

Now with CE marking

# Windposts and Parapet Posts

Construction products which fall within the scope of a harmonised European Standard should now carry CE marking under the Construction Products Regulation. For windposts and parapet posts, the harmonised standard is BS EN 1090-1 Execution of steel structures and aluminium structures: Requirements for conformity assessment of structural components. Ancon complies with all CE marking requirements of this Standard, including designs to EN 1993 (Eurocode 3) and external certification of our factory production controls by an approved body.

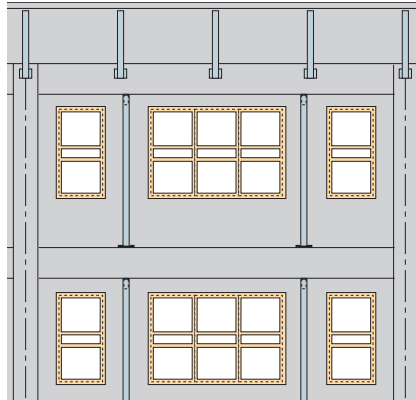
Ancon is certified to undertake welded fabrication work to Execution Class 2 which covers most building applications and is the default class when unspecified. For more information on Execution Class or to download a Declaration of Performance, please visit [www.ancon.co.uk/CE](http://www.ancon.co.uk/CE)



## Windposts

### Design Considerations

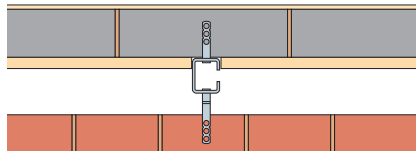
Large panels of masonry or panels with openings can often be difficult to justify structurally. The traditional solutions have been to either increase the thickness of the wall or introduce an additional column. Ancon Windposts fit within the wall allowing the existing thickness to be maintained.



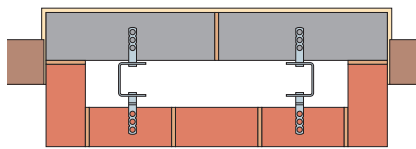
Typical Layout of Windposts and Parapet Posts on an Elevation of Brickwork

### Ancon WP1 and WP3 Windposts

Ancon WP1 and WP3 Windposts are channel section windposts which are designed to be installed within the cavity leaving the blockwork undisturbed. The windposts are complete with end connections and ties which fit into the vertical slots in the flanges of the channel section.



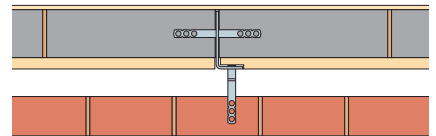
WP1 Windpost with SDN and SPN Ties in Cavity Wall



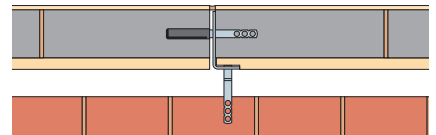
WP3 Windposts with SDN and SPN Ties Providing Support for Brick Pier

### Ancon WP2 Windposts

Ancon WP2 Windposts are angle section windposts designed for either small cavities or where wind loads are high. One leg of the angle windpost is built into the blockwork, and the blockwork tied through the leg of the windpost to minimise any possible movement or cracking of internal finishes. If a vertical movement joint is required in place of a tied joint, ties with a debonding sleeve on one side can be supplied. The capacity of the post will be reduced in this configuration.

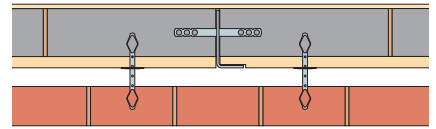


WP2 Windpost with SDN and SNS Ties in Cavity Wall



WP2 Windpost at Vertical Movement Joint in the Inner Leaf of Blockwork with Debonded Ties Across the Post

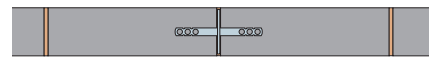
Note that the capacity of the windpost will be reduced in this configuration.



