

CI/SfB
(21.9), Xt6
July 2021

GA Fixings Limited

Windposts

CE

Part of the Vista Group

GA
A Vista Group Company

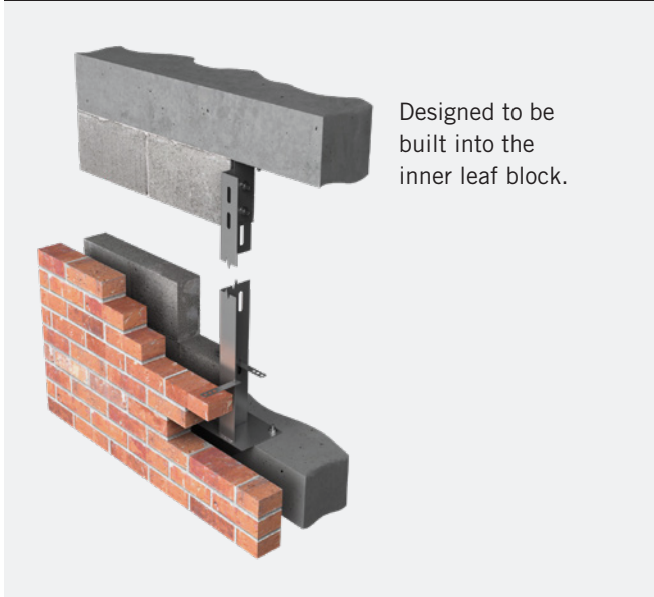
The GA Windpost and Parapet Post range provides support to masonry panels subject to higher lateral loads without the need for extra columns or an increase in wall thickness.

As an architect, engineer or builder, you need to be sure the materials you choose are up to the job. All our windposts, parapet posts and spine posts can be produced to your specifications, based on design sheets that can be downloaded from our website. So you know they'll deliver the performance you demand, in the most extreme of environments.

GA Fixings comply with CE marking regulations and are able to undertake welded fabrication work to Execution Class 2 of harmonised standard BS EN 1090-1:2009 +A1:2011. A copy of the Factory Production Control Certificate is available upon request.

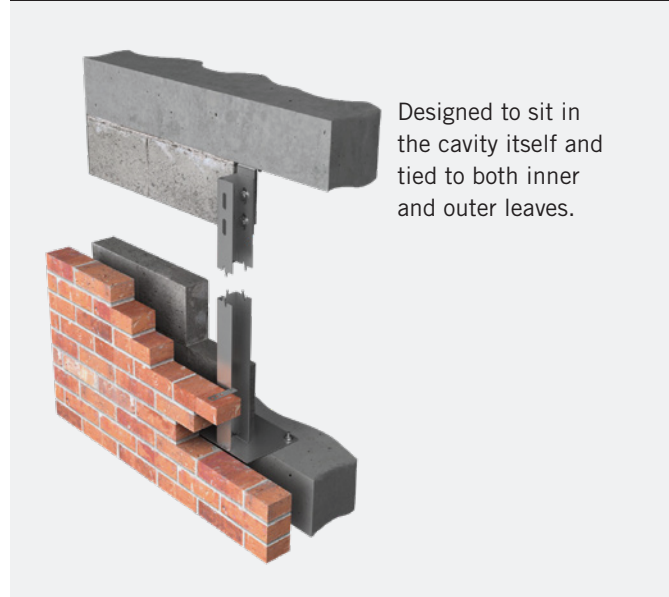


VEW1 Windposts



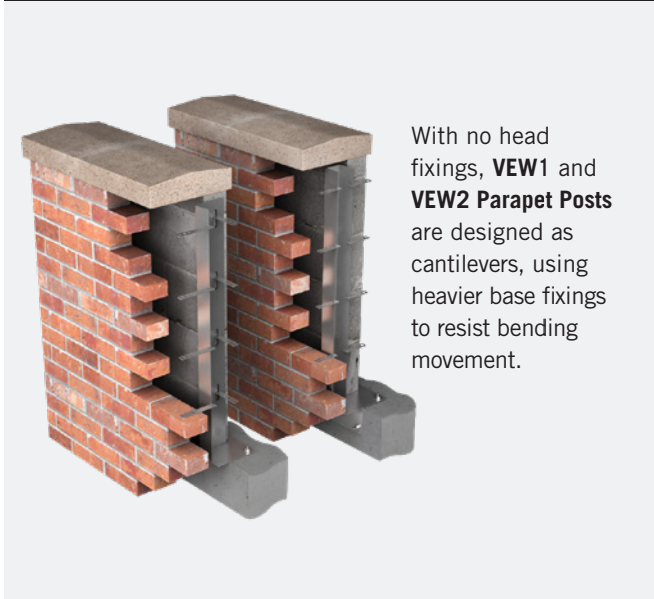
Designed to be built into the inner leaf block.

