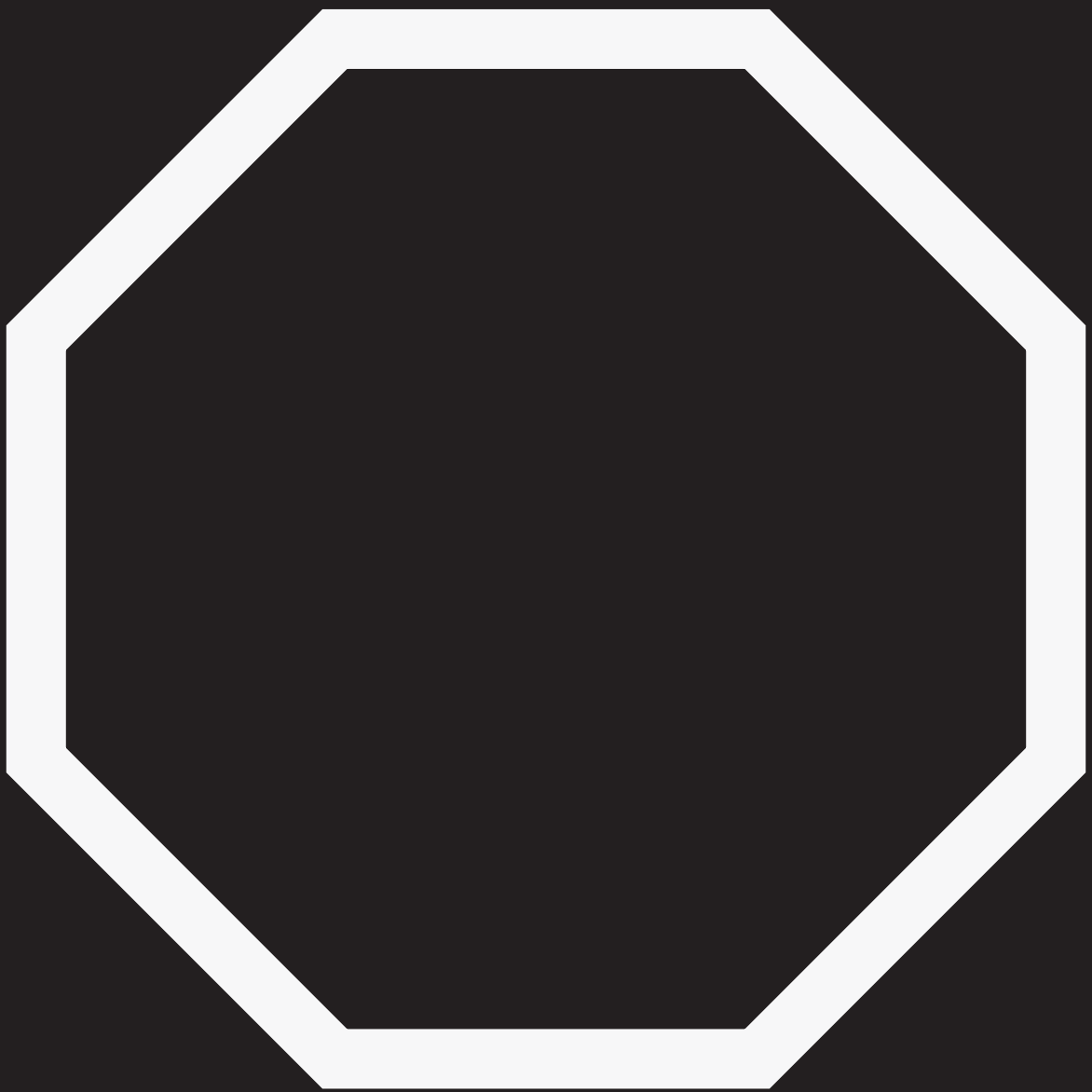
O FELIZ

OCTAGONAL COLUMNS

SETTING BY FLANGE OR PLANTING.



FELIZ

COMPANY

Where we come from, who we are and what we do.

Headquartered in Braga and with more than 6 decades of experience in its field, O FELIZ - Metalomecânica is a company specialized in metallic construction, sheet profiling, cutting and bending of sheets, construction of lighting columns and communication towers, metalworking in stainless steel and laser cutting.

A policy of continuous investment in state of the art equipment and a focus on highly qualified and competent staff allows the company to maintain a production capacity and an immediate response to the market's demands and requests, making it a reference in its fields of action.

With a portfolio of well-known projects and clients, the company has the required knowledge and means to serve in the global market, with solutions starting at the conception and elaboration of the project, all the way to the construction and final assembly.

By focusing on the efficiency of the procedures and keeping a strong market orientation, the company has been able to establish itself in an extremely competitive market, conquering its customer's trust due to the quality of the final product and the ability to follow through within the deadlines.

With a growth strategy aimed at internationalization, O FELIZ - Metalomecânica exports to several countries and has an industrial unit in Angola which has production capacity and the ability to offer solutions for the market's needs and requests.

QUALITY

Quality policy.

Working in an extremely competitive market, where clients are more and more demanding, the Administration of O FELIZ believes that only with a real involvement, a strong market orientation, the optimization of all resources and a reduction of the activities which do not add value, as well as a strict compliance with the legal and statutory requirements applicable to the product, a sustained growth can be possible.
We are committed to this goal, believing that together we will improve the performance of our organization and we will stand as a reference company.

CE Marking.

The CE marking exists to allow the free product circulation within the European Economic Space, while the voluntary markings aim at adding value and differentiating the products in their market.
The compliance with the CE marking is evaluated every year by the Certif association, through audits which are external to the product, throughout its entire production process.
Therefore, the European Commission considers the CE marking a "passport" which allows the free and legal circulation of merchandise within its borders, in accordance with their high quality and security standards, both for people and the environment.


certif Certificado
CERTIFICADO DE CONFORMIDADE CE

REGULATORY ASPECTS

Legal framework.

The Public Lighting columns presented in this catalogue meet the requirements set by the standard EN 40 – Lighting Columns, and they are subject to the EC Conformity Verification, in accordance to the Directive 89/106/EEC – Construction Products.

The safety verifications for Ultimate Limit States and Serviceability Limit States were made following the EN 40-3-3:2003. For its dimensioning and the consequent setting of the service conditions, the following calculation bases were defined:

WIND ZONES

For the quantification of the wind action, we used the contents of the EN 1991-1-4:2005 Actions in Structures – Wind Actions. The base values for the wind's speed that we used were the following:

Zone	V_{ref}
A	28 m/s
B	31 m/s

Zone A: The entire Portuguese territory, except for Zone B;

Zone B: The Azores and Madeira and the regions of the mainland located in a coastal area of 5 km of width or with altitudes higher than 600 m.

PARTIAL SECURITY FACTORS

The partial security factors were defined according to section 5.4 of the EN 40-3-3:2003.

Class	TYPE OF ACTION	
	Wind	Permanents
A	1.4	1.2
B	1.2	1.2

MAXIMUM HORIZONTAL DEFLECTION

The maximum horizontal deflection on the top of the column was limited according to section 6.5.1 of the EN 40-3-3:2003.