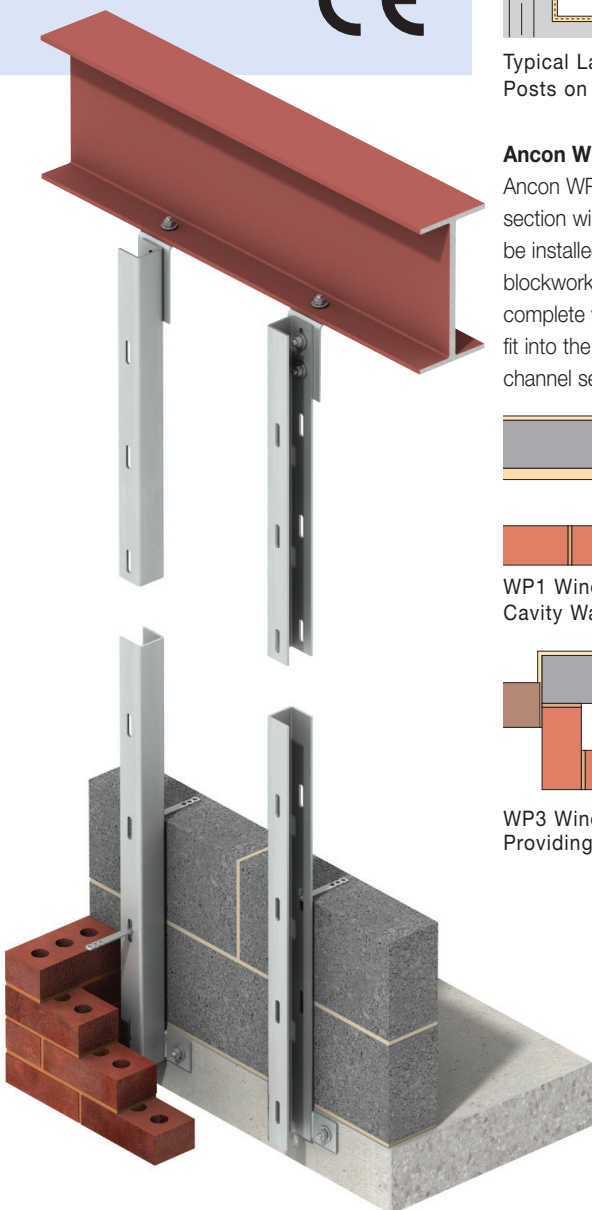
WP2 Windpost with SNS Tie and ST1 Wall Ties Each Side of the Post

### Ancon WP4 Windposts

Ancon WP4 Windposts are generally used in internal blockwork walls that have a 'fair faced' finish to both sides and where the windposts cannot protrude beyond either face. Sometimes referred to as 'spine' posts they are flat plates designed to fit within the wall. Although the depth of a WP4 post is limited by the width of the masonry (ideally 20mm less than the wall width) the thickness of the post can vary to increase its load capacity. Blockwork is tied through the post.



WP4 Windpost with SNS Tie in Single Skin Blockwork



WP3 Fixed to Concrete at the Base and a Steel Beam at the Top

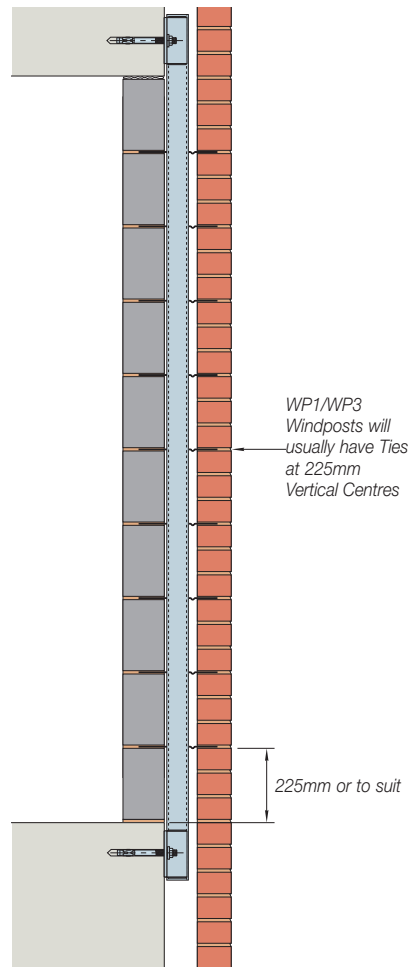
# Windposts & Parapet Posts

## Windpost Design

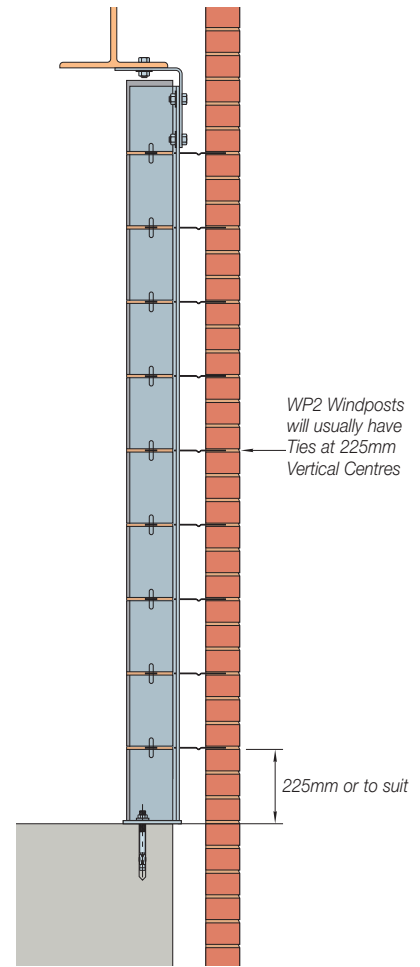
Ancon Windposts are designed to span vertically between floors to provide lateral support for panels of brickwork. The windposts will usually be restrained by the brickwork and designed as 'simply supported beams'.

