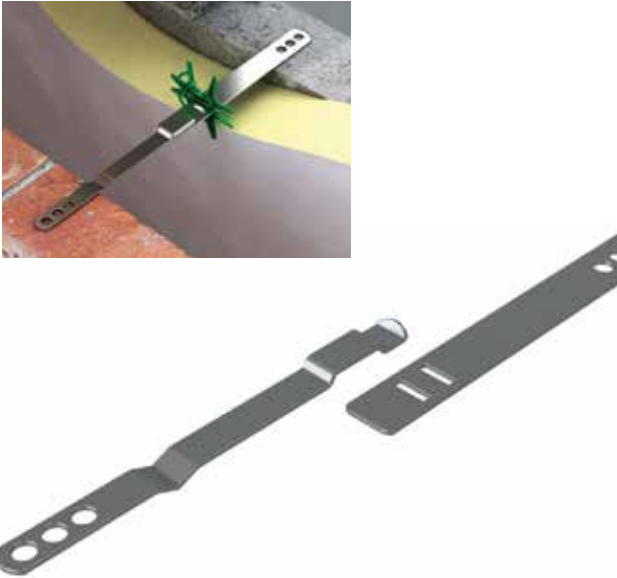
Code	Size	Units
ECO-CLIP	80mm DIA	250 Bag
ECO-CLIPS-50BAG	80mm DIA	50 Bag



TPT Two Part Tie

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 flat section is built into the inner leaf as construction proceeds, the longer section is then locked into the shorter 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

Code	Size	Cavity	Units
TPT-300-STST	300mm	151-175mm	100 Box
TPT-325-STST	325mm	176-200mm	100 Box
TPT-350-STST	350mm	201-225mm	100 Box
TPT-375-STST	375mm	226-250mm	100 Box
TPT-400-STST	400mm	251-275mm	100 Box
TPT-425-STST	425mm	276-300mm	100 Box
TPT-450-STST	450mm	301-325mm	100 Box
TPT-475-STST*	475mm	326-350mm	100 Box
TPT-500-STST*	500mm	351-375mm	100 Box



UK
CA

*Type 2 load equivalency may be achieved by increasing the tie density, please contact Vista technical for further information.

HELI Thin Joint Wall Tie

Hammer-driven cavity wall tie, ideal for aircrete blockwork and applications where the joints of inner and outer leaves of masonry do not course.

Code*	Size (Diameter x Length)	Units
HELI-6-ONE-XXX	6mm x 200, 220, 230, 240, 250mm	100
HELI-8-ONE-XXX	8mm x 195, 220, 245, 270, 300mm	100

*Replace XXX with required length to get product code e.g. HELI-6-ONE-220



Movement Ties

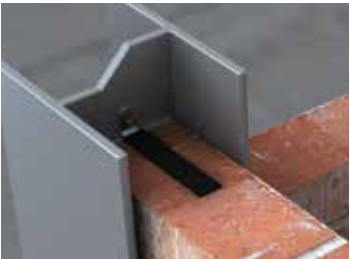
This range of ties allows masonry walls to be tied back to other structures, (steelwork or masonry) providing restraint in one direction but allowing movement in the other. This is achieved by placing a debonding sleeve over the part of the tie which is to be embedded in the wall, allowing the tie to move within the sleeve. Also used in movement joints where they occur in long runs of brickwork, the ties span over a vertical joint preventing vertical movement but allowing horizontal expansion and contraction. Manufactured from grade 304 stainless steel.



V7PE Plain End Frame Cramp

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

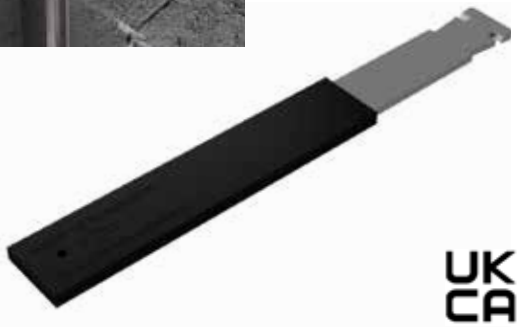
Code	Size	Units
V7PE-075-STST	75mm	250 Box
V7PE-100-STST	100mm	250 Box
V7PE-125-STST	125mm	250 Box
V7PE-150-STST	150mm	250 Box
V7PE-175-STST	175mm	250 Box
V7PE-200-STST	200mm	250 Box
V7PE-225-STST	225mm	200 Box
V7PE-250-STST	250mm	200 Box
V7PE-275-STST	275mm	200 Box
V7PE-300-STST	300mm	200 Box



V8PE Dovetail Plain End Tie

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

Code	Size	Units
V8PE-075-STST	75mm	250 Box
V8PE-100-STST	100mm	250 Box
V8PE-125-STST	125mm	250 Box
V8PE-150-STST	150mm	250 Box
V8PE-175-STST	175mm	250 Box
V8PE-200-STST	200mm	250 Box
V8PE-225-STST	225mm	200 Box
V8PE-250-STST	250mm	200 Box
V8PE-275-STST	275mm	200 Box
V8PE-300-STST	300mm	200 Box



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).

Code	Size	Units
SPE-150-STST	150mm	250 Box
SPE-175-STST	175mm	250 Box
SPE-200-STST	200mm	250 Box
SPE-225-STST	225mm	250 Box
SPE-250-STST	250mm	250 Box
SPE-275-STST	275mm	200 Box
SPE-300-STST	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).

Code	Size	Units
V63PE-150-STST	150mm	250 Box
V63PE-175-STST	175mm	250 Box
V63PE-200-STST	200mm	250 Box
V63PE-225-STST	225mm	200 Box
V63PE-250-STST	250mm	200 Box
V63PE-275-STST	275mm	200 Box
V63PE-300-STST	300mm	200 Box



SPF Safety Plain Formed Tie

The SPF is a lighter, stronger evolution of our SPE. Used over a movement joint in a run of brickwork or blockwork with safety embedment detail. (Sleeve supplied as extra).

Code	Size	Units
SPF - 200 - STST	200mm	250 Box



V31 / V32 / V36 Debonding Sleeve

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.

Code	Size	Units
V36-100-PDBS	20mm x 100mm	250 Bag
V36-120-PDBS	20mm x 120mm	250 Bag
V36-150-PDBS	20mm x 150mm	250 Bag
V31-100-PDBS	25mm x 100mm	250 Bag
V31-120-PDBS	25mm x 120mm	250 Bag
V31-150-PDBS	25mm x 150mm	250 Bag
V32-100-PDBS	30mm x 100mm	250 Bag



Lateral Restraints

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. Manufactured from grade 304 stainless steel.