Class	1	2	3
Maximum Horizontal Deflection	0,04 (h+w)	0,06 (h+w)	0,10 (h+w)

h – column's nominal height
w – bracket's horizontal projection

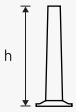
The service conditions tables were defined for a Class 3 maximum horizontal deflection. The exposure areas mentioned in service conditions tables refer to a maximum area of wind exposure per lantern.

In order to verify the safety of the columns, we adopted a lantern with a characteristic mass of 25 kg.

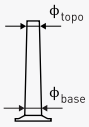
NOTE:
If you have any doubts about the conditions for applicability of a product mentioned in this catalog, please contact the Public Lighting Columns Department at O Feliz.

TECHNICAL SYMBOLS

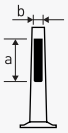
Technical symbols used in this document.



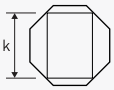
h – nominal height.



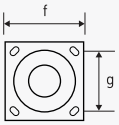
Φ_{top} - top diameter.
Φ_{base} - base diameter.



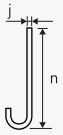
a - door opening height.
b - door opening width.



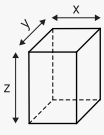
k - useable depth of the electrical compartment.



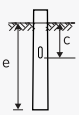
f - flange width.
g - distance between holes.



j - diameter of anchor bolt (metric dimension of the thread).
n - effective length of the anchor bolt.



x=y - width of the solid foundations.
z - depth of the solid foundations.

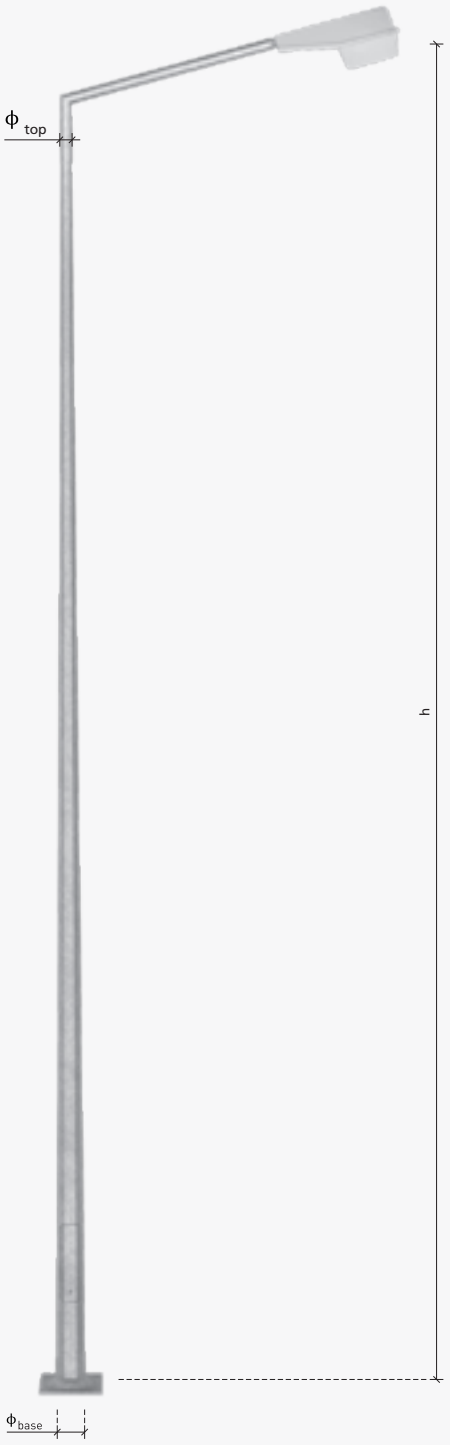


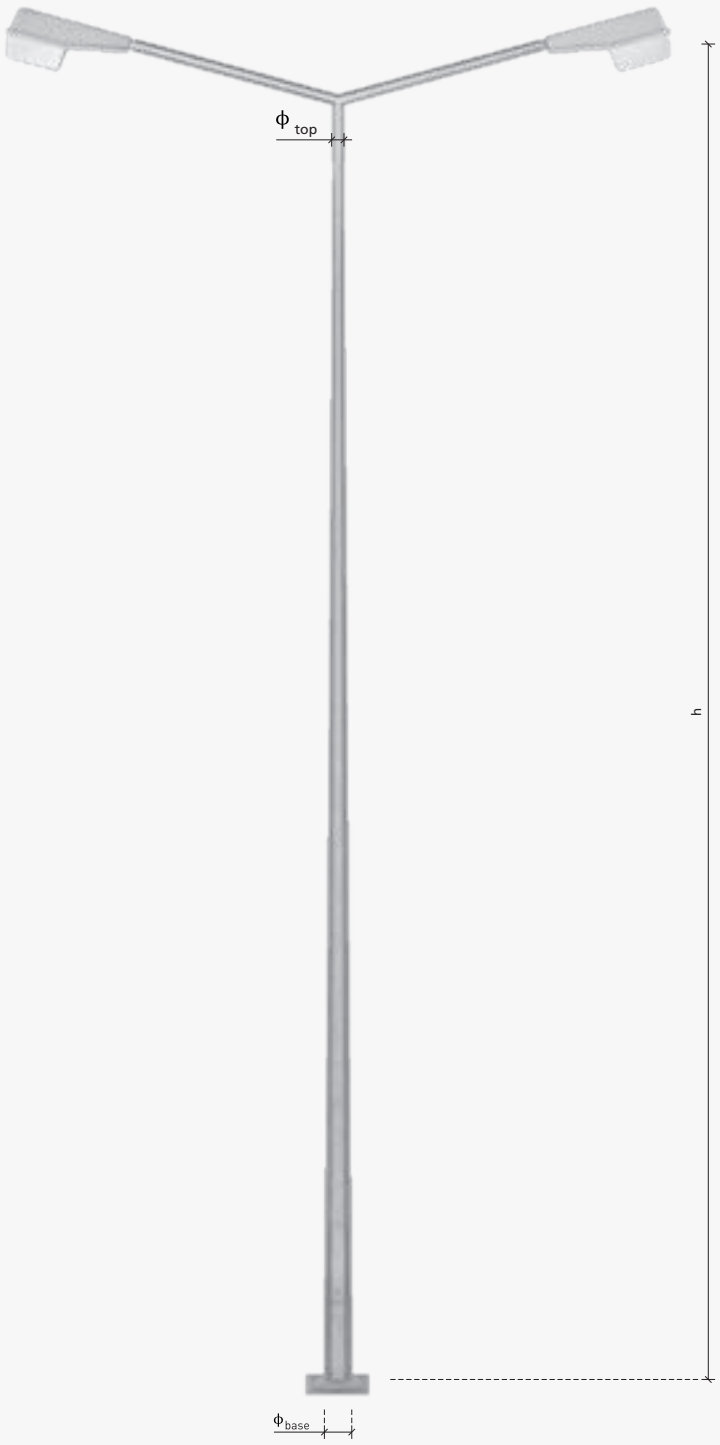
c - distance from the cable entry slot to the incorporation section.
e - planting depth.

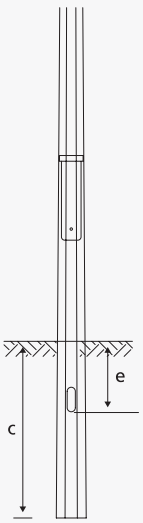
TYPES OF COLUMNS

OCTAGONAL COLUMNS

Single or double bracket. Setting by flange or planting.