Deflection under wind load will often limit the maximum loading. Windposts can be designed as 'propped cantilevers' to limit deflection, this however will require a much larger base connection which in many cases may be difficult to accommodate.

Connections to the frame are designed to permit adjustment during installation. Serrated surfaces will be provided where adjustment is in the direction of the load. The top connection allows for shrinkage or vertical movement of the frame to take place. The type of fixing will depend on the nature of the frame. Expansion bolts are normally supplied for concrete frames and set screws will be supplied for steel frames. The tables on page 6 include part of the Ancon range of windposts. For further information or advice on specific applications, please contact Ancon's Technical Services Team.



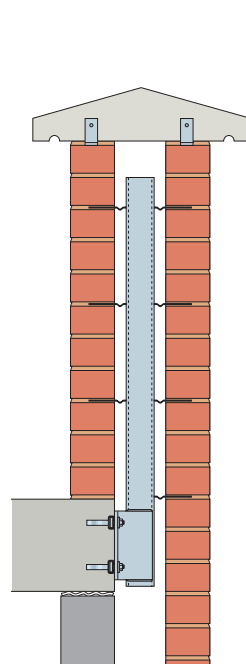
WP1/WP3 Windpost Fixed to Face of Concrete Structure



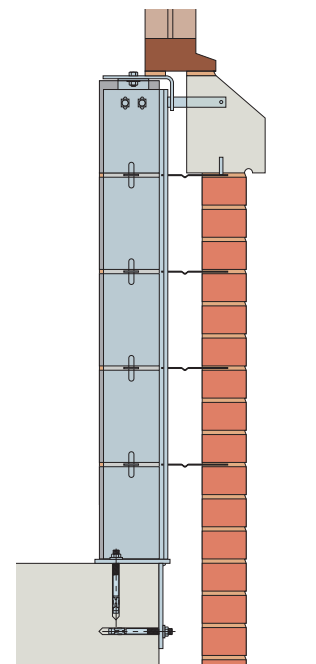
WP2 Windpost Fixed to Top of Concrete and Underside of Steel Beam

## Parapet and Spandrel Posts

Ancon Parapet and Spandrel Posts are restrained by the brickwork and designed as 'cantilevers'. The base connection will need to be sufficient to resist the 'bending moment' and may in some cases be difficult to accommodate within the floor construction. The height of these posts is unlikely to be more than 1.6 metres. The tables on page 7 include part of the Ancon range of parapet and spandrel posts. For further information or advice on specific applications, please contact Ancon's Technical Services Team.



WP1/WP3 Parapet Post Fixed to Face of Concrete



WP2 Spandrel Post Fixed to Top and Face of Concrete, with Horizontal Rail at the Top of the Post

**Fixings for Windposts and Parapet Posts**

Connections to the frame can be made in a variety of ways and will depend on the type of post, structure and fixing being used. Typical examples of connections are shown. For more specific details please consult Ancon's Technical Services Team.