VEW2 Windposts



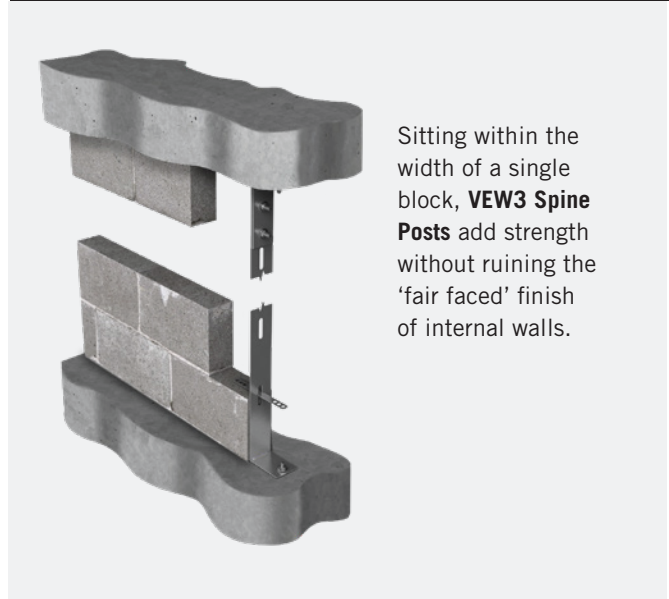
Designed to sit in the cavity itself and tied to both inner and outer leaves.

VEW1 & VEW2 Parapet Posts



With no head fixings, **VEW1** and **VEW2 Parapet Posts** are designed as cantilevers, using heavier base fixings to resist bending movement.

VEW3 Spine Posts



Sitting within the width of a single block, **VEW3 Spine Posts** add strength without ruining the 'fair faced' finish of internal walls.

Design considerations for Windposts / Parapet Posts

Windposts and parapet posts are used to provide lateral support to masonry panels which may be difficult to prove structurally and would otherwise require the introduction of extra columns or an increase in the wall thickness.

Windpost Design

Both the VEW1 and VEW2 type windposts span vertically between floors and the design will usually include a positively fixed base and a top fixing that will allow differential movement between the structure and the masonry.

GA windposts are usually designed as 'simply supported beams' with a maximum allowable deflection of span/360 and a maximum allowable design stress of 230N/mm².

Where deflection is the limiting factor windposts may be designed as a 'propped cantilever', using this method reduces the deflection of the windpost considerably but requires a much larger baseplate.

Parapet Posts

In most cases parapet posts are required to carry a uniformly distributed load along its height but in some instances it is necessary to consider a point load or a combination of both u.d.l. and point load acting on a post, this may be the case when designing spandrel posts in particular.

GA parapet posts are designed as 'cantilevers' with a maximum allowable deflection of span/180 and a maximum allowable design stress of 230N/mm².

They are generally made from grade 304 stainless steel but can also be supplied in other grades of stainless and mild steel.

Connection Baseplate Design

Windposts which have been designed as 'propped cantilevers' and parapet posts which are designed as 'cantilevers' require larger baseplates than standard windposts designed as 'simply supported beams' this is due to the moment induced on the base connection.

Care should be taken when detailing the posts to ensure that the baseplate thickness and fixing bolts used are able to resist the bending moment and that the structure is large enough to accept the larger baseplate and bolts. For further advice please contact GA Fixings technical department.

Top Cleat Design

Wherever possible the top cleat connection from the post to the structure should include the provision for differential movement between the structure and the masonry.

GA windposts usually include twin vertical slots in the top of the post which allow the top cleat to move vertically yet restrain the post laterally.

Windpost Ties

Windpost ties are provided at 225mm centres on the VEW1 type posts and 450mm centres at the VEW2 type posts as standard. All parapet posts are supplied with ties at 225mm centres. Slot centres may be changed to suit customer requirements.

The relative centres ensure that the capacity of the windpost is matched by the capacity of the ties.