Planting Solution

FOUNDATION

The size of the foundation was defined for a ground with an admissible tension of 300 kPa. In its design, we considered Class C20/25 concrete and A400NR reinforcement steel frame.

ANTI-CORROSION PROTECTION

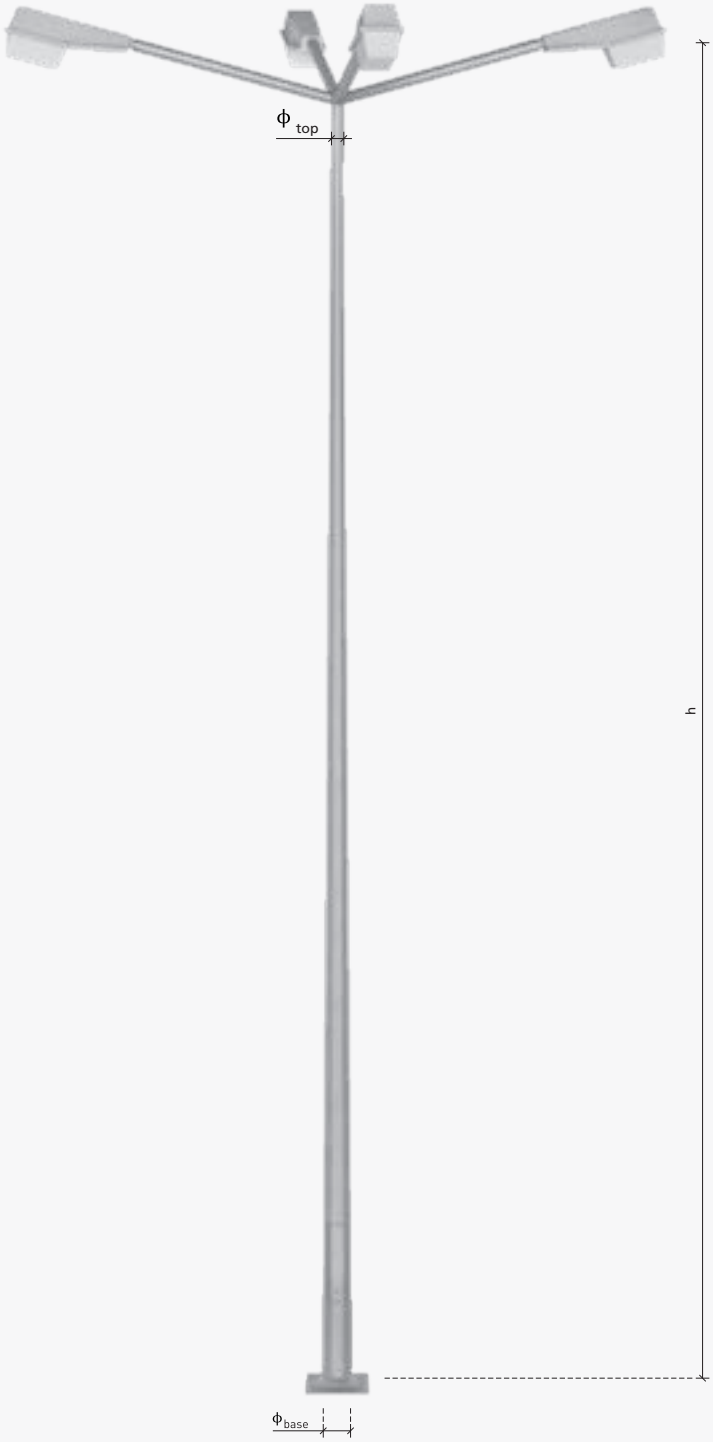
Hot dip galvanizing in accordance with the standard NP EN ISO 1461. The columns can be delivered with a different painting scheme.

MATERIAL

S275JR steel in accordance with the standard EN 10025-2.

OCTAGONAL COLUMNS

Triple or quadruple bracket. Setting by flange or planting.



FOUNDATION

The size of the foundation was defined for a ground with an admissible tension of 300 kPa. In its design, we considered Class C20/25 concrete and A400NR reinforcement steel frame.

ANTI-CORROSION PROTECTION

Hot dip galvanizing in accordance with the standard NP EN ISO 1461. The columns can be delivered with a different painting scheme.

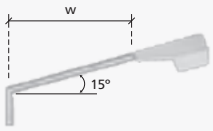
MATERIAL

S275JR steel in accordance with the standard EN 10025-2.

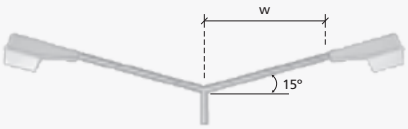
TYPES OF BRACKETS

Octagonal Geometry.

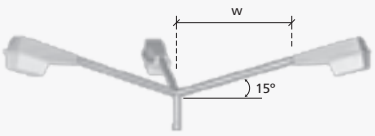
SINGLE BRACKET			
Reference	Description	Series	w [m]
PR302S	Single Octogonal Bracket 0.50 m 15º	TP2	0,50
PR303S	Single Octogonal Bracket 0.75 m 15º	TP2	0,75
PR304S	Single Octogonal Bracket 1.00 m 15º	TP2	1,00
PR305S	Single Octogonal Bracket 1.25 m 15º	TP2	1,25



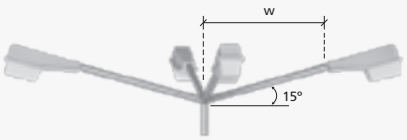
DOUBLE BRACKET			
Reference	Description	Series	w [m]
PR302D	Double Octogonal Bracket 0.50 m 15º	TP2	0,50
PR303D	Double Octogonal Bracket 0.75 m 15º	TP2	0,75
PR304D	Double Octogonal Bracket 1.00 m 15º	TP2	1,00
PR305D	Double Octogonal Bracket 1.25 m 15º	TP2	1,25



TRIPLE BRACKET			
Reference	Description	Series	w [m]
PR302T	Triple Octogonal Bracket 0.50 m 15º	TP3	0,50
PR303T	Triple Octogonal Bracket 0.75 m 15º	TP3	0,75
PR304T	Triple Octogonal Bracket 1.00 m 15º	TP3	1,00
PR305T	Triple Octogonal Bracket 1.25 m 15º	TP3	1,25



QUADRUPLE BRACKET			
Reference	Description	Series	w [m]
PR302Q	Quadruple Octogonal Bracket 0.50 m 15º	TP3	0,50
PR303Q	Quadruple Octogonal Bracket 0.75 m 15º	TP3	0,75
PR304Q	Quadruple Octogonal Bracket 1.00 m 15º	TP3	1,00
PR305Q	Quadruple Octogonal Bracket 1.25 m 15º	TP3	1,25



CROSS PIECES

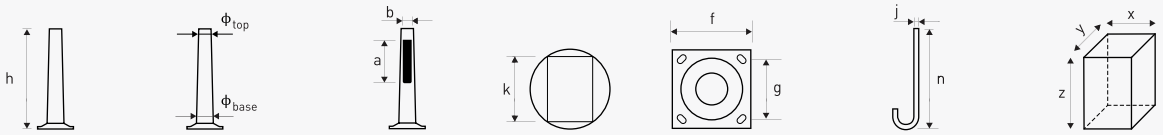
Top.