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.

Code	Size	Units
VE7-075-STST	75mm	250 Box
VE7-100-STST	100mm	250 Box
VE7-125-STST	125mm	250 Box
VE7-150-STST	150mm	250 Box
VE7-175-STST	175mm	250 Box
VE7-200-STST	200mm	250 Box
VE7-225-STST	225mm	200 Box
VE7-250-STST	250mm	200 Box
VE7-275-STST	275mm	200 Box
VE7-300-STST	300mm	200 Box
VE7-100-G.MS*	100mm	250 Box
VE7-150-G.MS*	150mm	250 Box
VE7-200-G.MS*	200mm	250 Box
VE7-250-G.MS*	250mm	200 Box



UK
AK

VS7 Slotted Frame Cramp

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

Code	Size	Units
VS7-075-STST	75mm	250 Box
VS7-100-STST	100mm	250 Box
VS7-125-STST	125mm	250 Box
VS7-150-STST	150mm	250 Box
VS7-175-STST	175mm	250 Box
VS7-200-STST	200mm	250 Box
VS7-225-STST	225mm	200 Box
VS7-250-STST	250mm	200 Box
VS7-275-STST	275mm	200 Box
VS7-300-STST	300mm	200 Box



UK
AK

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.

Code	Size	Cavity	Units
VE7D-100-STST	100mm	25mm	250 Box
VE7D-125-STST	125mm	50mm	250 Box
VE7D-150-STST	150mm	75mm	250 Box
VE7D-175-STST	175mm	100mm	250 Box
VE7D-200-STST	200mm	125mm	250 Box
VE7D-225-STST	225mm	150mm	200 Box
VE7D-250-STST	250mm	175mm	200 Box
VE7D-275-STST	275mm	200mm	200 Box
VE7D-300-STST	300mm	225mm	200 Box



UK
AK

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.

Code	Size	Cavity	Units
VS7D-100-STST	100mm	25mm	250 Box
VS7D-125-STST	125mm	50mm	250 Box
VS7D-150-STST	150mm	75mm	250 Box
VS7D-175-STST	175mm	100mm	250 Box
VS7D-200-STST	200mm	125mm	250 Box
VS7D-225-STST	225mm	150mm	200 Box
VS7D-250-STST	250mm	175mm	200 Box
VS7D-275-STST	275mm	200mm	200 Box
VS7D-300-STST	300mm	225mm	200 Box



UK
AK

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.

Code	Size	Units
V7H-050-STST	50mm	250 Box
V7H-075-STST	75mm	250 Box
V7H-100-STST	100mm	250 Box
V7H-125-STST	125mm	250 Box
V7H-150-STST	150mm	250 Box
V7H-175-STST	175mm	250 Box
V7H-200-STST	200mm	250 Box
V7H-225-STST	225mm	200 Box
V7H-250-STST	250mm	200 Box
V7H-275-STST	275mm	200 Box
V7H-300-STST	300mm	200 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.

V96 Wire Frame Cramp

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

Code	Size	Cavity	Units
V96-100-STST	100mm (No Drip)	25mm	200 Box
V96-125-STST	125mm	50mm	100 Box
V96-150-STST	150mm	75mm	100 Box
V96-175-STST	175mm	100mm	100 Box
V96-200-STST	200mm	125mm	100 Box
V96-225-STST	225mm	150mm	100 Box
V96-250-STST	250mm	175mm	100 Box



V63 Clasp Tie

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

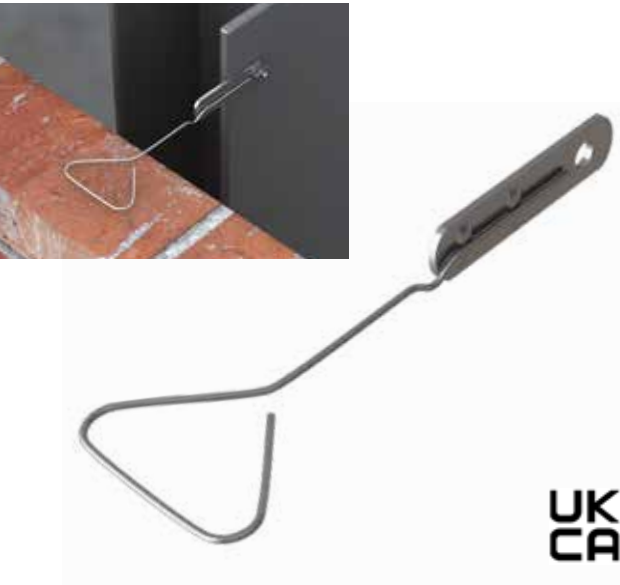
Code	Size	Units
V63-150-STST	150mm	250 Box
V63-175-STST	175mm	250 Box
V63-200-STST	200mm	250 Box
V63-225-STST	225mm	250 Box
V63-250-STST	250mm	250 Box
V63-275-STST	275mm	200 Box
V63-300-STST	300mm	200 Box



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.

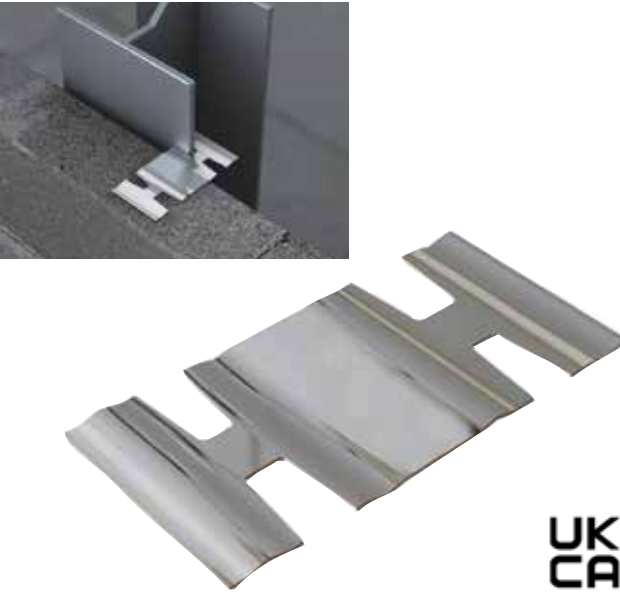
Code	Size	Cavity	Units
V97-150-STST	150mm	75mm	100 Box
V97-175-STST	175mm	100mm	100 Box
V97-200-STST	200mm	125mm	100 Box
V97-225-STST	225mm	150mm	100 Box
V97-250-STST	250mm	175mm	100 Box
V97-275-STST	275mm	200mm	100 Box
V97-300-STST	300mm	225mm	100 Box



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.