4 VEW1 Windposts

VEW1 Windposts

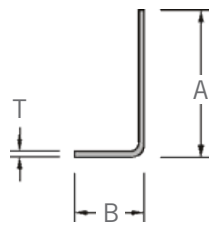
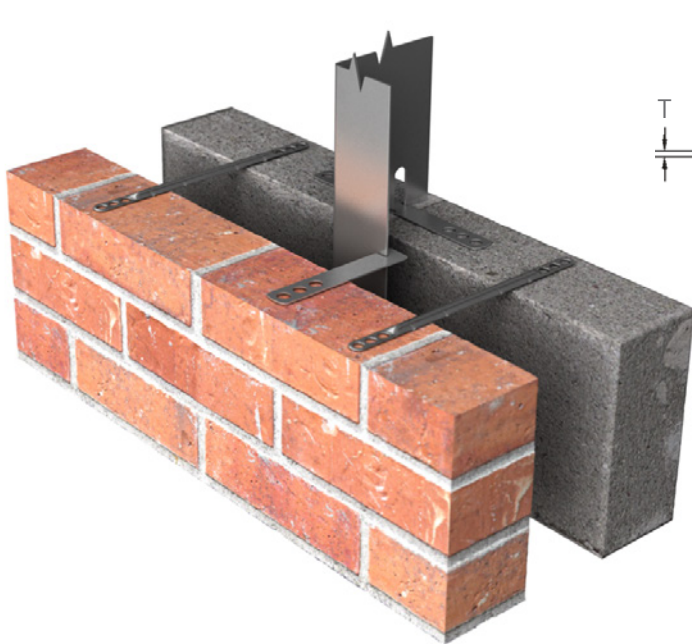
VEW1 Windposts are positioned so that the longer leg is built into the inner leaf, with the return leg sitting in the cavity - a very strong arrangement for heavily loaded walls.

Introduction

The **VEW1** range of windposts are of angle section where the inner leg 'A' of the post is built into the inner leaf with the return leg 'B' sitting in the cavity.



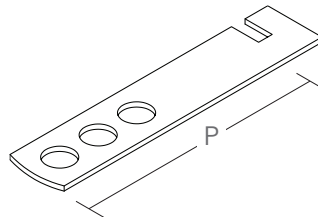
VEW1 Windposts are generally used for heavily loaded conditions or for small cavities where the VEW2 type post may not fit.



Vertical slots at the head connection allow for frame shrinkage up to +/- 24mm

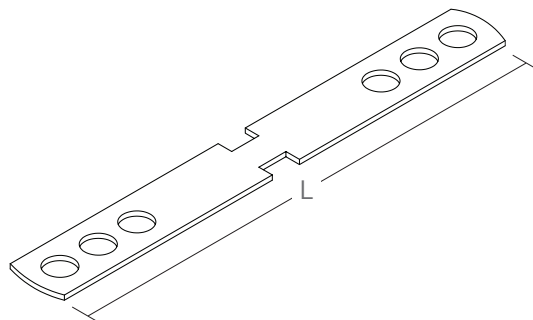
WPTC

One-way windpost tie usually only required when the windpost is being used at a movement joint location or at an opening. Not supplied as standard please specify if required when ordering.



WPT2

Two-way windpost ties usually supplied 200mm long. The ties can be supplied with a debonding sleeve for windposts being used at movement joint locations.

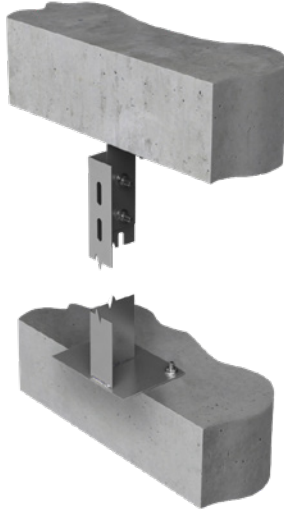


The first slot positioned to suit coursing level. Slots at 225 mm centres thereafter.

VEW1 Windpost

VEW1 Windpost Connection Examples

Head fixed into concrete using
M12 FBN II Anchor



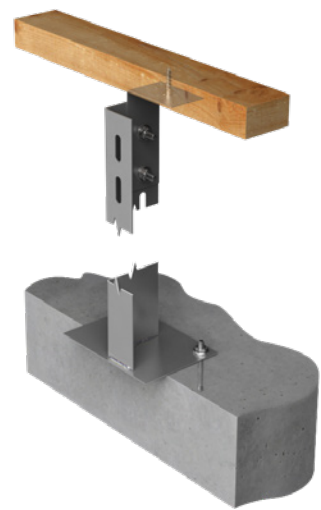
Base fixed using into concrete slab
M12 FBN II Anchor

Head fixed into steelwork using
M12 Isolated Setscrews



Base fixed into steelwork using
M12 Isolated Setscrews

Head fixed into timber wallplate using
M12 Coachscrew



Base fixed into concrete slab using
M12 FBN II Anchor

Performance Tables

Windposts are designed as simply supported beams with a maximum design strength of 230N/mm² and a maximum deflection of span/360. Design resistances should be compared with factored loads. Recommended resistance includes a variable load factor of 1.5