TOP CROSS PIECE			
Reference	Description	Series	w [m]
00002P	Top Cross Piece 0.50 m	TP1	0,50
00004P	Top Cross Piece 1.00 m	TP2	1,00
00006P	Top Cross Piece 1.50 m	TP3	1,50
00008P	Top Cross Piece 2.00 m	TP3	2,00

O Feliz reserves the right to change the technical characteristics of the columns, without prior notice. It is advised to contact the Public Lightning Columns Department to verify the accuracy of the information in this document.

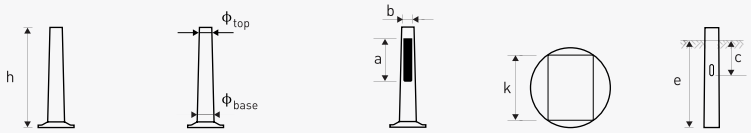
GENERAL CHARACTERISTICS

Post top octagonal columns. Setting by flange.



Shaft Reference	Nominal Dimensions			Door Opening			Flange		Anchor Bolts		Foundation	
	h	ϕ_{top}	ϕ_{base}	a	b	k	f	g	j	n	x=y	z
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[m]	[m]
TP1F03	3	60	97	300	65	65	280	200	M16	440	0.60	0.70
TP1F04	4	60	110	300	65	65	280	200	M16	440	0.60	0.70
TP1F05	5	60	122	300	65	65	280	200	M16	440	0.60	0.80
TP1F06	6	60	134	300	65	65	330	250	M16	440	0.60	0.90
TP1F07	7	60	147	400	100	90	330	250	M16	440	0.60	0.90
TP1F08	8	60	159	400	100	100	400	300	M16	440	0.70	0.90
TP1F09	9	60	172	400	100	100	400	300	M20	540	0.70	1.00
TP1F10	10	60	184	400	100	100	400	300	M22	1140	0.70	1.10
TP1F12	12	60	209	400	100	100	400	300	M22	1140	0.70	1.30

Post top octagonal columns. Setting by planting.



Shaft Reference	Nominal Dimensions			Door Opening			Planting Depth	
	h	ϕ_{top}	ϕ_{base}	a	b	k	e	c
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
TP1E03	3	60	107	300	65	65	800	500
TP1E04	4	60	120	300	65	65	800	500
TP1E05	5	60	137	300	65	65	1200	500
TP1E06	6	60	149	300	65	65	1200	500
TP1E07	7	60	162	400	100	90	1200	500
TP1E08	8	60	174	400	100	100	1200	500
TP1E09	9	60	190	400	100	100	1500	500
TP1E10	10	60	203	400	100	100	1500	500
TP1E12	12	60	230	400	100	100	1700	500

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SERVICE CONDITIONS

Load tables. Maximum wind exposure area per lantern [m²].

CLASS A Vref = 28 m/s		
Nominal Height [m]	Post Top [m²]	M [N.m]
3	1.07	6812
4	1.03	8851
5	0.96	10914
6	0.84	14181
7	0.78	16530
8	0.71	19319
9	0.68	21813
10	0.54	24409
12	0.39	30515

CLASS A Vref = 31 m/s		
Nominal Height [m]	Post Top [m²]	M [N.m]
3	0.85	6818
4	0.81	8849
5	0.78	10943
6	0.76	14273
7	0.71	16690
8	0.65	19365
9	0.52	21580
10	0.34	24452
12	0.19	30144

CLASS B Vref = 28 m/s		
Nominal Height [m]	Post Top [m²]	M [N.m]
3	1.27	6825
4	1.23	8886
5	1.21	10959
6	1.20	14201
7	1.18	16507
8	1.15	19153
9	1.10	21702
10	0.73	24820
12	0.46	30585

CLASS B Vref = 31 m/s		
Nominal Height [m]	Post Top [m²]	M [N.m]
3	1.02	6928
4	0.97	8829
5	0.95	10952
6	0.95	14286
7	0.95	16651
8	0.93	19199
9	0.91	21772
10	0.50	24434
12	0.22	30581

POST TOP OCTAGONAL COLUMN

Setting by flange or planting.

Column Reference	Description	Nominal Height [m]	Type of Bracket	
			Post Top	Cross Piece
TP1F03000000	Octogonal Column Flange 3 m	3	■	
TP1F04000000	Octogonal Column Flange 4 m	4	■	
TP1F05000000	Octogonal Column Flange 5 m	5	■	
TP1F06000000	Octogonal Column Flange 6 m	6	■	
TP1F07000000	Octogonal Column Flange 7 m	7	■	
TP1F08000000	Octogonal Column Flange 8 m	8	■	
TP1F09000000	Octogonal Column Flange 9 m	9	■	
TP1F10000000	Octogonal Column Flange 10 m	10	■	
TP1F12000000	Octogonal Column Flange 12 m	12	■	
TP1F0300002P	Octogonal Column Flange 3 m Cross piece 0.50 m	3		■
TP1F0400002P	Octogonal Column Flange 4 m Cross piece 0.50 m	4		■
TP1F0500002P	Octogonal Column Flange 5 m Cross piece 0.50 m	5		■
TP1F0600002P	Octogonal Column Flange 6 m Cross piece 0.50 m	6		■
TP1F0700002P	Octogonal Column Flange 7 m Cross piece 0.50 m	7		■
TP1F0800002P	Octogonal Column Flange 8 m Cross piece 0.50 m	8		■
TP1F0900002P	Octogonal Column Flange 9 m Cross piece 0.50 m	9		■
TP1F1000002P	Octogonal Column Flange 10 m Cross piece 0.50 m	10		■
TP1F1200002P	Octogonal Column Flange 12 m Cross piece 0.50 m	12		■

Column Reference	Description	Nominal Height [m]	Type of Bracket	
			Post Top	Cross Piece
TP1E03000000	Octogonal Column Planting 3 m	3	■	
TP1E04000000	Octogonal Column Planting 4 m	4	■	
TP1E05000000	Octogonal Column Planting 5 m	5	■	
TP1E06000000	Octogonal Column Planting 6 m	6	■	
TP1E07000000	Octogonal Column Planting 7 m	7	■	
TP1E08000000	Octogonal Column Planting 8 m	8	■	
TP1E09000000	Octogonal Column Planting 9 m	9	■	
TP1E10000000	Octogonal Column Planting 10 m	10	■	
TP1E12000000	Octogonal Column Planting 12 m	12	■	
TP1E0300002P	Octogonal Column Planting 3 m Cross piece 0.50 m	3		■
TP1E0400002P	Octogonal Column Planting 4 m Cross piece 0.50 m	4		■
TP1E0500002P	Octogonal Column Planting 5 m Cross piece 0.50 m	5		■
TP1E0600002P	Octogonal Column Planting 6 m Cross piece 0.50 m	6		■
TP1E0700002P	Octogonal Column Planting 7 m Cross piece 0.50 m	7		■
TP1E0800002P	Octogonal Column Planting 8 m Cross piece 0.50 m	8		■
TP1E0900002P	Octogonal Column Planting 9 m Cross piece 0.50 m	9		■
TP1E1000002P	Octogonal Column Planting 10 m Cross piece 0.50 m	10		■
TP1E1200002P	Octogonal Column Planting 12 m Cross piece 0.50 m	12		■

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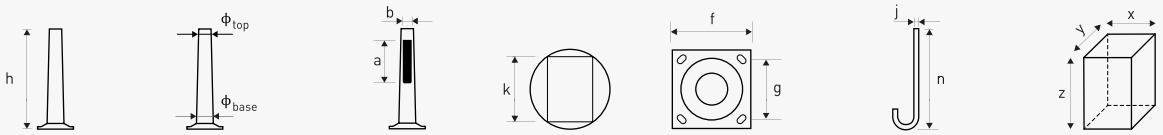
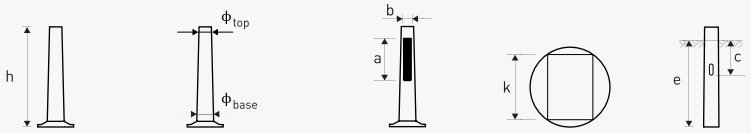
GENERAL CHARACTERISTICS

Post top octagonal columns with single or double bracket. Setting by flange.