Code	Size	Units
VCT-145-STST	145mm	100 Box



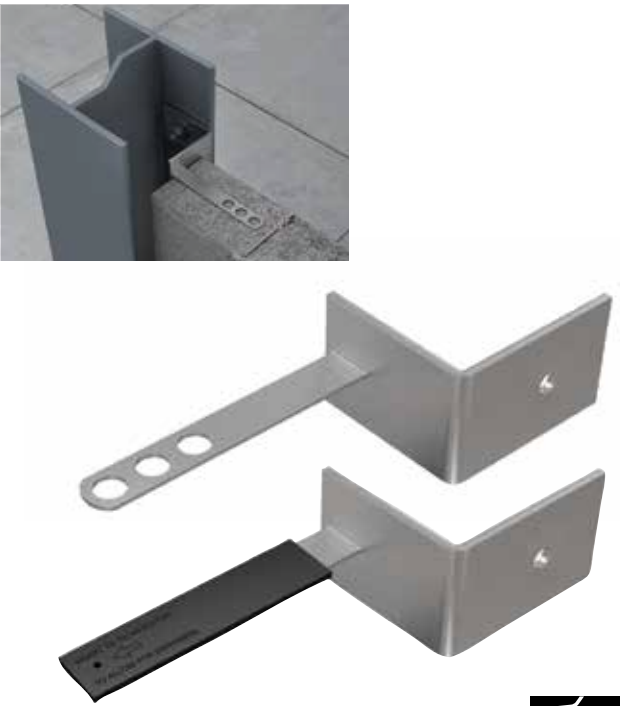
VA7 /VA7PE Frame Cramp

For offset fixing where masonry is not in line with the steel column. Angle with 7mm fixing hole as standard with fixed projection tie. Debonded plain end projection also available (VA7PE)

Angle Size

60mm x 55mm x 40mm wide

Code	Size	Units
VA7-100-STST	100mm	100 Box
VA7-125-STST	125mm	100 Box
VA7-150-STST	150mm	100 Box
VA7-175-STST	175mm	100 Box
VA7-200-STST	200mm	100 Box
VA7PE-100-STST	100mm	100 Box
VA7PE-125-STST	125mm	100 Box
VA7PE-150-STST	150mm	100 Box
VA7PE-175-STST	175mm	100 Box
VA7PE-200-STST	200mm	100 Box



Channel Systems and Components

These products 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. Manufactured from grade 304 stainless steel.



RCS 25/14 Restraint Channel System

The Vista RCS system effectively ties an outer masonry leaf to a steel frame or concrete inner face whilst restraining installation. It allows vertical movement at the same time as offering horizontal restraint. The system comprises steel channels, wall ties, fixings and compression sleeves (for use when fixing to concrete).



SFC 25/14 Steel Frame Channel

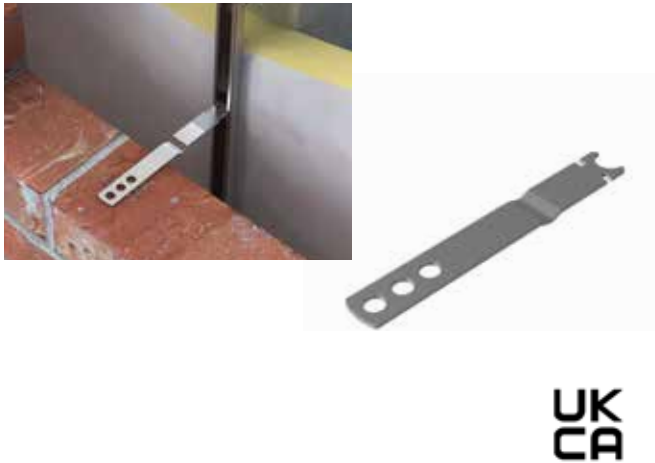
The steel frame channel system is designed to tie brickwork to steel studding. Self-drill / self-tap screws fix through the channel and insulation into the steel studding. To be used in conjunction with a Vista VS9 tie.



Code	Size	Units
SFC-2700-STST	2700 mm	20 Bundle

VS9 Steel Channel Tie

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



Code	Size	Units
VS9-075-STST	75mm (No Drip)	250 Box
VS9-100-STST	100mm	250 Box
VS9-125-STST	125mm	250 Box
VS9-150-STST	150 mm	250 Box
VS9-175-STST	175mm	250 Box
VS9-200-STST	200 mm	250 Box
VS9-225-STST	225mm	250 Box
VS9-250-STST	250 mm	250 Box

CS Compression Sleeve For Concrete

We offer compression sleeves to suit various insulation thicknesses. They prevent the insulation from being compressed whilst the fasteners are being tightened. This means that no damage or distortion is caused to the insulation during fitting or in normal service loadings.



Code	Size
CS-XXX*	50-200 mm

*Replace XXX with required length to get product code e.g. CS-050

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. Vista recommends the V29 to be used in conjunction with Vista VS8 / VS8D tie.

Code	Size	Units
V29-100-STST	100 mm	250 Box
V29-150-STST	150 mm	250 Box
V29-3-MET-SS	3000 mm	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. Vista recommends the V60 to be used in conjunction with Vista VS8 / VS8D tie.

Code	Size	Units
V60-100-STST	100 mm	100 Box
V60-150-STST	150 mm	100 Box
V60-3-MET-SS	3000 mm	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). Vista recommends the V60S to be used in conjunction with Vista VS8 / VS8D tie.

Code	Size	Units
V60S-100-STST	100 mm	100 Box
V60S-150-STST	150 mm	100 Box
V60S-3-MET-SS	3000 mm	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. Vista recommends the V60T to be used in conjunction with Vista VS8 / VS8D tie.