Base Connection of a WP3 Windpost to Combideck



Top Connection of a WP3 Windpost to the Underside of a Concrete Beam



Top Connection of a WP3 Windpost to the Face of the Concrete



Top Connection of a WP2 Windpost to the Underside of a Steel Beam



Top Connection of a WP2 Windpost to the Underside of a Timber Wall Plate



Top Connection of a WP3 Windpost to the Underside of a Steel Beam

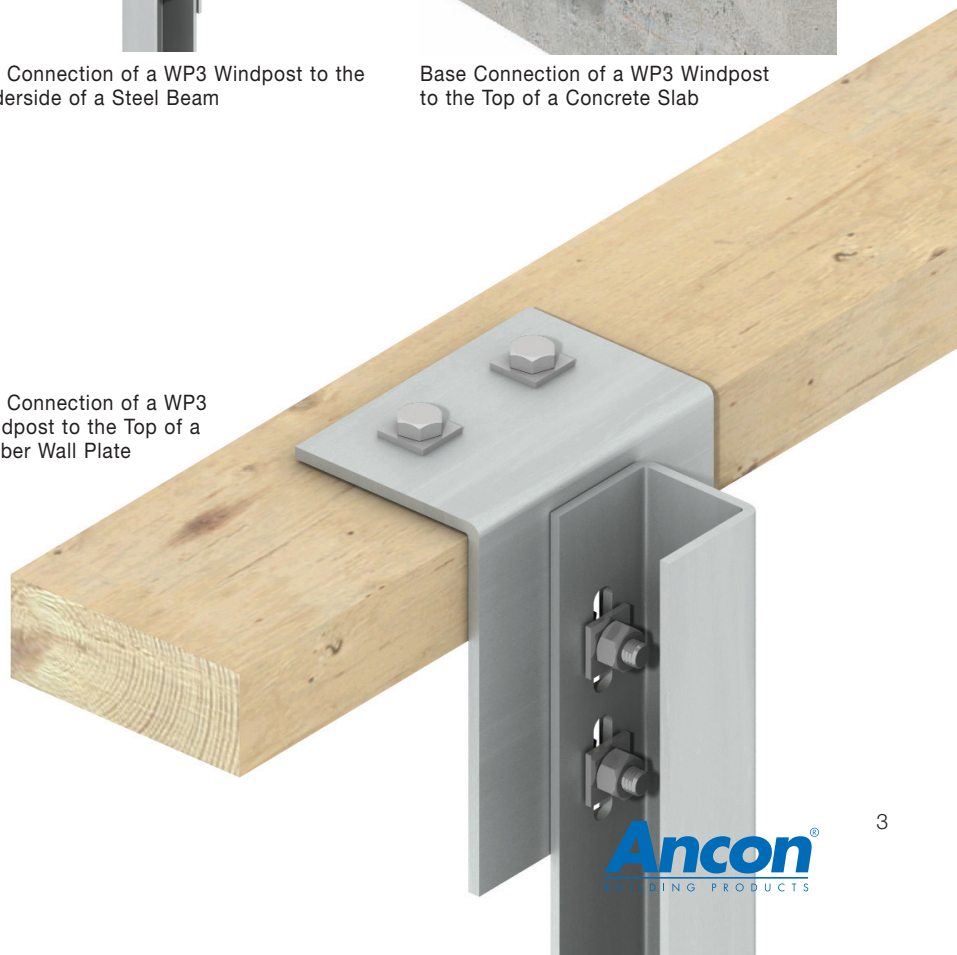


Base Connection of a WP3 Windpost to the Top of a Concrete Slab



Base Connection of a WP2 Parapet Post to the Top and Face of a Concrete Slab

Top Connection of a WP3 Windpost to the Top of a Timber Wall Plate



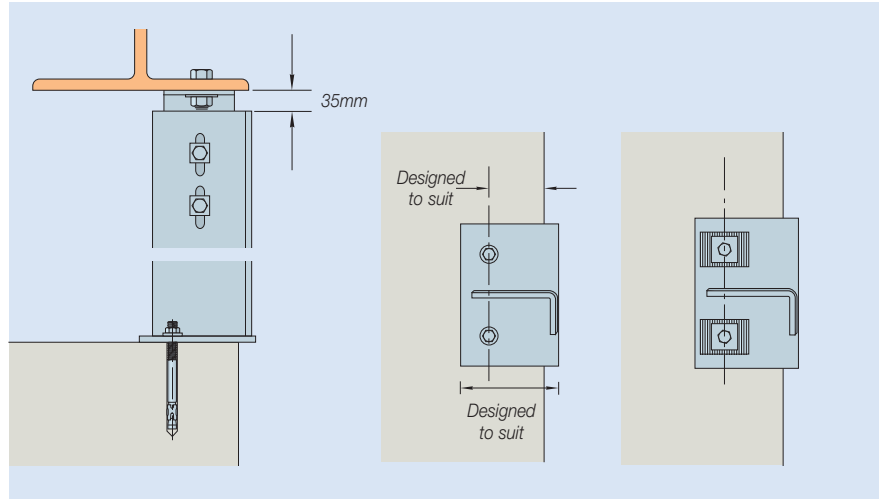
# Windposts & Parapet Posts

## Connections

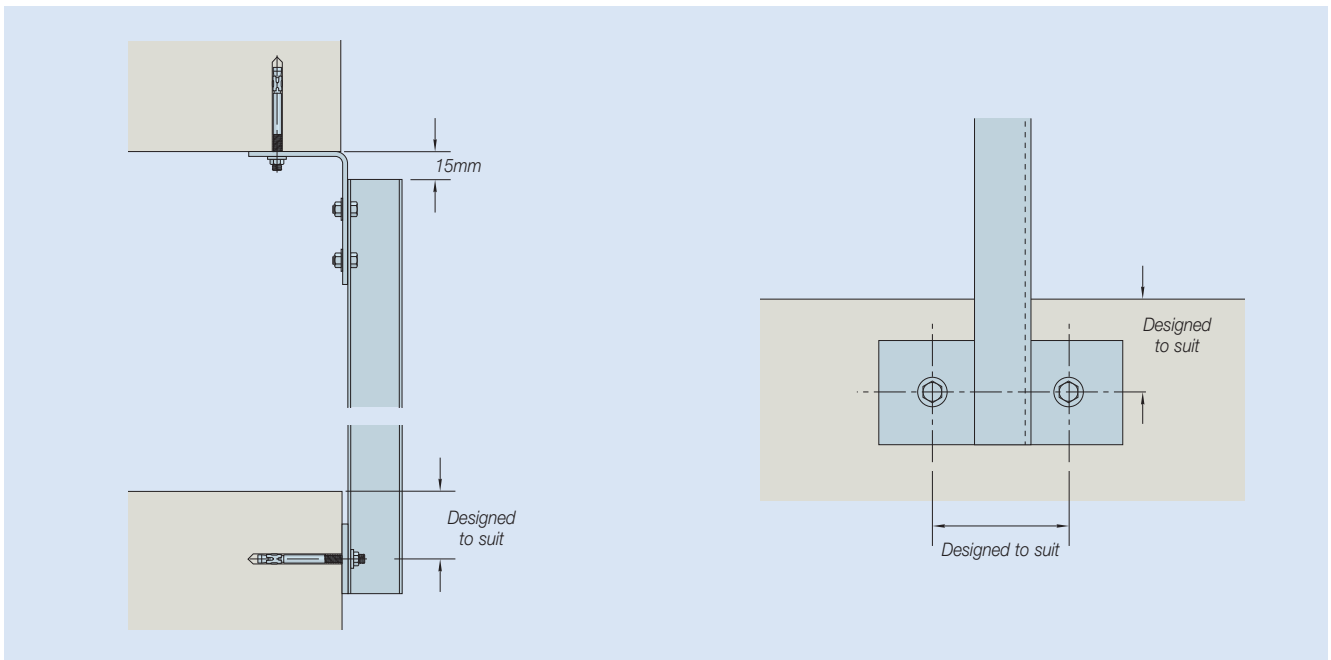
The choice of fixing and its position is dependent on the type and length of the windpost and the structure to which it is being fixed. Ancon designs fixing details for the top and base of each windpost and a drawing is issued for approval prior to manufacture.