Shaft Reference	Nominal Dimensions			Door Opening			Flange		Anchor Bolts		Foundation	
	h	ϕ_{top}	ϕ_{base}	a	b	k	f	g	j	n	x=y	z
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[m]	[m]
TP2F03	3	66	97	300	65	55	280	200	M16	440	0.60	0.80
TP2F04	4	66	113	300	65	65	280	200	M16	440	0.60	0.80
TP2F05	5	66	126	300	65	70	330	200	M16	440	0.60	0.90
TP2F06	6	66	140	300	65	80	330	250	M16	440	0.60	1.00
TP2F07	7	66	153	400	100	80	330	250	M16	440	0.60	1.10
TP2F08	8	66	167	400	100	90	400	300	M16	440	0.70	1.10
TP2F09	9	66	180	400	100	100	400	300	M20	540	0.70	1.10
TP2F10	10	66	193	400	100	100	400	300	M22	1140	0.70	1.20
TP2F12	12	66	220	400	100	120	400	300	M22	1140	0.70	1.30

Post top octagonal columns with single or double bracket. Setting by planting.



Shaft Reference	Nominal Dimensions			Door Opening			Planting Depth	
	h	ϕ_{top}	ϕ_{base}	a	b	k	e	c
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
TP2E03	3	66	107	300	65	55	800	500
TP2E04	4	66	124	300	65	65	800	500
TP2E05	5	66	142	300	65	70	1200	500
TP2E06	6	66	156	300	65	80	1200	500
TP2E07	7	66	169	400	100	80	1200	500
TP2E08	8	66	183	400	100	90	1200	500
TP2E09	9	66	200	400	100	100	1500	500
TP2E10	10	66	213	400	100	100	1500	500
TP2E12	12	66	243	400	100	120	1700	500

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SERVICE CONDITIONS

Load tables. Maximum wind exposure area per lantern [m²].

CLASS A Vref = 28 m/s									
Nominal Height [m]	SINGLE BRACKET				DOUBLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6	0.65	0.56	0.48	0.41	0.38	0.36	0.34	0.31	14181
7	0.57	0.49	0.42	0.39	0.36	0.34	0.31	0.30	16530
8	0.54	0.48	0.43	0.38	0.35	0.31	0.27	0.23	19319
9	0.46	0.43	0.37	0.36	0.24	0.18	0.16	0.14	21813
10	0.35	0.34	0.28	0.29	0.18	0.16	0.15	0.11	24409
12	0.33	0.31	0.27	0.14	0.17	0.16	0.12	0.09	30515

CLASS A Vref = 31 m/s									
Nominal Height [m]	SINGLE BRACKET				DOUBLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6	0.51	0.43	0.37	0.20	0.28	0.26	0.24	0.22	14273
7	0.42	0.34	0.32	0.28	0.26	0.24	0.21	0.20	16690
8	0.39	0.29	0.27	0.24	0.24	0.22	0.19	0.14	19365
9	0.36	0.22	0.22	0.18	0.11	0.09	0.08	0.06	21580
10	0.28	0.15	0.14	0.13	0.09	0.08	0.07	0.05	24452
12	0.14	0.13	0.10	-	-	-	-	-	30144

CLASS B Vref = 28 m/s									
Nominal Height [m]	SINGLE BRACKET				DOUBLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6	0.74	0.64	0.56	0.52	0.50	0.48	0.46	0.43	14201
7	0.72	0.62	0.54	0.48	0.48	0.46	0.41	0.38	16507
8	0.68	0.61	0.53	0.45	0.44	0.41	0.37	0.35	19153
9	0.66	0.59	0.51	0.43	0.32	0.28	0.26	0.25	21702
10	0.59	0.57	0.47	0.39	0.28	0.26	0.23	0.22	24820
12	0.43	0.43	0.36	0.31	0.27	0.25	0.22	0.20	30585

CLASS B Vref = 31 m/s									
Nominal Height [m]	SINGLE BRACKET				DOUBLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6	0.58	0.54	0.50	0.47	0.34	0.32	0.30	0.28	14286
7	0.51	0.48	0.46	0.41	0.31	0.30	0.28	0.26	16651
8	0.47	0.42	0.38	0.34	0.26	0.24	0.22	0.18	19199
9	0.38	0.36	0.35	0.28	0.16	0.15	0.14	0.12	21772
10	0.32	0.25	0.24	0.22	0.15	0.14	0.13	0.11	24434
12	0.27	0.24	0.22	-	-	-	-	-	30581

POST TOP OCTAGONAL COLUMN

Single bracket. Setting by flange or planting.

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2F06PR302S	Octogonal Column Flange 6 m Single Bracket	6	■			
TP2F07PR302S	Octogonal Column Flange 7 m Single Bracket	7	■			
TP2F08PR302S	Octogonal Column Flange 8 m Single Bracket	8	■			
TP2F09PR302S	Octogonal Column Flange 9 m Single Bracket	9	■			
TP2F10PR302S	Octogonal Column Flange 10 m Single Bracket	10	■			
TP2F12PR302S	Octogonal Column Flange 12 m Single Bracket	12	■			
TP2F06PR303S	Octogonal Column Flange 6 m Single Bracket	6		■		
TP2F07PR303S	Octogonal Column Flange 7 m Single Bracket	7		■		
TP2F08PR303S	Octogonal Column Flange 8 m Single Bracket	8		■		
TP2F09PR303S	Octogonal Column Flange 9 m Single Bracket	9		■		
TP2F10PR303S	Octogonal Column Flange 10 m Single Bracket	10		■		
TP2F12PR303S	Octogonal Column Flange 12 m Single Bracket	12		■		
TP2F06PR304S	Octogonal Column Flange 6 m Single Bracket	6			■	
TP2F07PR304S	Octogonal Column Flange 7 m Single Bracket	7			■	
TP2F08PR304S	Octogonal Column Flange 8 m Single Bracket	8			■	
TP2F09PR304S	Octogonal Column Flange 9 m Single Bracket	9			■	
TP2F10PR304S	Octogonal Column Flange 10 Single Bracket	10			■	
TP2F12PR304S	Octogonal Column Flange 12 m Single Bracket	12			■	
TP2F06PR305S	Octogonal Column Flange 6 m Single Bracket	6				■
TP2F07PR305S	Octogonal Column Flange 7 m Single Bracket	7				■
TP2F08PR305S	Octogonal Column Flange 8 m Single Bracket	8				■
TP2F09PR305S	Octogonal Column Flange 9 m Single Bracket	9				■
TP2F10PR305S	Octogonal Column Flange 10 m Single Bracket	10				■
TP2F12PR305S	Octogonal Column Flange 12 m Single Bracket	12				■

