


Public lighting columns
and low and medium voltage poles made of GRP





In 1988, ADHORNA, a company founded in 1964, began a composite material business line, which stands out for the manufacturing of public lighting columns and poles for medium and low voltage overhead lines made of Glass-fiber Reinforced Polyester (GRP).

These columns are made using a centrifuge system. The raw materials used in the manufacturing process afford the column important advantages:

- Durability
- Electrical safety
- Aesthetic qualities
- Low maintenance costs
- Light-weight, making it easy to transport and assemble.



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Adhorna has been certified for its Quality Management System in accordance with UNE-EN ISO 9001 since 1997, and it also holds the Environmental Management System certificate under UNE-EN ISO 14001.



REGULATIONS. CE MARKING

Our GRP columns are manufactured in accordance with the European Standard UNE-EN 40-7 "Requirements for fibre reinforced polymer composite lighting columns"

Adhorna holds the CE Marking in accordance with Regulation (EU) No 305/2011 published in the Spanish Official State Gazette No 208, of 30 August 2013.

All of our certificates can be verified at www.adhorna.es

ADHORNA is also an Achilles-certified supplier in the following classification systems.



Columns made of glass-fibre reinforced polyester (GRP) can be used in numerous ways, spotlighting public lighting and low and medium voltage lines. They are also commonly used for sign poles, flagpoles, telecommunications antennas, fencing, etc.

The ADHORNA engineering department manages to adapt the columns to our customers' tastes and needs, so that any sector can benefit from their excellent properties.



Durability

There is no need for maintenance due to the fact that the material does not rust and is resistant to atmospheric agents.



Mechanical resistance

Certain physical properties that are comparable or superior to those of steel make GRP an excellent substitute for metal and other materials.



Electrical safety

GRP is composed of non-conductive materials, making it a perfect material for uses in which electrical insulation is needed.



Light-weight

Since it is four times lighter than steel, it is an essential material when there are weight restrictions. Perfect for complex set-ups.