The bolt in the slotted connection at the top of the windpost is positioned so that vertical movement of the frame can take place.

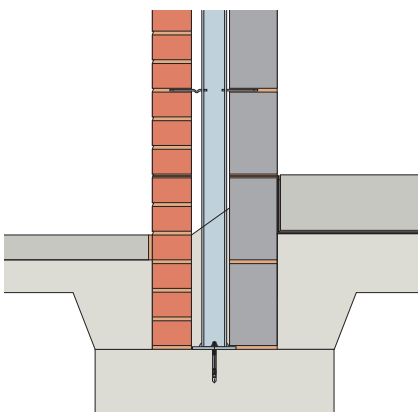
The details shown are typical. Please contact Ancon's Technical Services Team for more information.



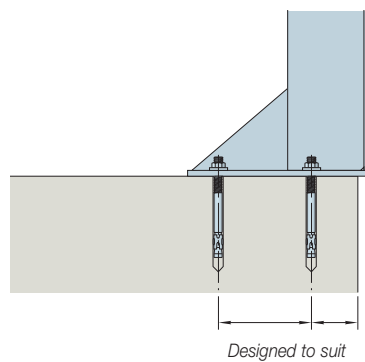
WP2 Windpost Bolted to a Steel Beam at the Top and Fixed to Concrete at the Base



WP3 Windpost Fixed using Expansion Bolts into Concrete at the Top and Bottom



WP3 Windpost Fixed Directly to the Foundations



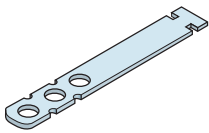
WP2 Parapet Post Fixed using Expansion Bolts into the Concrete



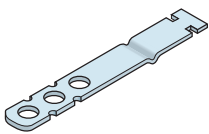
WP2 Windpost Bolted to the Top of a Concrete Floor Slab

### Wall Ties

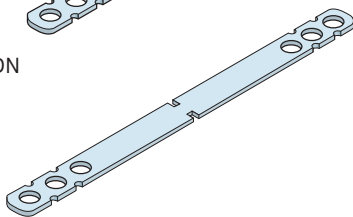
A range of ties is available to suit Ancon Windposts. SDN Ties are used to the outer leaf and SPN Ties to the inner leaf. SNS Ties are used across the posts in the inner blockwork and can be supplied with a debonding sleeve for use where there is a vertical movement joint.