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2E06PR302S	Octogonal Column Planting 6 m Single Bracket	6	■			
TP2E07PR302S	Octogonal Column Planting 7 m Single Bracket	7	■			
TP2E08PR302S	Octogonal Column Planting 8 m Single Bracket	8	■			
TP2E09PR302S	Octogonal Column Planting 9 m Single Bracket	9	■			
TP2E10PR302S	Octogonal Column Planting 10 m Single Bracket	10	■			
TP2E12PR302S	Octogonal Column Planting 12 m Single Bracket	12	■			
TP2E06PR303S	Octogonal Column Planting 6 m Single Bracket	6		■		
TP2E07PR303S	Octogonal Column Planting 7 m Single Bracket	7		■		
TP2E08PR303S	Octogonal Column Planting 8 m Single Bracket	8		■		
TP2E09PR303S	Octogonal Column Planting 9 m Single Bracket	9		■		
TP2E10PR303S	Octogonal Column Planting 10 m Single Bracket	10		■		
TP2E12PR303S	Octogonal Column Planting 12 m Single Bracket	12		■		
TP2E06PR304S	Octogonal Column Planting 6 m Single Bracket	6			■	
TP2E07PR304S	Octogonal Column Planting 7 m Single Bracket	7			■	
TP2E08PR304S	Octogonal Column Planting 8 m Single Bracket	8			■	
TP2E09PR304S	Octogonal Column Planting 9 m Single Bracket	9			■	
TP2E10PR304S	Octogonal Column Planting 10 m Single Bracket	10			■	
TP2E12PR304S	Octogonal Column Planting 12 m Single Bracket	12			■	
TP2E06PR305S	Octogonal Column Planting 6 m Single Bracket	6				■
TP2E07PR305S	Octogonal Column Planting 7 m Single Bracket	7				■
TP2E08PR305S	Octogonal Column Planting 8 m Single Bracket	8				■
TP2E09PR305S	Octogonal Column Planting 9 m Single Bracket	9				■
TP2E10PR305S	Octogonal Column Planting 10 m Single Bracket	10				■
TP2E12PR305S	Octogonal Column Planting 12 m Single Bracket	12				■

POST TOP OCTAGONAL COLUMN

Double bracket. Setting by flange or planting.

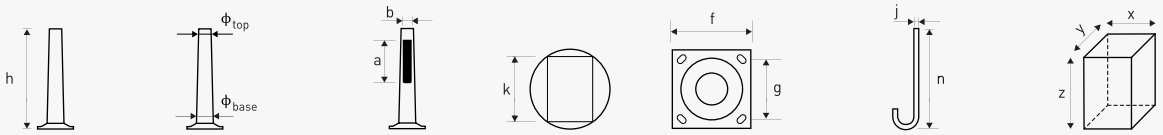
Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2F06PR302D	Octogonal Column Flange 6 m Double Bracket	6	■			
TP2F07PR302D	Octogonal Column Flange 7 m Double Bracket	7	■			
TP2F08PR302D	Octogonal Column Flange 8 m Double Bracket	8	■			
TP2F09PR302D	Octogonal Column Flange 9 m Double Bracket	9	■			
TP2F10PR302D	Octogonal Column Flange 10 m Double Bracket	10	■			
TP2F12PR302D	Octogonal Column Flange 12 m Double Bracket	12	■			
TP2F06PR303D	Octogonal Column Flange 6 m Double Bracket	6		■		
TP2F07PR303D	Octogonal Column Flange 7 m Double Bracket	7		■		
TP2F08PR303D	Octogonal Column Flange 8 m Double Bracket	8		■		
TP2F09PR303D	Octogonal Column Flange 9 m Double Bracket	9		■		
TP2F10PR303D	Octogonal Column Flange 10 m Double Bracket	10		■		
TP2F12PR303D	Octogonal Column Flange12 m Double Bracket	12		■		
TP2F06PR304D	Octogonal Column Flange 6 m Double Bracket	6			■	
TP2F07PR304D	Octogonal Column Flange 7 m Double Bracket	7			■	
TP2F08PR304D	Octogonal Column Flange 8 m Double Bracket	8			■	
TP2F09PR304D	Octogonal Column Flange 9 m Double Bracket	9			■	
TP2F10PR304D	Octogonal Column Flange 10 m Double Bracket	10			■	
TP2F12PR304D	Octogonal Column Flange 12 m Double Bracket	12			■	
TP2F06PR305D	Octogonal Column Flange 6 m Double Bracket	6				■
TP2F07PR305D	Octogonal Column Flange 7 m Double Bracket	7				■
TP2F08PR305D	Octogonal Column Flange 8 m Double Bracket	8				■
TP2F09PR305D	Octogonal Column Flange 9 m Double Bracket	9				■
TP2F10PR305D	Octogonal Column Flange 10 m Double Bracket	10				■
TP2F12PR305D	Octogonal Column Flange 12 m Double Bracket	12				■

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2E06PR302D	Octogonal Column Planting 6 m Double Bracket	6	■			
TP2E07PR302D	Octogonal Column Planting 7 m Double Bracket	7	■			
TP2E08PR302D	Octogonal Column Planting 8 m Double Bracket	8	■			
TP2E09PR302D	Octogonal Column Planting 9 m Double Bracket	9	■			
TP2E10PR302D	Octogonal Column Planting 10 m Double Bracket	10	■			
TP2E12PR302D	Octogonal Column Planting 12 m Double Bracket	12	■			
TP2E06PR303D	Octogonal Column Planting 6 m Double Bracket	6		■		
TP2E07PR303D	Octogonal Column Planting 7 m Double Bracket	7		■		
TP2E08PR303D	Octogonal Column Planting 8 m Double Bracket	8		■		
TP2E09PR303D	Octogonal Column Planting 9 m Double Bracket	9		■		
TP2E10PR303D	Octogonal Column Planting 10 m Double Bracket	10		■		
TP2E12PR303D	Octogonal Column Planting 12 m Double Bracket	12		■		
TP2E06PR304D	Octogonal Column Planting 6 m Double Bracket	6			■	
TP2E07PR304D	Octogonal Column Planting 7 m Double Bracket	7			■	
TP2E08PR304D	Octogonal Column Planting 8 m Double Bracket	8			■	
TP2E09PR304D	Octogonal Column Planting 9 m Double Bracket	9			■	
TP2E10PR304D	Octogonal Column Planting 10 m Double Bracket	10			■	
TP2E12PR304D	Octogonal Column Planting 12 m Double Bracket	12			■	
TP2E06PR305D	Octogonal Column Planting 6 m Double Bracket	6				■
TP2E07PR305D	Octogonal Column Planting 7 m Double Bracket	7				■
TP2E08PR305D	Octogonal Column Planting 8 m Double Bracket	8				■
TP2E09PR305D	Octogonal Column Planting 9 m Double Bracket	9				■
TP2E10PR305D	Octogonal Column Planting 10 m Double Bracket	10				■
TP2E12PR305D	Octogonal Column Planting 12 m Double Bracket	12				■

O Feliz reserves the right to change the technical characteristics of the columns, without prior notice. It is advised to contact the Public Lightning Columns Department to verify the accuracy of the information in this document.