Road Safety

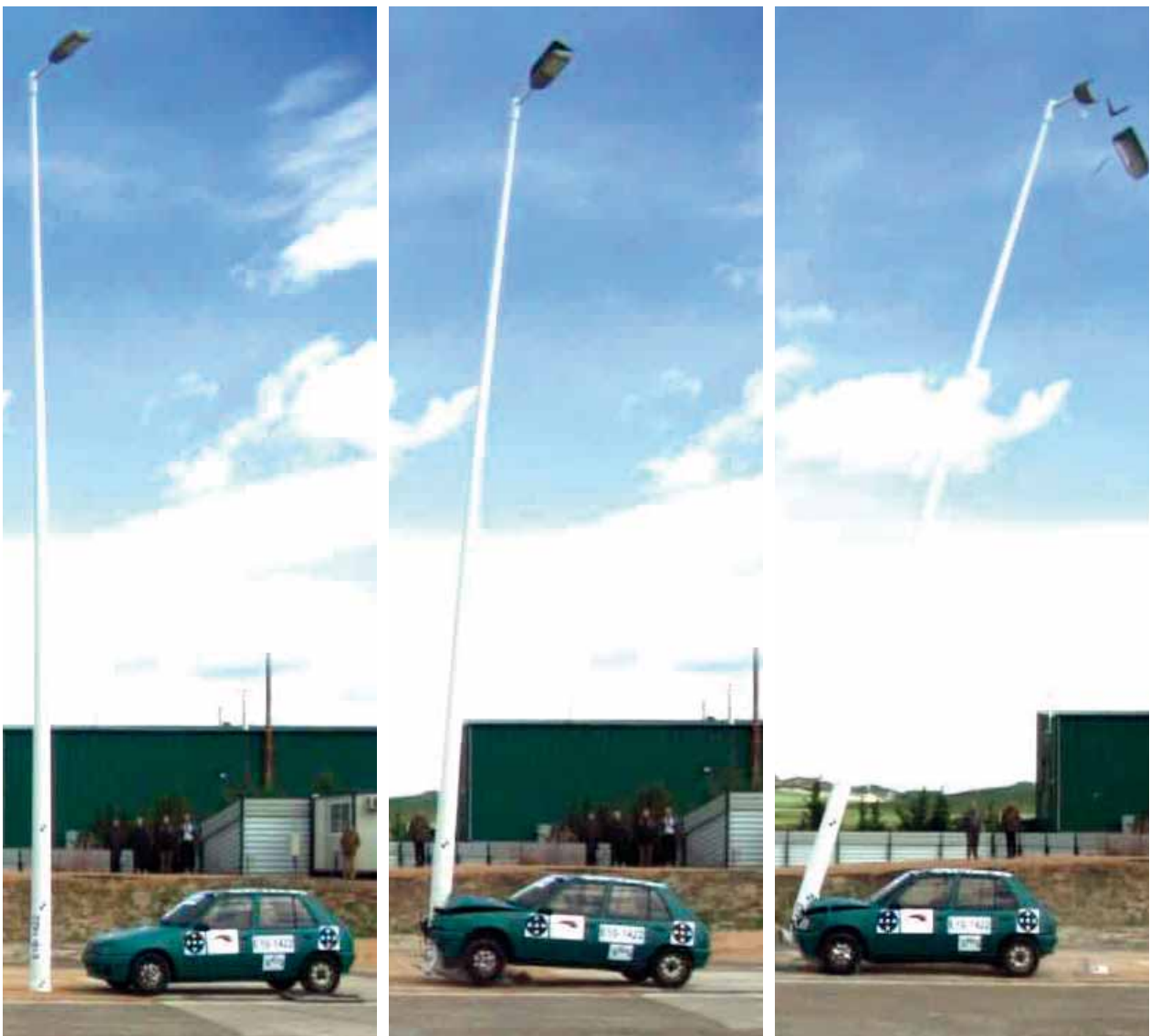
In the last decade, concern about the safety of vehicle passengers has grown. Roads are built increasingly well, cars are equipped with technological advances that reduce the likelihood of accidents and their severity when they do occur.

Following this trend, the European standard UNE EN 12767:2009 "Passive Safety of Support Structures for Road Equipment" was drawn up, establishing safety categories for passive road elements in the event of impact.

The SV column range that Adhorna has been manufacturing since 2010 meets these standards and is approved for roads under the safety category: Class 100 - NE2.

This column range minimises the harm to passengers in the event of impact.

Another important issue is that the use of this type of column allows us to save on placing protection barriers, as set forth in Order Notice 35/2014, by the Ministry of Public Works.