SPN



SDN



SNS

### Details for Specification and Ordering

Ancon Windposts are CE marked, designed to BS EN 1993 (EC3) and manufactured to BS EN 1090-1. Sufficient time should be allowed for the design, approval and manufacturing process when placing orders for windposts.

The following clause can be adapted for your bill of quantities to aid the specification of Ancon Windposts and Parapet Posts.

Ancon Windposts WP3 65 x 60 x 4 in grade 1.4301 (304) stainless steel, overall length 2750mm complete with all ties and end connections. Fixed with Ancon FBNII 12/50 Expansion Bolts.

### WP2 Installation Details

The design of Ancon WP2 Windposts assumes full restraint to the longer leg of the post located within the vertical masonry joint. To prevent lateral movement of the post within this joint and ensure the windpost performs to its full capacity, it is essential that this joint is tightly packed with mortar.

### Windpost Design Sheet

Contact Ancon on +44 (0) 114 275 5224 or visit [www.ancon.co.uk](http://www.ancon.co.uk) for a 'Windpost Design Sheet'. This sheet summarises all the information required by Ancon to design the most appropriate windpost or parapet post to suit an application.

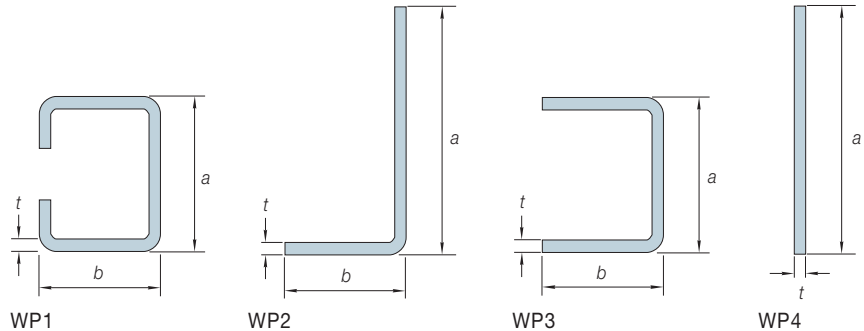
# Windposts & Parapet Posts



## Properties and Recommended Loads for Windposts to BS EN 1993 (EC3)

Ancon Windposts are designed as 'simply supported beams' with a maximum deflection of span/360. The tables below include examples of Ancon's range of Windposts with maximum design loads to BS EN 1993 (Eurocode 3).

For further information or advice on specific applications, including fixed-base 'Propped Cantilever' designs please contact Ancon's Technical Services Team.



### Performance of WP1 and WP3 Windposts to Eurocode 3

	Size a x b x t	Maximum Total Design Load (kN) per Post (uniformly distributed) for Various Windpost Spans							
		2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m
WP1	60x60x4	4.28	2.98	2.19	-	-	-	-	-
	80x60x4	8.57	5.98	4.40	3.37	2.67	2.16	-	-
	55x60x4	3.19	2.22	-	-	-	-	-	-
	55x60x5	3.93	2.73	-	-	-	-	-	-
	65x60x4	4.68	3.25	2.39	1.83	-	-	-	-
	65x60x5	5.80	4.03	2.96	2.27	-	-	-	-
	75x60x4	6.49	4.53	3.33	2.55	-	-	-	-
	75x60x5	8.07	5.62	4.14	3.17	2.50	-	-	-
WP3	85x60x4	8.62	6.03	4.44	3.40	2.69	2.18	-	-
	85x60x5	10.75	7.51	5.54	4.24	3.35	2.72	2.24	-
	95x60x5	13.83	9.72	7.17	5.49	4.35	3.52	2.91	2.45
	105x60x5	<b>14.63</b>	12.22	9.04	6.94	5.49	4.45	3.68	3.09
	115x60x5	<b>14.63</b>	14.34	11.03	8.58	6.80	5.51	4.56	3.83
	115x60x6	<b>14.63</b>	17.20	12.77	9.82	7.77	6.30	5.22	4.38
	115x65x8	<b>14.63</b>	<b>17.29</b>	16.97	13.06	10.34	8.39	6.93	5.82