Code	Size	Units
V60T-100-STST	100mm	25 Box
V60T-150-STST	150mm	25 Box
V60T-3-MET-SS	3000mm	10 Bundle

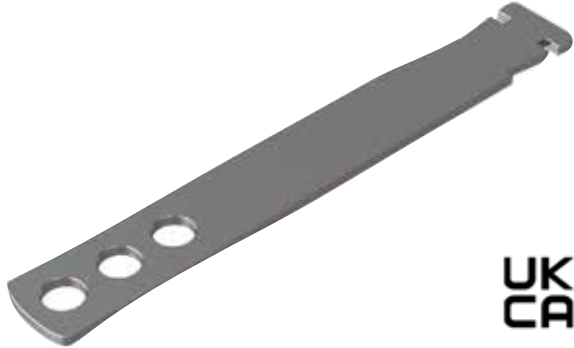


VS8 Dovetail Safety Tie

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

Code	Sizes (Projection*)	Units
VS8-075-STST	75mm	250 Box
VS8-100-STST	100mm	250 Box
VS8-125-STST	125mm	250 Box
VS8-150-STST	150mm	250 Box
VS8-175-STST	175mm	250 Box
VS8-200-STST	200mm	250 Box
VS8-225-STST	225mm	200 Box
VS8-250-STST	250mm	200 Box
VS8-275-STST	275mm	200 Box
VS8-300-STST	300mm	200 Box

*Projection length from safety end to shoulder.
Dovetail head length 29mm.



UK
AK

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.

Code	Sizes (Projection*)	Cavity	Units
VS8D-100-STST	100mm	25mm	250 Box
VS8D-125-STST	125mm	50mm	250 Box
VS8D-150-STST	150mm	75mm	250 Box
VS8D-175-STST	175mm	100mm	250 Box
VS8D-200-STST	200mm	125mm	250 Box
VS8D-225-STST	225mm	150mm	200 Box
VS8D-250-STST	250mm	175mm	200 Box

*Projection length from safety end to shoulder.
Dovetail head length 29mm.



UK
AK

V98 Dovetail Wire Tie

Universal head enables this tie to be used with all Vista channel systems (except SFC) to restrain brickwork. The wire section allows for extra movement.

Code	Size	Cavity	Units
V98-100-STST	100mm	25mm	100 Box
V98-125-STST	125mm	50mm	100 Box
V98-150-STST	150mm	75mm	100 Box
V98-175-STST	175mm	100mm	100 Box
V98-200-STST	200mm	125mm	100 Box
V98-225-STST	225mm	150mm	100 Box
V98-250-STST	250mm	175mm	100 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, thus preventing sideways movement. Manufactured from grade 304 stainless steel.



VIR / VIRH Internal Head Restraint

The VIR /VIRH head restraint is designed to resist lateral movement in wall heads, restraining them to structural soffits whilst allowing vertical movement (for instance, to accommodate beam deflection). Fix with a 6mm or 8mm set screw or a through bolt.

Code	Size	Units
VIR-215-STST	215mm	50 Box
VIRH-215-STST	215mm	50 Box

Also available holed for tek screws or bolts, or with head for channels.



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.

Code	Size	Units
VHR	For 100 - 140mm blockwork	50 Box
VHR-215	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 on request. This range of products secure cavity walls to overhead structures, whilst accommodating vertical movement. Used in conjunction with one or two way sliding ties (ordered separately). Manufactured from grade 304 stainless steel.



WAS Welded A Stem

Code	Size	Units
WAS-300-STST	300mm	Each
WAS-350-STST	350mm	Each
WAS-400-STST	400mm	Each
WAS-450-STST	450mm	Each
WAS-500-STST	500mm	Each
WAS-550-STST	550mm	Each
WAS-600-STST	600mm	Each



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



BCS Bent C Stem

Code	Size	Units
BCS-300-STST	300mm	Each
BCS-350-STST	350mm	Each
BCS-400-STST	400mm	Each
BCS-450-STST	450mm	Each
BCS-500-STST	500mm	Each
BCS-550-STST	550mm	Each
BCS-600-STST	600mm	Each



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



WTS Welded T Stem

Code	Size	Units
WTS-300-STST	300mm	Each
WTS-350-STST	350mm	Each
WTS-400-STST	400mm	Each
WTS-450-STST	450mm	Each
WTS-500-STST	500mm	Each
WTS-550-STST	550mm	Each
WTS-600-STST	600mm	Each



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



TDS Twisted D Stem

Code	Size	Units
TDS-300-STST	300mm	Each
TDS-350-STST	350mm	Each
TDS-400-STST	400mm	Each
TDS-450-STST	450mm	Each
TDS-500-STST	500mm	Each
TDS-550-STST	550mm	Each
TDS-600-STST	600mm	Each



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



WBS Welded B Stem

Code	Size	Units
WBS-300-STST	300mm	Each
WBS-350-STST	350mm	Each
WBS-400-STST	400mm	Each
WBS-450-STST	450mm	Each
WBS-500-STST	500mm	Each
WBS-550-STST	550mm	Each
WBS-600-STST	600mm	Each



Offset head where there is no fixing directly above. Heavy-duty.



TFS Twisted F Stem

Code	Size	Units
TFS-300-STST	300mm	Each
TFS-350-STST	350mm	Each
TFS-400-STST	400mm	Each
TFS-450-STST	450mm	Each
TFS-500-STST	500mm	Each
TFS-550-STST	550mm	Each
TFS-600-STST	600mm	Each



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



WES Welded E Stem

Code	Size	Units
WES-300-STST	300mm	Each
WES-350-STST	350mm	Each
WES-400-STST	400mm	Each
WES-450-STST	450mm	Each
WES-500-STST	500mm	Each
WES-550-STST	550mm	Each
WES-600-STST	600mm	Each

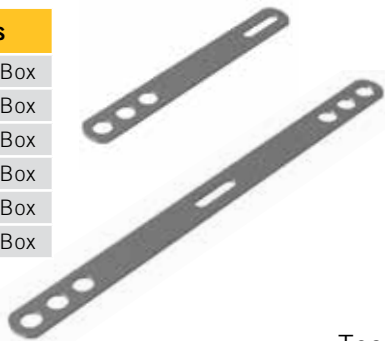


Fixed to the side of structure and offset to drop down centre of cavity. Heavy-duty.



SOW Sliding One Way Tie

Code	Size	Units
SOW-100-STST	100mm	250 Box
SOW-125-STST	125mm	250 Box
SOW-135-STST	135mm	250 Box
SOW-150-STST	150mm	250 Box
SOW-175-STST	175mm	250 Box
SOW-200-STST	200mm	250 Box



STW Sliding Two Way Tie

Code	Size	Units
STW-200-STST	200mm	250 Box
STW-225-STST	225mm	250 Box
STW-230-STST	230mm	250 Box
STW-250-STST	250mm	250 Box
STW-300-STST	300mm	250 Box



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. Manufactured from grade 304 stainless steel.