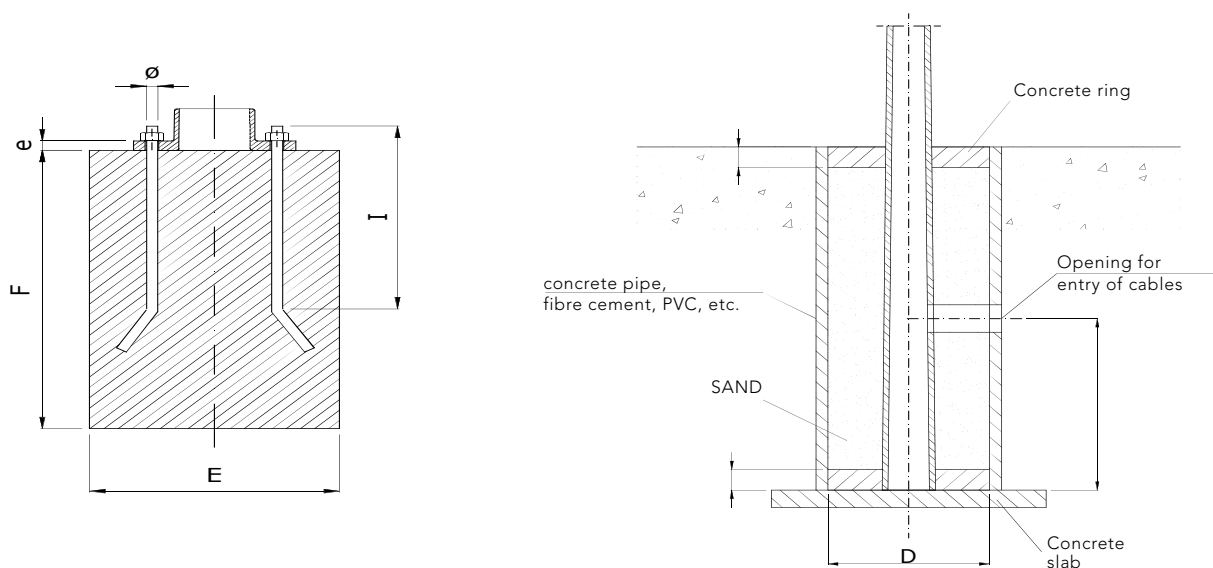


Column types and installation systems

Adhorna has a wide range of columns that vary based on the heights, anchoring systems and light types specified in the designs.

Columns are manufactured from 3 to 14 metres in height. They can be anchored to the ground using a base plate or by embedding them. Adhorna does not supply the anchoring bolts.

The series that can bear the greatest amounts of stress are the Turia (TU) and Segura (SE) series, with end diameters of 60 and 78 mm, respectively, and those that can bear the least stress are called Guadiana (GU) and Nervión (NE), which also have end diameters of 60 and 78 mm. These four series are manufactured in accordance with European Standard UNE-EN 40-7 and bear the relevant CE Marking.