Note: Table based on tie spacing of 225mm. Figures in bold indicate capacity limited by tie capacity

### Performance of WP2 Windposts to Eurocode 3

	Size a x b x t	Maximum Total Design Load (kN) per Post (uniformly distributed) for Various Windpost Spans							
		2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m
WP2	125x70x4	9.46	7.07	5.46	4.32	3.48	2.86	2.38	2.01
	140x70x4	12.28	9.25	7.20	5.74	4.66	3.84	3.21	2.72
	150x70x4	14.21	10.86	8.49	6.80	5.54	4.59	3.85	3.26
	130x70x6	15.83	11.93	9.30	7.42	6.03	4.98	4.17	3.53
	170x70x4	17.92	14.48	11.41	9.21	7.56	6.30	5.31	4.53
	160x70x5	20.33	15.94	12.54	10.11	8.30	6.91	5.82	4.96
	150x70x6	21.90	16.64	13.09	10.54	8.64	7.19	6.05	5.15
	170x70x5	22.75	18.29	14.44	11.69	9.63	8.04	6.79	5.80
	180x70x5	<b>24.76</b>	20.80	16.48	13.37	11.05	9.26	7.85	6.72
	150x80x8	<b>24.76</b>	22.59	17.76	14.31	11.74	9.77	8.23	7.01
	185x70x6	<b>24.76</b>	26.71	21.24	17.31	14.36	12.08	10.28	8.82
	170x80x8	<b>24.76</b>	<b>29.26</b>	23.81	19.31	15.96	13.37	11.33	9.70
	180x80x8	<b>24.76</b>	<b>29.26</b>	27.15	22.09	18.31	15.38	13.07	11.22

Note: Table based on tie spacing of 225mm, ties on each leg, no vertical movement joint and long leg restrained by the masonry. Figures in bold indicate capacity limited by tie capacity

### Properties and Performance of WP4 Windposts to Eurocode 3

	Size a x t	Maximum Total Design Load (kN) per Post (uniformly distributed) for Various Windpost Spans							
		2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m
WP4	90x8	4.89	3.43	-	-	-	-	-	-
	100x8	6.65	4.68	3.46	2.65	2.10	-	-	-
	110x8	8.74	6.20	4.59	3.53	2.79	2.26	-	-
	120x8	11.18	7.98	5.94	4.57	3.62	2.94	2.43	2.04

Note: Table based on post restrained by the masonry

### Properties and Recommended Loads for Parapet Posts to BS EN 1993 (EC3)

Ancon Parapet and Spandrel Posts are designed according to BS EN 1993 (Eurocode 3) for a maximum deflection of height /180. The tables below indicate the maximum

uniformly distributed design load and the maximum point load at the top. Posts should be selected from the appropriate table. If the post is to be designed for both uniformly distributed and point loads, please contact Ancon's Technical Services Team.

#### Performance of WP1P and WP3P parapet posts to Eurocode 3 under uniformly distributed load

	Size a x b x t	Maximum Total Design Load (kN) per Post (uniformly distributed) for Various Parapet Post Spans						
		0.8m	1.0m	1.2m	1.4m	1.6m	1.8m	2.0m
WP1P	60x60x4	<b>3.99</b>	<b>5.32</b>	3.77	2.81	2.16	1.71	1.40
	80x60x4	<b>3.99</b>	<b>5.32</b>	<b>6.65</b>	5.46	4.26	3.41	2.78
	55x60x4	<b>3.99</b>	<b>5.32</b>	2.94	2.19	1.68	1.34	1.08
	55x60x5	<b>3.99</b>	<b>5.32</b>	3.48	2.58	2.00	1.58	1.20
	65x60x4	<b>3.99</b>	<b>5.32</b>	4.22	3.18	2.46	1.95	1.59
WP3P	65x60x5	<b>3.99</b>	<b>5.32</b>	5.04	3.78	2.93	2.33	1.88
	75x60x4	<b>3.99</b>	<b>5.32</b>	5.67	4.32	3.38	2.70	2.19
	75x60x5	<b>3.99</b>	<b>5.32</b>	<b>6.65</b>	5.18	4.04	3.21	2.63
	85x60x4	<b>3.99</b>	<b>5.32</b>	<b>6.65</b>	5.60	4.43	3.56	2.91
	85x60x5	<b>3.99</b>	<b>5.32</b>	<b>6.65</b>	6.77	5.33	4.26	3.48

Note: Figures in bold indicate capacity limited by tie capacity. Table based on restrained parapet post with tie spacing of 225mm