VEW1 WINDPOSTS

Windpost Section Size			Recommended resistance (UDL) kN per post							
A	B	T	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
125	70	4	5.55	4.30	3.45	2.80	2.30	1.95		
140	70	4	7.20	5.55	4.45	3.65	3.05	2.55	2.15	
130	70	6	9.20	7.20	5.75	4.70	3.90	3.25	2.75	
150	70	5	10.50	8.25	6.70	5.50	4.55	3.90	3.30	
150	70	6	12.50	9.80	7.90	6.55	5.50	4.60	3.95	3.35
170	70	5	13.50	10.75	8.75	7.30	6.10	5.20	4.50	3.90
150	80	8	16.50	15.30	12.20	9.90	8.10	6.80	5.70	4.80
185	70	6	16.50	15.50	12.60	10.45	8.85	7.50	6.50	5.65
170	80	8	16.50	17.30	14.20	11.75	10.00	8.50	7.30	6.30
180	80	8	16.50	19.70	16.10	13.40	11.30	9.60	8.30	7.30

Bold figures indicate resistance limited by tie capacity.

VEW1 WINDPOSTS

Windpost Section Size			Design resistance (UDL) kN per post							
A	B	T	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
125	70	4	8.33	6.45	5.18	4.20	3.45	2.93		
140	70	4	10.80	8.33	6.68	5.48	4.58	3.83	3.23	
130	70	6	13.80	10.80	8.63	7.05	5.85	4.88	4.13	
150	70	5	15.75	12.38	10.05	8.25	6.83	5.85	4.95	
150	70	6	18.75	14.70	11.85	9.83	8.25	6.90	5.93	5.03
170	70	5	20.25	16.13	13.13	10.95	9.15	7.80	6.75	5.85
150	80	8	24.75	22.95	18.30	14.85	12.15	10.20	8.55	7.20
185	70	6	24.75	23.25	18.90	15.68	13.28	11.25	9.75	8.48
170	80	8	24.75	25.95	21.30	17.63	15.00	12.75	10.95	9.45
180	80	8	24.75	29.55	24.15	20.10	16.95	14.40	12.45	10.95

Bold figures indicate resistance limited by tie capacity.

6 VEW2 Windposts

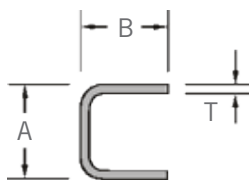
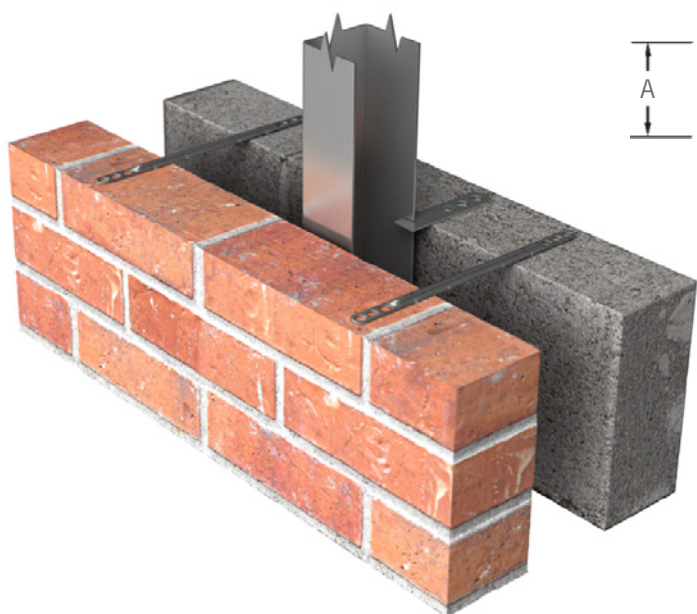
VEW2 Windposts

Sitting in the cavity of the wall itself and anchored at the head and base, VEW2 Windposts are generally used for lighter load conditions than the VEW1 type posts.

Introduction

The **VEW2** range of windposts are of channel section where the post sits in the cavity of the wall, they are generally used for lighter load conditions than the GA VEW1 type posts.

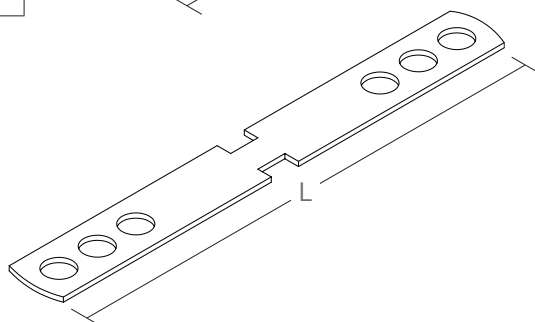
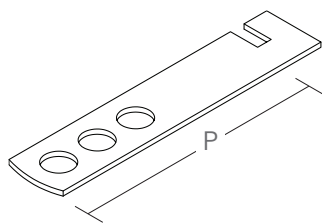
The use of a **VEW2 Windpost** is governed by the size of the cavity and the load to be supported i.e. it may not be possible to increase the section of the post and therefore its load capacity due to the size of the cavity.