V61 Timber Frame Tie

Stainless steel masonry-timber tie for 50-100mm cavities in up to 4 storey timber frame buildings. Accommodates vertical movement. Tested as type B (sound) Tested as type 6 (strength) to BS EN 845-1
Supplied complete with 50mm x 3.35mm stainless steel annular ring nails. Also available with 50mm x 4.0mm stainless steel screws for SIPS panels.

Code	Size	Cavity	Units
V61-125-STST	125mm	50mm	250 Box
V61-150-STST	150mm	75mm	250 Box
V61-175-STST	175mm	100mm	250 Box



V62 High Movement Timber Frame Tie

Channel and strip tie system for use where the building height is 18m (5-7 stories). Maximum differential movement of 65mm. Fits cavities from 50mm to 150mm. Supplied with 50mm x 4mm stainless steel screws (250 per box).

Code	Size	Cavity	Units
V62-100-STST	100mm	50mm	250 Box
V62-125-STST	125mm	75mm	250 Box
V62-150-STST	150mm	100mm	250 Box
V62-175-STST	175mm	125mm	250 Box
V62-200-STST	200mm	150mm	250 Box



HELICAL TIE Timber Frame Wall Tie

A 4.5mm newbuild stainless steel masonry-timber tie for domestic and small commercial buildings up to four storeys high. The first helical wall tie tested to EN 846 for timber frame construction.

Code	Size	Cavity	Units
HELI-4.5-ONE-170	170mm	Up to - 50mm	100 Box
HELI-4.5-ONE-195	195mm	51-75mm	100 Box
HELI-4.5-ONE-220	220mm	76-100mm	100 Box
HELI-4.5-ONE-245	245mm	101-125mm	100 Box
HELI-4.5-ONE-270	270mm	126-150mm	100 Box
HELI-4.5-ONE-295	295mm	151-165mm	100 Box



Bed Joint Reinforcement

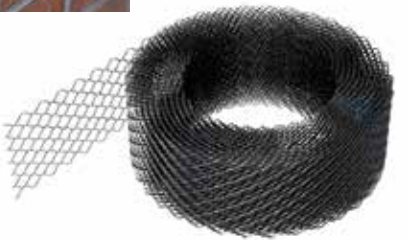
This type of product increases the rigidity of masonry panels by introducing steel into the bed joint of the wall, either to merely resist cracking or in a more structural sense.



V44 Coil Mesh

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

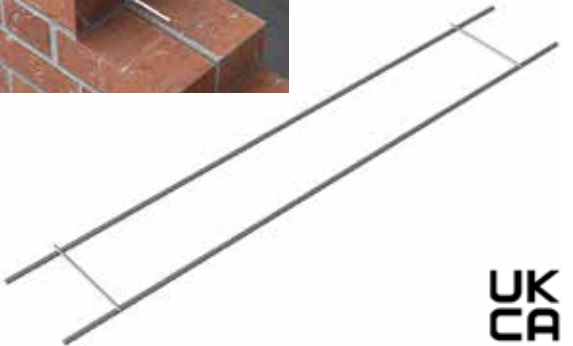
Code	Size	Units
V44-065-G.MS	65mm Galvanised	20m Coil
V44-115-G.MS	115mm Galvanised	20m Coil
V44-175-G.MS	175mm Galvanised	20m Coil
V44-225-G.MS	225mm Galvanised	20m Coil
V44-305-G.MS	305mm Galvanised	20m Coil
V44-065-STST	65mm Stainless	20m Coil
V44-115-STST	115mm Stainless	20m Coil
V44-175-STST	175mm Stainless	20m Coil
V44-225-STST	225mm Stainless	20m Coil



VW3 Vista Weld 3 Ladder

Vista Weld 3 is a welded ladder type bed joint reinforcement with 3mm outer wires. Designed to provide additional strength to single leaf masonry in areas of need including long walls spans, beam support, deflecting floor decks, stack bonded masonry, lintels and openings. 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.

Code	Product Width	Wall Width	Length	Units
VW3-060-STST	60mm	100mm	2700mm	10 Pack
VW3-100-STST	100mm	140mm	2700mm	10 Pack
VW3-150-STST	150mm	200mm	2700mm	10 Pack
VW3-175-STST	175mm	215mm	2700mm	10 Pack



VW Vista Weld Ladder

Vista Weld is a welded ladder type bed joint reinforcement with 3.5mm flattened outer wires. Designed to provide additional strength to single leaf masonry in areas of need including long walls spans, beam support, deflecting floor decks, stack bonded masonry, lintels and openings. 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.

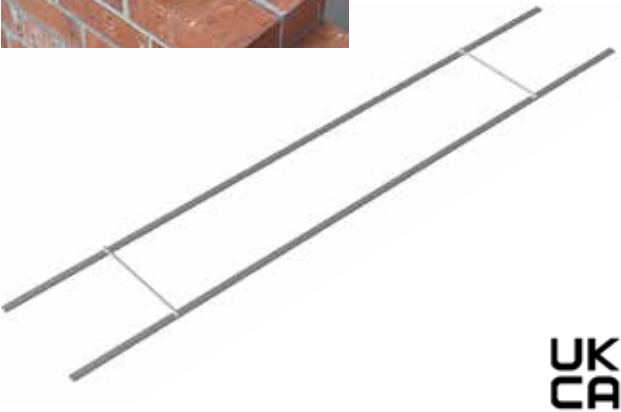
Code	Product Width	Wall Width	Length	Units
VW-060-STST	60mm	100mm	2700mm	10 Pack
VW-100-STST	100mm	140mm	2700mm	10 Pack
VW-150-STST	150mm	200mm	2700mm	10 Pack
VW-175-STST	175mm	215mm	2700mm	10 Pack



VW5 Vista Weld 5 Ladder

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. Designed to provide additional strength to single leaf masonry in areas of need including long walls spans, beam support, deflecting floor decks, stack bonded masonry, lintels and openings. 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.