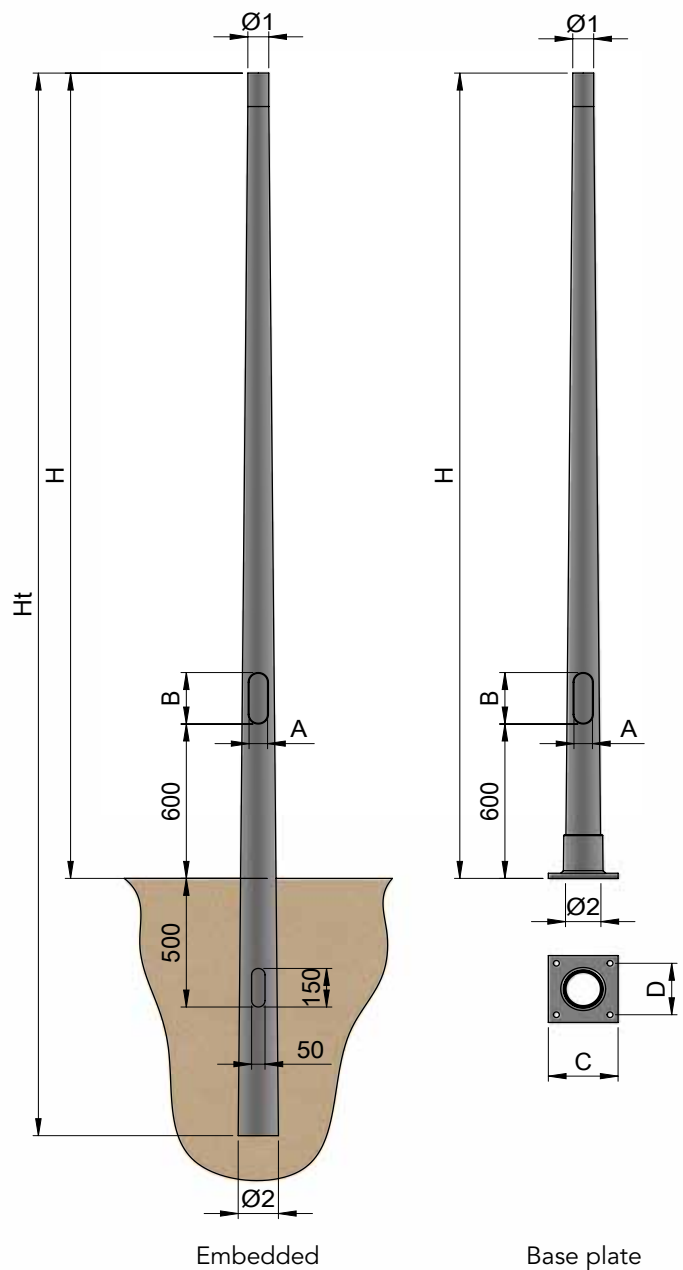
Installation systems		E	F	I	Ø	e
		(mm)	(mm)	(mm)	(mm)	(mm)
TURIA AND GUADIANA SERIES	TU / GU-0300-PLA	400	600	400	M-18	20
	TU / GU-0400-PLA	400	600	400	M-18	20
	TU / GU-0500-PLA	400	600	400	M-18	20
	TU / GU-0600-PLA	500	700	500	M-24	30
	TU / GU-0700-PLA	500	700	500	M-24	30
	TU / GU-0800-PLA	500	700	500	M-24	30
	TU / GU-0900-PLA	500	900	700	M-24	30
SEGURA AND NERVION SERIES	TU / GU-1000-PLA	500	900	700	M-24	30
	SE / NE-0700-PLA	500	700	500	M-24	30
	SE / NE-0800-PLA	500	700	500	M-24	30
	SE / NE-0900-PLA	500	900	700	M-24	30
	SE / NE-1000-PLA	500	900	700	M-24	30
	SE / NE-1200-PLA	500	1000	800	M-24	30
	SE / NE-1400-PLA	600	1400	800	M-30	30