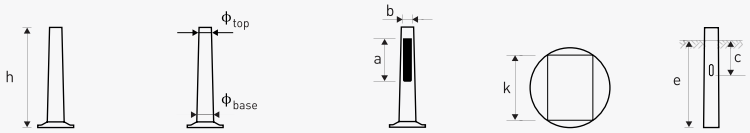
GENERAL CHARACTERISTICS

Post top octagonal columns with triple or quadruple bracket. Setting by flange.



Shaft Reference	Nominal Dimensions			Door Opening			Flange		Anchor Bolts		Foundation	
	h	ϕ_{top}	ϕ_{base}	a	b	k	f	g	j	n	x=y	z
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[m]	[m]
TP3F06	6	81	158	500	100	90	330	250	M20	540	0.60	1.10
TP3F07	7	81	172	500	100	100	330	250	M20	540	0.60	1.20
TP3F08	8	81	186	500	100	110	400	300	M20	540	0.70	1.20
TP3F09	9	81	200	500	100	120	400	300	M20	540	0.70	1.30
TP3F10	10	81	214	500	100	130	400	300	M22	1140	0.70	1.30
TP3F12	12	81	242	500	100	150	400	300	M27	1350	0.70	1.50

Post top octagonal columns with triple or quadruple bracket. Setting by planting.



Shaft Reference	Nominal Dimensions			Door Opening			Planting Depth	
	h	ϕ_{top}	ϕ_{base}	a	b	k	e	c
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
TP3E06	6	81	175	500	100	90	1200	500
TP3E07	7	81	189	500	100	100	1200	500
TP3E08	8	81	203	500	100	110	1200	500
TP3E09	9	81	221	500	100	120	1500	500
TP3E10	10	81	235	500	100	130	1500	500
TP3E12	12	81	266	500	100	150	1700	500

O Feliz does not take any responsibility for an incorrect interpretation of the service conditions listed in this document.
If you have any doubts, please contact the Public Lighting Columns Department.

SERVICE CONDITIONS

Load tables. Maximum wind exposure area per lantern [m²].

CLASS A Vref = 28 m/s									
Nominal Height [m]	TRIPLE BRACKET				QUADRUPLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6	0.54	0.49	0.44	0.40	0.46	0.37	0.32	0.27	24144
7	0.52	0.34	0.31	0.28	0.41	0.36	0.29	0.26	28763
8	0.47	0.36	0.34	0.31	0.34	0.31	0.27	0.23	33339
9	0.41	0.38	0.35	0.34	0.29	0.26	0.24	0.19	37804
10	0.33	0.29	0.25	0.23	0.19	0.19	0.18	0.15	42753
12	0.31	0.26	0.25	0.24	0.17	0.15	0.12	0.11	52744

CLASS A Vref = 31 m/s									
Nominal Height [m]	TRIPLE BRACKET				QUADRUPLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6	0.42	0.38	0.34	0.31	0.36	0.29	0.22	0.21	24497
7	0.36	0.34	0.31	0.28	0.29	0.27	0.24	0.20	28746
8	0.30	0.27	0.25	0.27	0.22	0.22	0.21	0.20	33586
9	0.28	0.27	0.25	0.24	0.18	0.15	0.13	0.12	37618
10	0.24	0.21	0.19	0.17	0.13	0.12	0.11	0.08	42338
12	0.17	0.16	0.15	0.14	0.11	0.09	0.07	0.05	52346

CLASS B Vref = 28 m/s									
Nominal Height [m]	TRIPLE BRACKET				QUADRUPLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6.00	0.80	0.74	0.67	0.61	0.79	0.78	0.50	0.48	24126
7.00	0.57	0.52	0.48	0.44	0.53	0.51	0.50	0.49	29047
8.00	0.60	0.56	0.52	0.49	0.53	0.52	0.50	0.49	33494
9.00	0.63	0.60	0.56	0.53	0.53	0.52	0.51	0.50	38319
10.00	0.66	0.64	0.40	0.38	0.36	0.35	0.34	0.33	42681
12.00	0.44	0.43	0.42	0.41	0.36	0.36	0.35	0.22	52455

CLASS B Vref = 31 m/s									
Nominal Height [m]	TRIPLE BRACKET				QUADRUPLE BRACKET				M [N.m]
	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	0.50 m [m²]	0.75 m [m²]	1.00 m [m²]	1.25 m [m²]	
6.00	0.50	0.46	0.42	0.38	0.50	0.42	0.36	0.34	24270
7.00	0.47	0.44	0.38	0.35	0.44	0.39	0.32	0.30	28947
8.00	0.44	0.39	0.35	0.33	0.38	0.35	0.31	0.28	33610
9.00	0.37	0.36	0.33	0.31	0.32	0.31	0.30	0.24	38176
10.00	0.29	0.25	0.22	0.21	0.27	0.19	0.18	0.16	42763
12.00	0.24	0.22	0.20	0.18	0.21	0.19	0.16	0.10	52481

POST TOP OCTAGONAL COLUMN

Triple bracket. Setting by flange or planting.

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2F06PR302T	Octogonal Column Flange 6 m Triple Bracket	6	■			
TP2F07PR302T	Octogonal Column Flange 7 m Triple Bracket	7	■			
TP2F08PR302T	Octogonal Column Flange 8 m Triple Bracket	8	■			
TP2F09PR302T	Octogonal Column Flange 9 m Triple Bracket	9	■			
TP2F10PR302T	Octogonal Column Flange 10 m Triple Bracket	10	■			
TP2F12PR302T	Octogonal Column Flange 12 m Triple Bracket	12	■			
TP2F06PR303T	Octogonal Column Flange 6 m Triple Bracket	6		■		
TP2F07PR303T	Octogonal Column Flange 7 m Triple Bracket	7		■		
TP2F08PR303T	Octogonal Column Flange 8 m Triple Bracket	8		■		
TP2F09PR303T	Octogonal Column Flange 9 m Triple Bracket	9		■		
TP2F10PR303T	Octogonal Column Flange 10 m Triple Bracket	10		■		
TP2F12PR303T	Octogonal Column Flange12 m Triple Bracket	12		■		
TP2F06PR304T	Octogonal Column Flange 6 m Triple Bracket	6			■	
TP2F07PR304T	Octogonal Column Flange 7 m Triple Bracket	7			■	
TP2F08PR304T	Octogonal Column Flange 8 m Triple Bracket	8			■	
TP2F09PR304T	Octogonal Column Flange 9 m Triple Bracket	9			■	
TP2F10PR304T	Octogonal Column Flange 10 m Triple Bracket	10			■	
TP2F12PR304T	Octogonal Column Flange 12 m Triple Bracket	12			■	
TP2F06PR305T	Octogonal Column Flange 6 m Triple Bracket	6				■
TP2F07PR305T	Octogonal Column Flange 7 m Triple Bracket	7				■
TP2F08PR305T	Octogonal Column Flange 8 m Triple Bracket	8				■
TP2F09PR305T	Octogonal Column Flange 9 m Triple Bracket	9				■
TP2F10PR305T	Octogonal Column Flange 10 m Triple Bracket	10				■
TP2F12PR305T	Octogonal Column Flange 12 m Triple Bracket	12				■