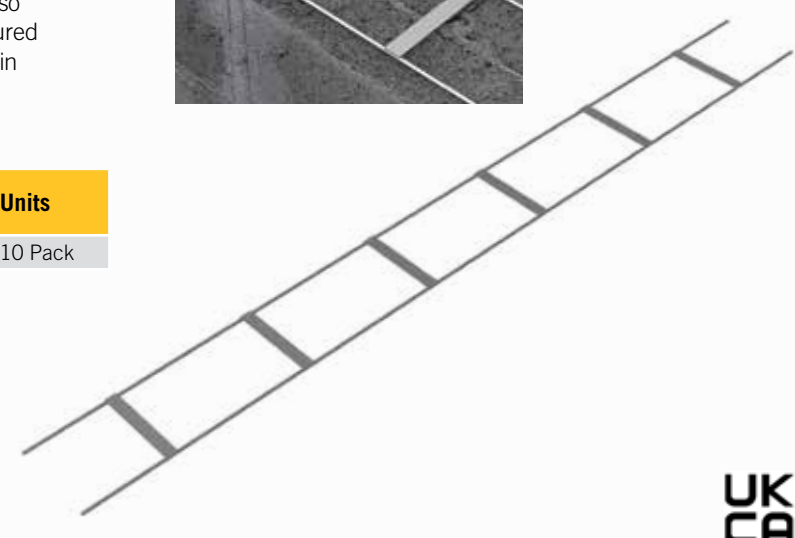
Code	Product Width	Wall Width	Length	Units
VW5-060-STST	60mm	100mm	2700mm	10 Pack
VW5-100-STST	100mm	140mm	2700mm	10 Pack
VW5-150-STST	150mm	200mm	2700mm	10 Pack
VW5-175-STST	175mm	215mm	2700mm	10 Pack



VTS Vista Tie Span Ladder

Vista Tie Span 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 Tie Span to replace a 215mm block. This method of construction also gives the wall a 6 hour fire rating. Tie Span is manufactured from stainless or galvanised steel with 4mm or 3.5mm main longitudinal wires with 20mm flat cross ties. Each length is 2700mm long x 175mm wide.

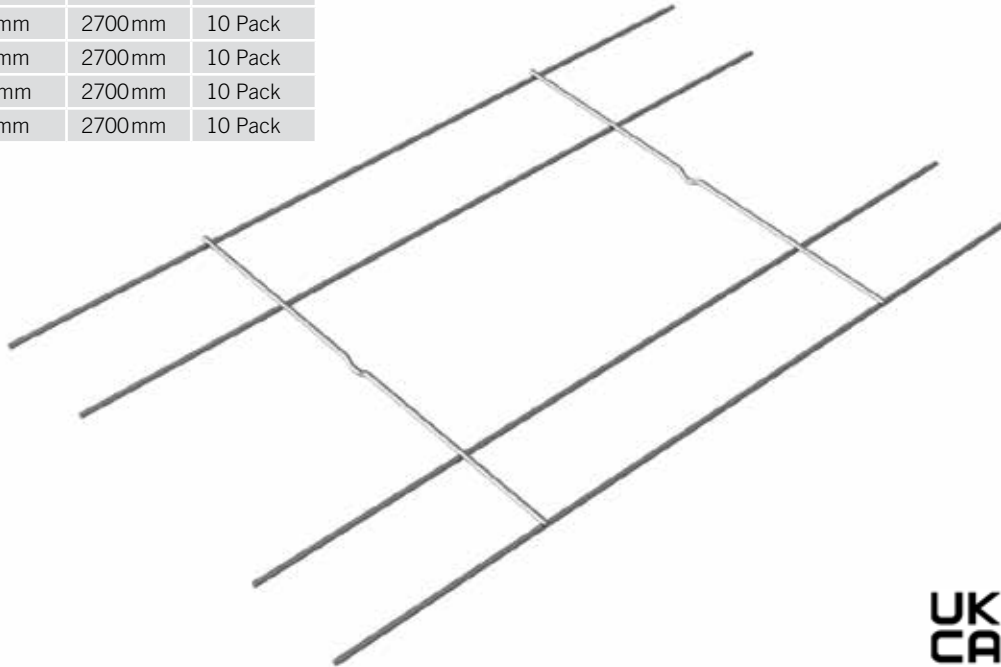
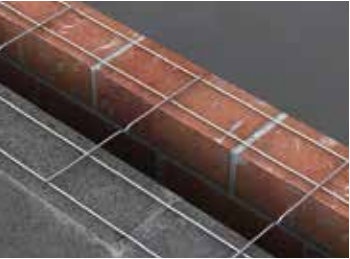
Code	Product Width	Length	Units
VTS-175-STST	175mm	2700mm	10 Pack



DVW Double Vista Weld Ladder

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 2700mm long and is available in numerous widths to suit individual design requirements.

Code	Product Width	Length	Units
DVW-200-STST	200mm	2700mm	10 Pack
DVW-225-STST	225mm	2700mm	10 Pack
DVW-250-STST	250mm	2700mm	10 Pack
DVW-275-STST	275mm	2700mm	10 Pack
DVW-300-STST	300mm	2700mm	10 Pack



WINDOW Window Reveal Support

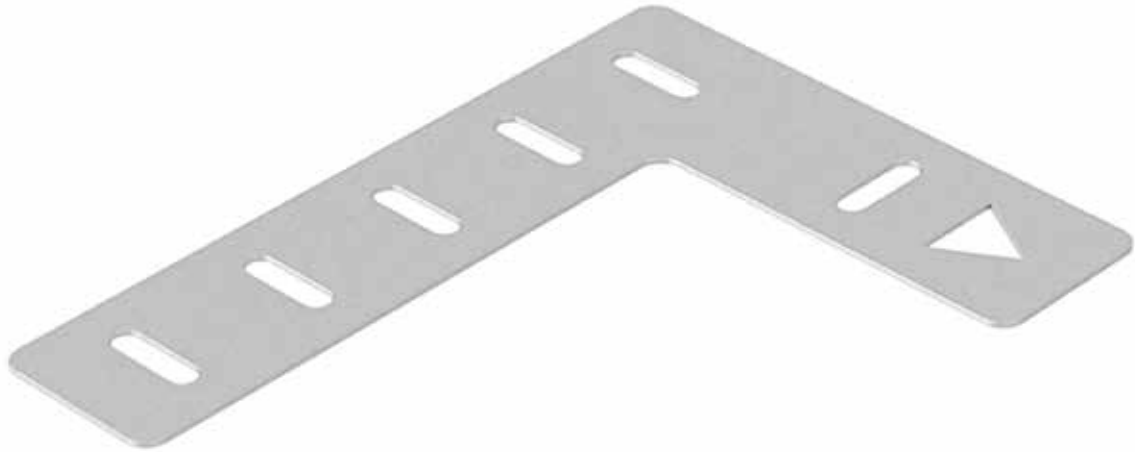
Supports the first few bricks in a full brick (215mm deep) window reveal during construction. Designed for the long leg of the plate to be built into the external leaf bed joint, providing a stable bearing for the reveal brick.

Code	Size	Units
WINDOW	250mm x 184mm	50 Box



2mm thick material

Other sizes are available to specification.