Turia Series

This series is manufactured in heights ranging from 3 to 10 metres and a diameter at the tip of 60 mm.

Our website, www.adhorna.com, has a complete questionnaire which enables customers to determine which series best meets the needs of their projects based on the weight and area of the lantern.

Our columns are mass-colored and painted individually afterwards in the same RAL color for a perfect finish. They can be supplied in a wide range of colors and finishes (color chart page 23).





Turia Series - Embedded

Model	H (m)	HT (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	Approx. weight (kg)
TU-0300-EMP	3	4	60	132	18	75	200	17
TU-0400-EMP	4	5	60	150	18	75	200	21
TU-0500-EMP	5	6	60	168	18	75	200	28
TU-0600-EMP	6	7	60	186	18	85	300	38
TU-0700-EMP	7	8	60	204	18	85	300	45
TU-0800-EMP	8	9	60	222	18	85	300	55
TU-0900-EMP	9	10	60	240	18	85	300	68
TU-1000-EMP	10	11	60	258	18	85	300	78

Turia Series - Base plate

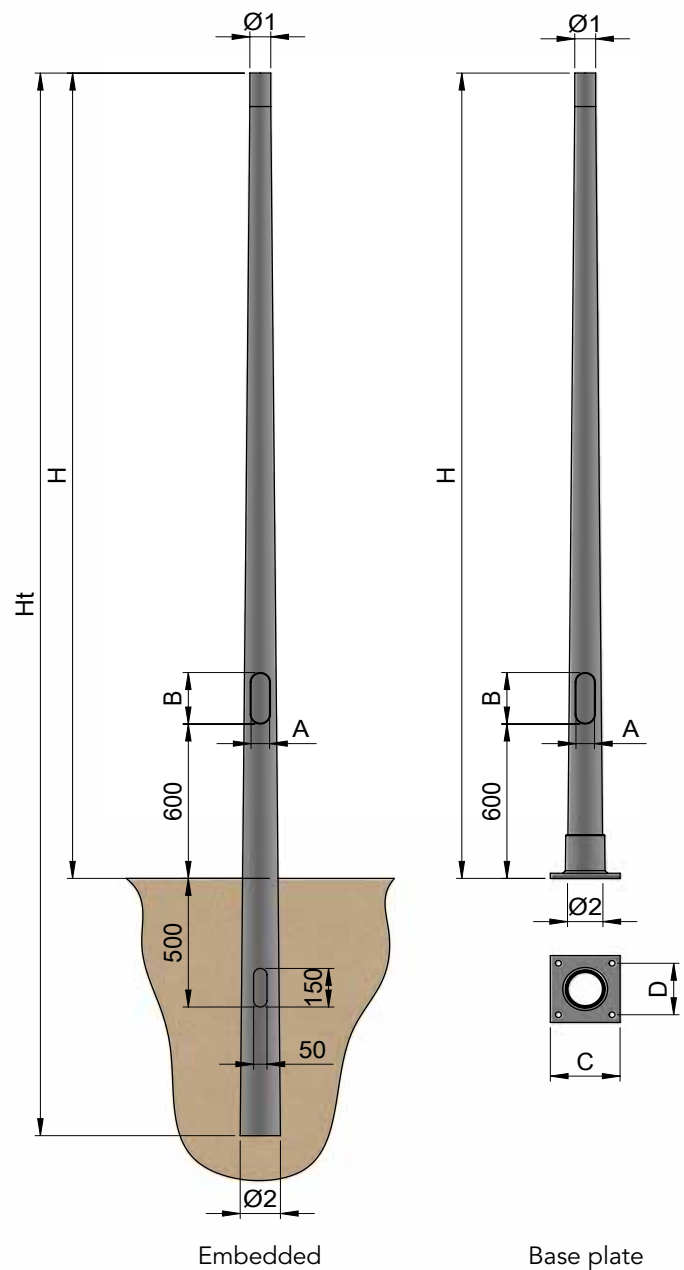
Model	H (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	C (mm)	D (mm)	Approx. weight (kg)
TU-0300-PLA	3	60	114	18	75	200	260	200	15
TU-0400-PLA	4	60	132	18	75	200	260	200	18
TU-0500-PLA	5	60	150	18	75	200	260	200	23
TU-0600-PLA	6	60	168	18	85	300	400	300	38
TU-0700-PLA	7	60	186	18	85	300	400	300	45
TU-0800-PLA	8	60	204	18	85	300	400	300	53
TU-0900-PLA	9	60	222	18	85	300	400	300	64
TU-1000-PLA	10	60	240	18	85	300	400	300	74

Guadiana Series

This series is manufactured in heights ranging from 3 to 10 metres and a diameter at the tip of 60 mm.

Our website, www.adhorna.com, has a complete questionnaire which enables customers to determine which series best meets the needs of their projects based on the weight and area of the lantern.

Their light weight enables them to be handled manually, saving on transport, cranes, loading equipment and placement costs.





Guadiana Series - Embedded

Model	H (m)	HT (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	Approx. weight (kg)
GU-0300-EMP	3	4	60	132	18	75	200	17
GU-0400-EMP	4	5	60	150	18	75	200	19
GU-0500-EMP	5	6	60	168	18	75	200	25
GU-0600-EMP	6	7	60	186	18	85	300	31
GU-0700-EMP	7	8	60	204	18	85	300	38
GU-0800-EMP	8	9	60	222	18	85	300	47
GU-0900-EMP	9	10	60	240	18	85	300	58
GU-1000-EMP	10	11	60	258	18	85	300	74