Vertical slots at the head connection allow for frame shrinkage up to +/- 24mm

Minimum Channel Sections

T (mm)	"A"	"B"
4	35	25
5	35	30
6	40	35
8	55	30
10	75	70
12	90	80



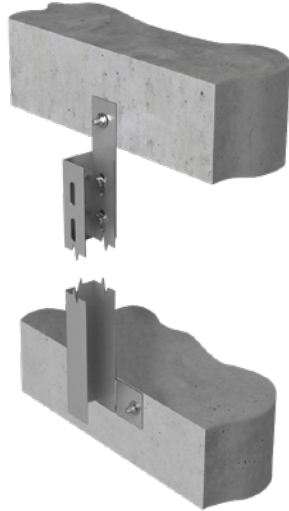
WPTC

The WPTC one way tie is clipped to **VEW2** edges to tie into both block and brick courses. When ordering, please specify projection 'P' from front of notch to tie end.

VEW2 Windpost

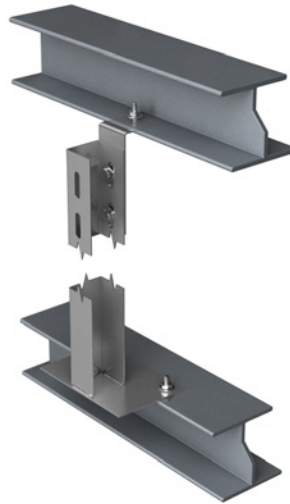
VEW2 Windpost Connection Examples

Head fixed into concrete using
M12 FBN II Anchor



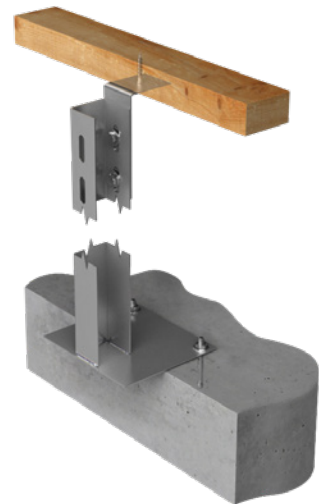
Base fixed using into concrete slab
M12 FBN II Anchor

Head fixed into steelwork using
M12 Isolated Setscrews



Base fixed into steelwork using
M12 Isolated Setscrews

Head fixed into timber wallplate using
M12 Coachscrew



Base fixed into concrete slab using
M12 FBN II Anchor

Performance Tables

Windposts are designed as simply supported beams with a maximum design strength of 230N/mm² and a maximum deflection of span/360. Design resistances should be compared with factored loads. Recommended resistance includes a variable load factor of 1.5

VEW2 WINDPOSTS

Windpost Section Size	Recommended resistance (UDL) kN per post										
	A	B	T	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
65 x 60 x 4				3.25	2.30	1.74	1.35				
65 x 60 x 5				3.95	2.80	2.10	1.60				
75 x 60 x 4				4.30	3.15	2.35	1.85				
75 x 60 x 5				5.40	3.86	2.90	2.25	1.75			
85 x 60 x 4				5.45	4.05	3.10	2.40	1.95			
85 x 60 x 5				6.95	5.09	3.80	2.95	2.35	1.90		
95 x 60 x 5				8.60	6.35	4.85	3.80	3.05	2.45	2.05	
105 x 60 x 5				10.30	7.75	6.00	4.75	3.80	3.10	2.55	2.15
105 x 60 x 6				11.10	9.05	7.00	5.50	4.40	3.60	3.00	2.50
115 x 60 x 8				11.10	13.30	10.60	8.50	6.85	5.60	4.65	3.90

Bold figures indicate resistance limited by tie capacity / ties required at reduced vertical centres.

VEW2 WINDPOSTS

Windpost Section Size	Design resistance (UDL) kN per post										
	A	B	T	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
65 x 60 x 4				4.88	3.45	2.61	2.03				
65 x 60 x 5				5.93	4.20	3.15	2.40				
75 x 60 x 4				6.45	4.73	3.53	2.78				
75 x 60 x 5				8.10	5.79	4.35	3.38	2.63			
85 x 60 x 4				8.18	6.08	4.65	3.60	2.93			
85 x 60 x 5				10.43	7.64	5.70	4.43	3.53	2.85		
95 x 60 x 5				12.90	9.53	7.28	5.70	4.58	3.68	3.08	
105 x 60 x 5				15.45	11.63	9.00	7.13	5.70	4.65	3.83	3.23
105 x 60 x 6				16.65	13.58	10.50	8.25	6.60	5.40	4.50	3.75
115 x 60 x 8				16.65	19.95	15.90	12.75	10.28	8.40	6.98	5.85

Bold figures indicate resistance limited by tie capacity / ties required at reduced vertical centres.