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. Careful consideration should be given to ensure the right fixing is used.

SELF Self Tapping Screw

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 Fixing

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 aerated concrete (aircrete). This hammer fixing is simply tapped in with a hammer - easy.



NEO Neoprene Washer

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 use 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 Bolt

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 Bolt

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

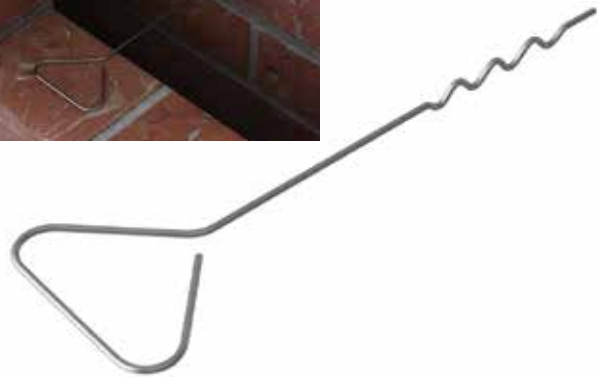
A product range used in existing cavity walls where wall ties have been omitted or have corroded.



V30 Wavy Tail Tie

These products allow the introduction of a cavity tie into a situation where no ties are present. These stainless steel ‘wavy’ tail ties are used for remedial applications and are available in lengths of 150 - 300mm. To install drill a 12mm hole, inject resin then insert the tie.

Code	Size	Cavity	Units
V30 -150 -STST	150mm	0-25mm	250 Box
V30 -175 -STST	175mm	26-50mm	250 Box
V30 -200 -STST	200mm	51-75mm	250 Box
V30 -225 -STST	225mm	76-100mm	250 Box
V30 -250 -STST	250mm	101-125mm	250 Box
V30 -275 -STST	275mm	126-150mm	200 Box
V30 -300 -STST	300mm	151-175mm	200 Box



REM Mechanical Remedial Tie

Remedial ties are used where existing cavity walls ties 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.

Code	Size	Cavity	Units
REM-150	150mm x 11 mm (Hole Size)	0-25mm	200 Box
REM-200	200mm x 11 mm (Hole Size)	51-75mm	200 Box
REM-225	225mm x 11 mm (Hole Size)	76-100mm	200 Box
REM-250	250mm x 11 mm (Hole Size)	101-125mm	200 Box
REM-300	300mm x 11 mm (Hole Size)	151-175mm	200 Box

Also available with brass expansion sleeve.



Fixing will require a setting tool and SDS drill bits 11mm x 310mm for neoprene ties and 10mm x 310mm for brass ties.



HELI Helical Tie

A range of 4.5mm, 6mm and 8mm helical ties for remedial work and in situations where there may be irregular coursing of brickwork to blockwork.

Code*	Size	Units
HELI -8 -XXXX	8mm x 150 -1000mm long	100
HELI -4.5-One-XXX	4.5mm x 195, 220, 245mm long	100
HELI -6-One-XXX	6mm x 200, 220, 250, 270mm long	100
HELI -8-Two-XXX	6mm x 170, 195, 220, 245, 270mm long	100

*Replace XXX with required length to get product code e.g. HELI-6-ONE-220



HELI Helical Bar

Code	Size	Units
HELI-4.5-0500	4.5mm x 500mm long	Each
HELI-4.5-1000	4.5mm x 1000mm long	Each
HELI-4.5-1500	4.5mm x 1500mm long	Each
HELI-4.5-3000	4.5mm x 3000mm long	Each
HELI-6-0500	6mm x 500mm long	Each
HELI-6-1000	6mm x 1000mm long	Each
HELI-6-1500	6mm x 1500mm long	Each
HELI-6-3000	6mm x 3000mm long	Each
HELI-8-0500	8mm x 500mm long	Each
HELI-8-1000	8mm x 1000mm long	Each
HELI-8-1500	8mm x 1500mm long	Each
HELI-8-3000	8mm x 3000mm long	Each
HELI-10-0500	10mm x 500mm long	Each
HELI-10-1000	10mm x 1000mm long	Each
HELI-10-1500	10mm x 1500mm long	Each
HELI-10-3000	10mm x 3000mm long	Each

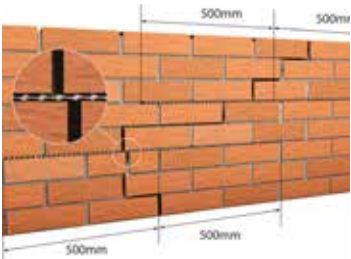
A range of helical bars offering solutions for crack stitching and other remedial work. Helical Bar sizes 4.5mm, 6mm, 8mm and 10mm. Supplied in individual lengths of 0.5m, 1m, 1.5m and 3m.



CS-KIT Crack Stitching Kit

A two component system consisting of stainless steel 6mm bar and grout. A fully certified helical crack-stitching system.

Code	Kit Contents	Units
CS - KIT	Heli bar 6mm x 1000mm	10
	3 Ltr Tub Sure Grout	1
	Crack Stitching Gun	1
	9.5mm Nozzle	1
	Mixing Paddle	1
	Finger Trowel	1



Accessories

SG60-GROUT Grout

SureGrout SG60 (HELI-GROUT) is used for bonding metal components into masonry substrates, masonry bonding, bedding bearing plates, grouting and packing. Available in 3L or 6L tubs.



HELI GUN Grout Gun

The grout gun and nozzle are designed to make the application of grout simple.



POWER Support Tool

The new power support tool is designed to be used in both SDS and SDS Plus hammer drills.



HAND Support Tool

The hand support tool allows the helical tie to be correctly installed manually without damaging the tie.



Starter Ties

Starter Ties allow new walls to be joined to existing structures. They can be used to extend an existing structure or they can be used to help create an additional leaf where a cavity is required, for example in the restoration or conversion of an old building.



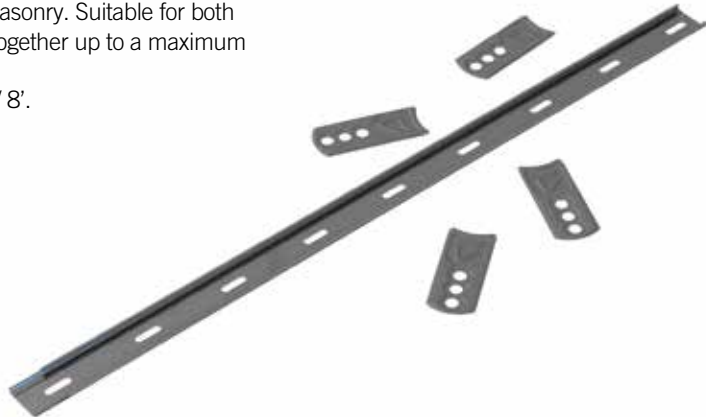
V63 Universal Stainless Steel Wall Starter System

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
- 10 no. Wall connector ties, stainless steel

Packed in boxes of 10

Code	Size	Units
V63 -2.4-STST	2.4m length (made up of 2 x 1.2m lengths)	10 Box



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.