Guadiana Series - Base plate

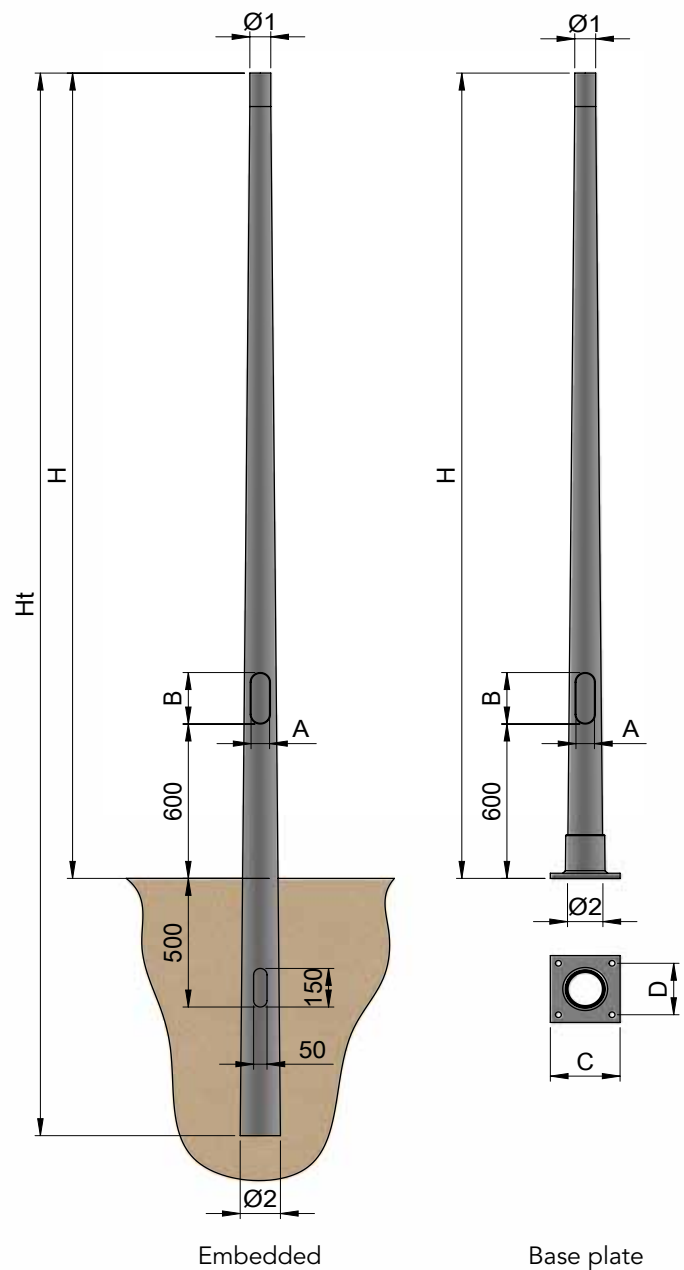
Model	H (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	C (mm)	D (mm)	Approx. weight (kg)
GU-0300-PLA	3	60	114	18	75	200	260	200	15
GU-0400-PLA	4	60	132	18	75	200	260	200	16
GU-0500-PLA	5	60	150	18	75	200	260	200	21
GU-0600-PLA	6	60	168	18	85	300	400	300	33
GU-0700-PLA	7	60	186	18	85	300	400	300	40
GU-0800-PLA	8	60	204	18	85	300	400	300	47
GU-0900-PLA	9	60	222	18	85	300	400	300	57
GU-1000-PLA	10	60	240	18	85	300	400	300	70

Segura Series

This series is manufactured in heights ranging from 3 to 14 metres and a diameter at the tip of 78 mm.

Our website, www.adhorna.com, has a complete questionnaire which enables customers to determine which series best meets the needs of their projects based on the weight and area of the lantern.

The material does not become corroded and can withstand even the harshest weather conditions. It is resistant to aggressive sea coast conditions with strong winds, high humidity and salinity. It remains virtually unaltered from ultraviolet light or chemical agents.