#### Performance of WP1P and WP3P parapet posts to Eurocode 3 under point load

	Size a x b x t	Maximum Total Design Load (kN) at Top of Parapet Post for Various Spans						
		0.8m	1.0m	1.2m	1.4m	1.6m	1.8m	2.0m
WP1P	60x60x4	3.12	2.05	1.44	1.07	0.81	0.65	0.51
	80x60x4	5.79	3.96	2.84	2.12	1.64	1.29	1.05
	55x60x4	2.45	1.61	1.12	0.83	0.63	0.50	0.40
	55x60x5	2.90	1.90	1.33	0.97	0.75	0.59	0.48
	65x60x4	3.47	2.32	1.64	1.21	0.93	0.73	0.59
WP3P	65x60x5	4.15	2.76	1.95	1.44	1.10	0.87	0.71
	75x60x4	4.51	3.14	2.25	1.67	1.29	1.02	0.75
	75x60x5	5.56	3.78	2.69	2.00	1.54	1.22	0.99
	85x60x4	5.32	4.06	2.95	2.21	1.71	1.36	1.10
	85x60x5	7.11	4.91	3.55	2.65	2.05	1.63	1.32

Note: Table based on restrained parapet post with tie spacing of 225mm

#### Performance of WP2P parapet posts to Eurocode 3 under uniformly distributed load

	Size a x b x t	Maximum Total Design Load (kN) per Post (uniformly distributed) for Various Parapet Post Spans						
		0.8m	1.0m	1.2m	1.4m	1.6m	1.8m	2.0m
WP2P	125x70x4	<b>6.75</b>	6.33	5.27	4.52	3.95	3.51	3.02
	140x70x4	<b>6.75</b>	7.81	6.51	5.58	4.88	4.34	3.90
	150x70x4	<b>6.75</b>	8.88	7.40	6.34	5.55	4.93	4.44
	130x70x6	<b>6.75</b>	<b>9.00</b>	8.74	7.49	6.55	5.83	5.05
	170x70x4	<b>6.75</b>	<b>9.00</b>	9.33	8.00	7.00	6.22	5.60
	160x70x5	<b>6.75</b>	<b>9.00</b>	10.59	9.07	7.94	7.05	6.35
	150x70x6	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	9.79	8.57	7.61	6.85
	170x70x5	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	10.15	8.88	7.90	7.11
	180x70x5	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	11.29	9.88	8.78	7.90
	150x80x8	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	<b>13.50</b>	13.13	11.06	9.47
	185x70x6	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	<b>13.50</b>	12.66	11.25	10.13
	170x80x8	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	<b>13.50</b>	<b>15.75</b>	14.57	12.52
	180x80x8	<b>6.75</b>	<b>9.00</b>	<b>11.26</b>	<b>13.50</b>	<b>15.75</b>	16.49	14.19

Note: Figures in bold indicate that these posts require ties to the outer leaf at 225mm centres. Table based on tie spacing of 225mm, ties on each leg, no vertical movement joint and long leg restrained by the masonry

#### Performance of WP2P parapet posts to Eurocode 3 under point load

	Size a x b x t	Maximum Total Design Load (kN) at Top of Parapet Post for Various Spans						
		0.8m	1.0m	1.2m	1.4m	1.6m	1.8m	2.0m
WP2P	125x70x4	3.95	3.16	2.63	2.24	1.82	1.51	1.27
	140x70x4	4.88	3.90	3.25	2.79	2.36	1.97	1.66
	150x70x4	5.55	4.44	3.70	3.17	2.77	2.31	1.96
	130x70x6	6.55	5.24	4.37	3.73	3.05	2.54	2.15
	170x70x4	7.00	5.60	4.66	4.00	3.50	3.08	2.62
	160x70x5	7.94	6.35	5.29	4.53	3.97	3.39	2.88
	150x70x6	8.57	6.85	5.71	4.89	4.22	3.54	3.01
	170x70x5	8.88	7.11	5.92	5.07	4.44	3.88	3.31
	180x70x5	9.88	7.90	6.58	5.64	4.94	4.39	3.77
	150x80x8	15.55	11.36	8.75	6.99	5.74	4.80	4.09
	185x70x6	12.66	10.13	8.44	7.23	6.33	5.62	4.85
	170x80x8	20.12	14.82	11.48	9.22	7.60	6.39	5.45
	180x80x8	22.58	16.69	12.97	10.44	8.62	7.26	6.21

Note: Table based on tie spacing of 225mm, ties on each leg, no vertical movement joint and long leg restrained by the masonry

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