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.

Code	Size	Units
SST -130-STST	130mm	100 Box
SST -130-10PK	130mm	10 Pack



UK
CA

SSFT Starter Frame Tie

SSFT Starter Frame Tie used for fixing timber door and window frames to brickwork by building into mortar courses as construction progresses.

Code	Size	Units
SSFT -130-STST	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.

Code	Size	Cavity	Units
SST -180-STST	180mm	30-50mm	100 Box
SST -200-STST	200mm	51-75mm	100 Box
SST -225-STST	225mm	76-100mm	100 Box
SST -250-STST	250mm	101-125mm	100 Box
SST -275-STST	275mm	126-150mm	100 Box



UK
CA

FT Frame Tie

Used for fixing timber door and window frames to brickwork by building into mortar courses as construction progresses.

Code	Size	Units
FT /145/25	145 mm	25 Bag



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 European) standards is to ensure a common minimum standard to which all products and services must adhere.

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.

B.S.EN845-1:2013 and B.S.EN846-5:2012

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 PD 6697:2019 and B.S.5268-6:1 1996 Structural use of timber-dwellings not exceeding seven storeys for timber frame tie usage.

Density and Positioning of Ties

This varies according to cavity width, generally vertical spacings are 450 mm, horizontal spacing is 900mm (up to a 75 mm 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 embedment, and a minimum 25mm mortar thickness after the tie.

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.

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) which have now been discontinued, or ties with a measured dynamic stiffness of <4.8MN/m³ taking both cavity width and tie density into account.

Tests at Lucideon 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. **The VE4 Housing Ties 250mm and 275mm** have also been tested and have a measured dynamic stiffness of **4.6MN/m³** and therefore also are classed as a Type A tie in Part E minimum cavity width for these 2 sizes 125mm. Vista VE4 wall ties are listed by Robust Details as a Type A wall tie.

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 <113MN/m3 taking both cavity width and tie density into account.

Tests at Lucideon have proved that the **Vista EN2 and VE2 General Purpose Ties** have 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.**

Minimum requirements for Wall Ties to PD 6697: 2019 (Table 12) and BS 5268-6.1: 1996 (Annex B)

Type of Tie	Minimum Mortar Class and Designation	Tensile Load Capacity (N)	Compressive Load Capacity (N)
1	M12 (i) M2 (iv)	5000 2500	4000 2000
2	M2 (iv)	1800	1050
3	M2 (iv)	1100	650
4	M2 (iv)	650	350
6	M4 (iii)	630	440
7	M4 (iii)	To be declared by the wall tie manufacturer	

Following a change to wall tie test procedures in BS EN 846-5:2012 from August 2015, all bracketed compression values are taken into account by Vista and will be included in the next issue of PD6697.
Lime Mortars: Vista stainless steel wall ties can be used with lime mortars (minimum strength HLM2). Use the general guidelines given above to select the correct tie for the job.

Wall Tie Selection to PD6697:2019

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, Neutras 1
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, Neutras 2
Type 3	As Type 2 above	15m	As Type 2 above but where the basic wind speed does not exceed 27m/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	27 m/sm	Suitable for buildings on flat sites where the basic wind speed does not exceed 27m/s and altitude is not > 150m above sea level	VE4, Neutras 4

Selection to BS5268-6: 1:1996

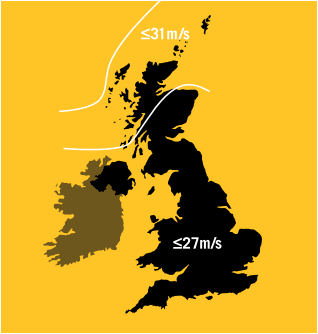
Type 6	Timber Frame Tie suitable for domestic dwellings and small commercial developments up to four storeys	15m	Suitable for buildings on flat sites where the basic wind speed does not exceed 25m/s and altitude is not > 150m above sea level	V61
Type 7	Timber Frame Tie suitable for domestic dwellings and small commercial developments up to five to seven storeys	18m	Suitability to be calculated for each location	V62

Wall Tie Selection Table (exterior cavity walls)

Type 1 As above	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 above	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 above	Cavity width	Tie length	
V26	125 - 150mm	275 - 300mm	
Type 4 As above	Cavity width	Tie length	
VE4	50 - 75mm 76 - 100mm 101 - 125mm 126 - 150mm	200mm 225mm 250mm 275mm	
Type 6 As above	Cavity width	V61	Helical Tie length
V61, Helical Ties	50mm 75mm 100mm 125mm 150mm 165mm	125mm proj. 150mm proj. 175mm proj.	195mm 195mm 220mm 245mm 270mm 295mm
Type 7 Refer to Page 20			

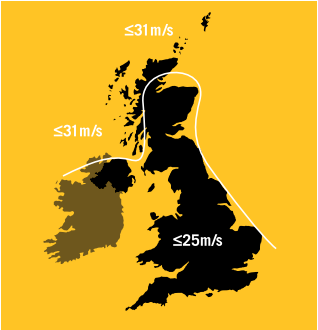
For Neutras Ties and Helical Ties please contact Vista Engineering Ltd.

Wind Zones Masonry to Masonry



Information taken from BS EN 1991-1-4:2005. Code of Practice for Wind Loads for use with PD 6697:2010.

Wind Zones Masonry to Timber



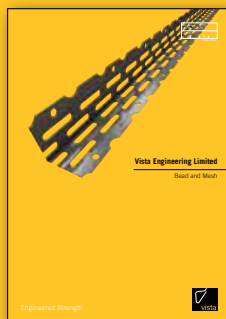
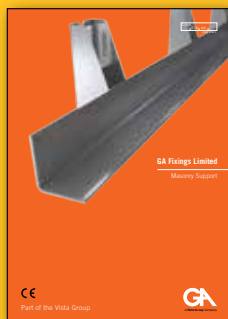
Information taken from BS 6399-2: 1997. Code of Practice for Wind Loads for use with BS 5268-6: 1:1996.

Available from:

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