Segura Series - Embedded

Model	H (m)	HT (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	Approx. weight (kg)
SE-0300-EMP	3	4	78	150	18	75	200	23
SE-0400-EMP	4	5	78	168	18	75	200	32
SE-0500-EMP	5	6	78	186	18	85	300	38
SE-0600-EMP	6	7	78	204	18	85	300	50
SE-0700-EMP	7	8	78	222	18	85	300	65
SE-0800-EMP	8	9	78	240	18	85	300	74
SE-0900-EMP	9	10	78	258	18	85	300	83
SE-1000-EMP	10	11	78	276	18	85	300	97
SE-1200-EMP	12	13	78	312	18	85	300	135

Segura Series - Base plate

Model	H (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	C (mm)	D (mm)	Approx. weight (kg)
SE-0300-PLA	3	78	132	18	75	200	260	200	19
SE-0400-PLA	4	78	150	18	75	200	260	200	27
SE-0500-PLA	5	78	168	18	85	300	400	300	40
SE-0600-PLA	6	78	186	18	85	300	400	300	48
SE-0700-PLA	7	78	204	18	85	300	400	300	60
SE-0800-PLA	8	78	222	18	85	300	400	300	70
SE-0900-PLA	9	78	240	18	85	300	400	300	79
SE-1000-PLA	10	78	258	18	85	300	400	300	90
SE-1200-PLA	12	78	294	18	85	300	400	300	126
SE-1400-PLA	14	78	330	18	85	300	425	325	160



Nervión Series - Embedded

Model	H (m)	HT (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	Approx. weight (kg)
NE-0300-EMP	3	4	78	150	18	75	200	21
NE-0400-EMP	4	5	78	168	18	75	200	29
NE-0500-EMP	5	6	78	186	18	85	300	33
NE-0600-EMP	6	7	78	204	18	85	300	42
NE-0700-EMP	7	8	78	222	18	85	300	56
NE-0800-EMP	8	9	78	240	18	85	300	64
NE-0900-EMP	9	10	78	258	18	85	300	72
NE-1000-EMP	10	11	78	276	18	85	300	86
NE-1200-EMP	12	13	78	312	18	85	300	120