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2E06PR302T	Octogonal Column Planting 6 m Triple Bracket	6	■			
TP2E07PR302T	Octogonal Column Planting 7 m Triple Bracket	7	■			
TP2E08PR302T	Octogonal Column Planting 8 m Triple Bracket	8	■			
TP2E09PR302T	Octogonal Column Planting 9 m Triple Bracket	9	■			
TP2E10PR302T	Octogonal Column Planting 10 m Triple Bracket	10	■			
TP2E12PR302T	Octogonal Column Planting 12 m Triple Bracket	12	■			
TP2E06PR303T	Octogonal Column Planting 6 m Triple Bracket	6		■		
TP2E07PR303T	Octogonal Column Planting 7 m Triple Bracket	7		■		
TP2E08PR303T	Octogonal Column Planting 8 m Triple Bracket	8		■		
TP2E09PR303T	Octogonal Column Planting 9 m Triple Bracket	9		■		
TP2E10PR303T	Octogonal Column Planting 10 m Triple Bracket	10		■		
TP2E12PR303T	Octogonal Column Planting 12 m Triple Bracket	12		■		
TP2E06PR304T	Octogonal Column Planting 6 m Triple Bracket	6			■	
TP2E07PR304T	Octogonal Column Planting 7 m Triple Bracket	7			■	
TP2E08PR304T	Octogonal Column Planting 8 m Triple Bracket	8			■	
TP2E09PR304T	Octogonal Column Planting 9 m Triple Bracket	9			■	
TP2E10PR304T	Octogonal Column Planting 10 m Triple Bracket	10			■	
TP2E12PR304T	Octogonal Column Planting 12 m Triple Bracket	12			■	
TP2E06PR305T	Octogonal Column Planting 6 m Triple Bracket	6				■
TP2E07PR305T	Octogonal Column Planting 7 m Triple Bracket	7				■
TP2E08PR305T	Octogonal Column Planting 8 m Triple Bracket	8				■
TP2E09PR305T	Octogonal Column Planting 9 m Triple Bracket	9				■
TP2E10PR305T	Octogonal Column Planting 10 m Triple Bracket	10				■
TP2E12PR305T	Octogonal Column Planting 12 m Triple Bracket	12				■

POST TOP OCTAGONAL COLUMN

Quadruple bracket. Setting by flange or planting.

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2F06PR302Q	Octogonal Column Flange 6 m Quadruple Bracket	6	■			
TP2F07PR302Q	Octogonal Column Flange 7 m Quadruple Bracket	7	■			
TP2F08PR302Q	Octogonal Column Flange 8 m Quadruple Bracket	8	■			
TP2F09PR302Q	Octogonal Column Flange 9 m Quadruple Bracket	9	■			
TP2F10PR302Q	Octogonal Column Flange 10 m Quadruple Bracket	10	■			
TP2F12PR302Q	Octogonal Column Flange 12 m Quadruple Bracket	12	■			
TP2F06PR303Q	Octogonal Column Flange 6 m Quadruple Bracket	6		■		
TP2F07PR303Q	Octogonal Column Flange 7 m Quadruple Bracket	7		■		
TP2F08PR303Q	Octogonal Column Flange 8 m Quadruple Bracket	8		■		
TP2F09PR303Q	Octogonal Column Flange 9 m Quadruple Bracket	9		■		
TP2F10PR303Q	Octogonal Column Flange 10 m Quadruple Bracket	10		■		
TP2F12PR303Q	Octogonal Column Flange 12 m Quadruple Bracket	12		■		
TP2F06PR304Q	Octogonal Column Flange 6 m Quadruple Bracket	6			■	
TP2F07PR304Q	Octogonal Column Flange 7 m Quadruple Bracket	7			■	
TP2F08PR304Q	Octogonal Column Flange 8 m Quadruple Bracket	8			■	
TP2F09PR304Q	Octogonal Column Flange 9 m Quadruple Bracket	9			■	
TP2F10PR304Q	Octogonal Column Flange 10 m Quadruple Bracket	10			■	
TP2F12PR304Q	Octogonal Column Flange 12 m Quadruple Bracket	12			■	
TP2F06PR305Q	Octogonal Column Flange 6 m Quadruple Bracket	6				■
TP2F07PR305Q	Octogonal Column Flange 7 m Quadruple Bracket	7				■
TP2F08PR305Q	Octogonal Column Flange 8 m Quadruple Bracket	8				■
TP2F09PR305Q	Octogonal Column Flange 9 m Quadruple Bracket	9				■
TP2F10PR305Q	Octogonal Column Flange 10 m Quadruple Bracket	10				■
TP2F12PR305Q	Octogonal Column Flange 12 m Quadruple Bracket	12				■

Column Reference	Description	Nominal Height [m]	Horizontal Projection [m]			
			0.50	0.75	1.00	1.25
TP2E06PR30Q	Octogonal Column Planting 6 m Quadruple Bracket	6	■			
TP2E07PR302Q	Octogonal Column Planting 7 m Quadruple Bracket	7	■			
TP2E08PR302Q	Octogonal Column Planting 8 m Quadruple Bracket	8	■			
TP2E09PR302Q	Octogonal Column Planting 9 m Quadruple Bracket	9	■			
TP2E10PR302Q	Octogonal Column Planting 10 m Quadruple Bracket	10	■			
TP2E12PR302Q	Octogonal Column Planting 12 m Quadruple Bracket	12	■			
TP2E06PR303Q	Octogonal Column Planting 6 m Quadruple Bracket	6		■		
TP2E07PR303Q	Octogonal Column Planting 7 m Quadruple Bracket	7		■		
TP2E08PR303Q	Octogonal Column Planting 8 m Quadruple Bracket	8		■		
TP2E09PR303Q	Octogonal Column Planting 9 m Quadruple Bracket	9		■		
TP2E10PR303Q	Octogonal Column Planting 10 m Quadruple Bracket	10		■		
TP2E12PR303Q	Octogonal Column Planting 12 m Quadruple Bracket	12		■		
TP2E06PR304Q	Octogonal Column Planting 6 m Quadruple Bracket	6			■	
TP2E07PR304Q	Octogonal Column Planting 7 m Quadruple Bracket	7			■	
TP2E08PR304Q	Octogonal Column Planting 8 m Quadruple Bracket	8			■	
TP2E09PR304Q	Octogonal Column Planting 9 m Quadruple Bracket	9			■	
TP2E10PR304Q	Octogonal Column Planting 10 m Quadruple Bracket	10			■	
TP2E12PR304Q	Octogonal Column Planting 12 m Quadruple Bracket	12			■	
TP2E06PR305Q	Octogonal Column Planting 6 m Quadruple Bracket	6				■
TP2E07PR305Q	Octogonal Column Planting 7 m Quadruple Bracket	7				■
TP2E08PR305Q	Octogonal Column Planting 8 m Quadruple Bracket	8				■
TP2E09PR305Q	Octogonal Column Planting 9 m Quadruple Bracket	9				■
TP2E10PR305Q	Octogonal Column Planting 10 m Quadruple Bracket	10				■
TP2E12PR305Q	Octogonal Column Planting 12 m Quadruple Bracket	12				■

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