8 VEW1 and VEW2 Parapet Posts

VEW1&2 Parapet Posts

A range of shorter length posts for use in applications such as car park top level walling, with larger base fixings to resist the increased bending moment brought on by the lack of head fixing.

Introduction

Parapet and spandrel posts are designed as cantilevers and are available in both the **VEW1** and **VEW2** section types.

Larger base connections will be required to resist the 'bending moment' and careful consideration of the plate, fixings and base structure is required to ensure the post resists the applied loading.

VEW1 Parapet Post Properties

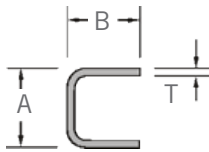
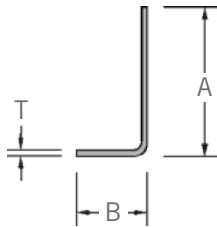
The table on page 7 shows section properties, recommended resistance loads and design resistance loads for **VEW1 Parapet Posts** designed as cantilevers.

For further information on alternative **VEW1 Parapet Post** sections and loadings, please contact **GA Fixings**.

VEW2 Parapet Post Properties

Page 7 also contains section properties, recommended load and design load figures for **VEW2 Parapet Post** sections when used as cantilevers.

For further information on alternative **VEW2 Parapet Post** sections and loadings, please contact **GA Fixings**.



VEW1
Parapet Post

VEW2
Parapet Post

Base Plate Examples



Base fixed into concrete slab using
M12 FBN II Anchor



Base fixed into concrete slab using
M12 FBN II Anchor



Base fixed into concrete slab using
M12 FBN II Anchor

Performance Tables

Windposts are designed as simply supported beams with a maximum design strength of 230N/mm² and a maximum deflection of span/360. Design resistances should be compared with factored loads. Recommended resistance includes a variable load factor of 1.5

VEW1 PARAPET POSTS

Parapet Posts Section Size			Recommended resistance (UDL) kN per post						
A	B	T	0.8m	1m	1.2m	1.4m	1.6m	1.8m	2m
125	70	4	4.50	4.50	3.80	2.95	2.35	2.00	1.75
140	70	4	4.50	5.60	4.70	4.00	3.10	2.60	2.25
130	70	6	4.50	6.00	6.10	5.10	3.90	3.30	2.90
150	70	5	4.50	6.00	6.50	5.60	4.85	3.80	3.20
150	70	6	4.50	6.00	7.50	6.90	5.70	4.50	3.95
170	70	5	4.50	6.00	7.50	7.00	6.10	5.40	4.35
150	80	8	4.50	6.00	7.50	9.00	7.80	6.00	5.30
185	70	6	4.50	6.00	7.50	9.00	9.00	8.00	6.50
170	80	8	4.50	6.00	7.50	9.00	10.40	8.70	7.10
180	80	8	4.50	6.00	7.50	9.00	10.50	10.20	8.30

Bold figures indicate resistance limited by tie capacity.

VEW1 PARAPET POSTS

Parapet Posts Section Size			Design resistance (UDL) kN per post						
A	B	T	0.8m	1m	1.2m	1.4m	1.6m	1.8m	2m
125	70	4	6.75	6.75	5.70	4.43	3.53	3.00	2.63
140	70	4	6.75	8.40	7.05	6.00	4.65	3.90	3.38
130	70	6	6.75	9.00	9.15	7.65	5.85	4.95	4.35
150	70	5	6.75	9.00	9.75	8.40	7.28	5.70	4.80
150	70	6	6.75	9.00	11.25	10.35	8.55	6.75	5.93
170	70	5	6.75	9.00	11.25	10.50	9.15	8.10	6.53
150	80	8	6.75	9.00	11.25	13.50	11.70	9.00	7.95
185	70	6	6.75	9.00	11.25	13.50	13.50	12.00	9.75
170	80	8	6.75	9.00	11.25	13.50	15.60	13.05	10.65
180	80	8	6.75	9.00	11.25	13.50	15.75	15.30	12.45

Bold figures indicate resistance limited by tie capacity.

VEW2 PARAPET POSTS

Parapet Posts Section Size			Recommended resistance (UDL) kN per post						
A	B	T	0.8 m	1 m	1.2 m	1.4m	1.6m	1.8 m	2 m
65	60	4	3.90	2.95	2.30	1.85	1.50	1.25	1.05
65	60	5	4.50	3.85	2.95	2.35	1.90	1.55	1.30
75	60	4	4.50	3.70	2.90	2.35	1.95	1.60	1.35
75	60	5	4.50	4.85	3.80	3.05	2.50	2.05	1.70
85	60	4	4.50	4.50	3.60	2.90	2.40	2.00	1.75
85	60	5	4.50	6.00	4.70	3.80	3.15	2.60	2.20
95	60	5	4.50	6.00	5.60	4.60	3.80	3.20	2.70

Bold figures indicate resistance limited by tie capacity / ties required at reduced vertical centres.

VEW2 PARAPET POSTS

Parapet Posts Section Size			Design resistance (UDL) kN per post						
A	B	T	0.8m	1 m	1.2m	1.4m	1.6m	1.8m	2m
65	60	4	5.85	4.43	3.45	2.78	2.25	1.88	1.58
65	60	5	6.75	5.78	4.43	3.53	2.85	2.33	1.95
75	60	4	6.75	5.55	4.35	3.53	2.93	2.40	2.03
75	60	5	6.75	7.28	5.70	4.58	3.75	3.08	2.55
85	60	4	6.75	6.75	5.40	4.35	3.60	3.00	2.63
85	60	5	6.75	9.00	7.05	5.70	4.73	3.90	3.30
95	60	5	6.75	9.00	8.40	6.90	5.70	4.80	4.05

Bold figures indicate resistance limited by tie capacity / ties required at reduced vertical centres.

10 VEW1 and VEW2 Parapet Posts

VEW3 Spine Posts

Spine posts are flat section posts designed to sit within the width of a masonry wall to preserve a 'fair faced' finish to both sides. They are anchored in same way as VEW1 and VEW2 posts.

Introduction

VEW3 Spine Posts add strength and stability to single leaf walls without protruding beyond the width of the blockwork.

Although the width of **VEW3 Spine Posts** is limited by the width of the masonry, the thickness of the post itself can be increased to add to its load capacity.

VEW3 Spine Post Properties

The tables on page 7 show section properties, recommended resistance loads and design resistance loads for **VEW3 Spine Posts** acting as simply supported beams.

For further information on alternative **VEW3 Spine Post** sections and loadings for posts designed as propped cantilevers, please contact GA Fixings.

WPT2

Spine posts are tied in using WPT2 ties. These are usually supplied 200mm long and can be ordered with a debonding sleeve for spine posts being used at movement joint locations.

VEW3 Spine Post Connection Examples

Head fixed into concrete slab using
M12 FBN II Anchor



Base fixed into concrete slab using
M12 FBN II Anchor

Head fixed into steelwork using
M12 Isolated Setscrews

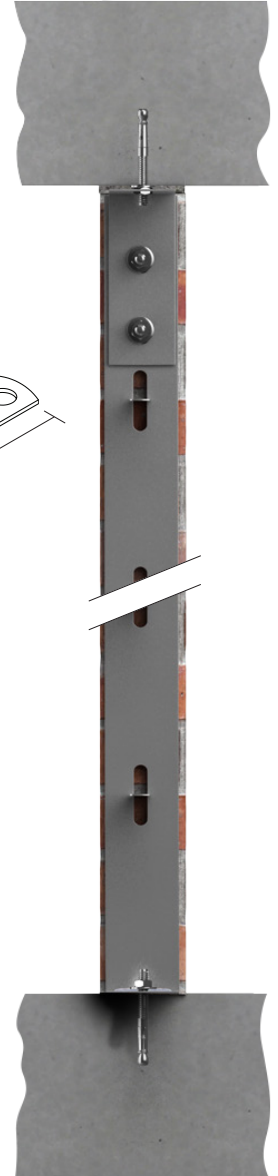
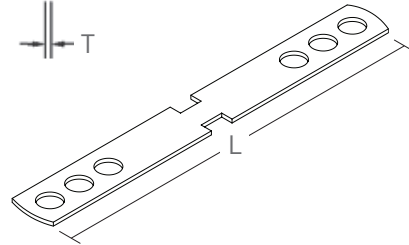
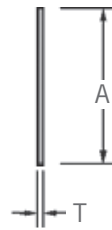


Base fixed into steelwork using
M12 Isolated Setscrews

Head fixed into timber wallplate using
M12 Coachscrew



Base fixed into concrete slab using
M12 FBN II Anchor



Performance Tables

Windposts are designed as simply supported beams with a maximum design strength of 230N/mm² and a maximum deflection of span/360. Design resistances should be compared with factored loads. Recommended resistance includes a variable load factor of 1.5

VEW3 SPINE POSTS

Windpost Section Size	Recommended resistance (UDL) kN per post									
	A	T	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
90 x 8			3.00	2.20	1.65					
100 x 8			3.95	2.90	2.20	1.70	1.35			
110 x 8			5.00	3.75	2.90	2.25	1.80	1.45		
120 x 8			6.25	4.75	3.70	2.90	2.35	1.90	1.60	1.35


VEW3 SPINE POSTS

Windpost Section Size	Design resistance (UDL) kN per post									
	A	T	2.5m	3m	3.5m	4m	4.5m	5m	5.5m	6m
90 x 8			4.50	3.30	2.48					
100 x 8			5.93	4.35	3.30	2.55	2.03			
110 x 8			7.50	5.63	4.35	3.38	2.70	2.18		
120 x 8			9.38	7.13	5.55	4.35	3.53	2.85	2.40	2.03

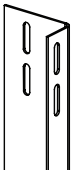
WINDPOST DESIGN SHEET

Service


GA undertake the design of the windpost and fixings required, based on your specifications set out on the design sheet below, and will produce all necessary drawings detailing the windpost length and connections for approval prior to manufacture.

Windpost Design Sheet	Company:	GA Fixings Unit 34 , Claycliffe Business Park Cannon Way, Barugh Green Barnsley S75 1JU. Tel: 01226 380779 Fax: 01226 385558 Email: info@gafixings.com	 A Vista Group Company
Contact Name:		Project:	
Contact Phone No.		Date Required:	
E-Mail:		Order No.	
Site Address			

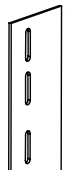
Post Type - Please tick relevant box



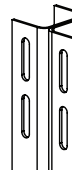
VEW1



VEW2

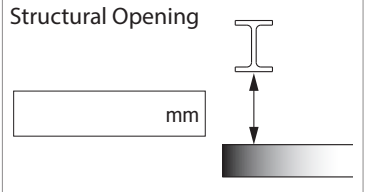


VEW3



VEW4

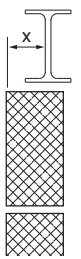
Structural Opening



mm

Qty Reqd = Section Size = Design Load/Post (kN) ULS =


Top Connection - Please tick required top connection type and confirm sizes / dimensions requested



Steel Beam UB

UB Section =

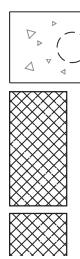
Offset "x" =



Steel Beam RHS

RHS Section =

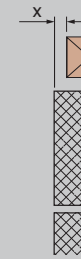
Offset "x" =



Concrete

Slab Type =

Slab Depth "d" =

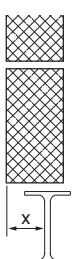


Timber

Wall Plate Size =

Offset "x" =

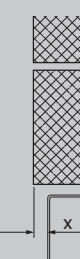
Base Connection - Please tick required base connection type and confirm sizes / dimensions requested



Steel Beam UB

UB Section =

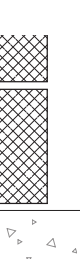
Offset "x" =



Steel Beam RHS

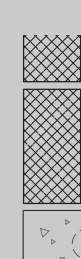
RHS Section =

Offset "x" =



Concrete

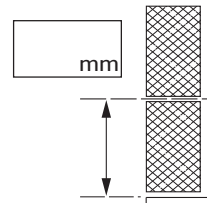
Slab Depth "d" =



Hollowcore

Slab Depth "d" =

First Tie Position



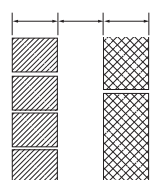
mm

Masonry Construction Dimensions

Brick= mm

Cavity= mm

Block= mm



Additional Comments

Signature _____

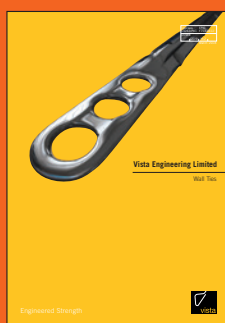
Date _____

Available from:

All illustrations, technical information, descriptions, British and European Standards contained within this publication are intended for guidance only and shall not constitute a "sale by description". All information is provided correct at time of printing (JULY 2021). The Company pursues a policy of constant product development and information contained in this publication is therefore subject to change without notice. All dimensions given are nominal. Updates will not be issued automatically. The information is not intended to have any legal effect, whether by way of advice, representation or warranty (express or implied). We accept no liability whatsoever (to the extent permitted by law) if you place any reliance on this Publication you must do so at your own risk.

Please contact the Head Office should you have any technical enquiries.

©GA Fixings 2021.



GA Fixings Ltd

Unit 34
Claycliffe Business Park
Cannon Way
Barugh Green
Barnsley S75 1JU

Tel: 01226 380779

Fax: 01226 385558

web: www.gafixings.com

Email: info@gafixings.com

Group Head Office

Vista Group
Carr Brook Works
Elnor Lane
Whaley Bridge
High Peak SK23 7JN

Tel: 01663 736700

Fax: 01663 733232

web: www.vistaeng.co.uk

email: sales@vistaeng.co.uk



A Vista Group Company

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