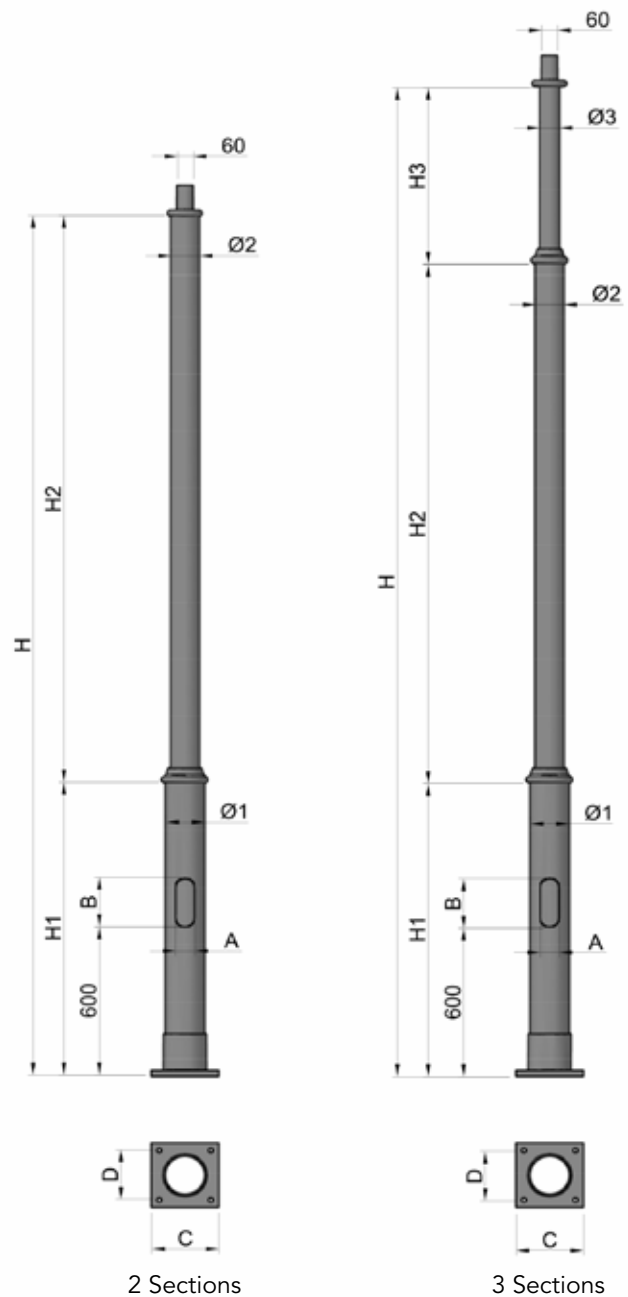
Nervión Series - Base plate

Model	H (m)	Ø1 (mm)	Ø2 (mm)	Tapered (mm/m)	A (mm)	B (mm)	C (mm)	D (mm)	Approx. weight (kg)
NE-0300-PLA	3	78	132	18	75	200	260	200	18
NE-0400-PLA	4	78	150	18	75	200	260	200	25
NE-0500-PLA	5	78	168	18	85	300	400	300	37
NE-0600-PLA	6	78	186	18	85	300	400	300	44
NE-0700-PLA	7	78	204	18	85	300	400	300	54
NE-0800-PLA	8	78	222	18	85	300	400	300	62
NE-0900-PLA	9	78	240	18	85	300	400	300	70
NE-1000-PLA	10	78	258	18	85	300	400	300	81
NE-1200-PLA	12	78	294	18	85	300	400	300	108
NE-1400-PLA	14	78	330	18	85	300	425	325	131

Tajo Series

This series is manufactured in heights ranging from 3 to 6 metres and a diameter at the top of 60 mm.

The Tajo series is aesthetically innovative for its telescopic design using several cylindrical sections. It is designed for use in decorative illumination features in gardens, parks, residential areas, and so on, and can be finished with a wrought-iron style texture.





2-Section Tajo Series - Base plate

Model	H (m)	H1 (m)	H2 (m)	Ø1 (mm)	Ø2 (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Approx. weight (kg)
TA-0300-PLA-2T	3	1.20	1.80	150	110	75	200	260	200	23
TA-0400-PLA-2T	4	1.20	2.80	150	110	75	200	260	200	27
TA-0500-PLA-2T	5	1.20	3.80	150	110	75	200	260	200	31

3-Section Tajo Series - Base plate

Model	H (m)	H1 (m)	H2 (m)	H3 (m)	Ø1 (mm)	Ø2 (mm)	Ø3 (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Approx. weight (kg)
TA-0500-PLA-3T	5	1.50	2.50	1.00	150	110	75	75	200	260	200	38
TA-0600-PLA-3T	6	1.50	3.50	1.00	150	110	75	75	200	260	200	49

Accessories



BREL 60-78

Straight arm measuring 0.60 m in length that can be fitted to columns with tip diameters of 60 and 78 mm. It can be supplied with 0° or 5° angles.



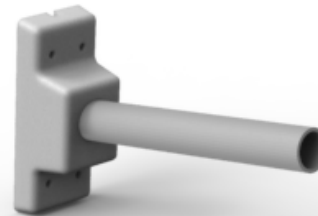
S-BRACE 78

Straight arm measuring 1.50 m in length with stainless steel braces. Fitting for columns measuring 78 mm in diameter at tip.



LATERAL

Side arm measuring 1.00 m in length, adaptable to any height of the column.



MURAL

Straight arm measuring 0.40 m in length.



CURVE

Curved decorative arm.



SUANCES

Straight arm measuring 1.00 m in length with a stainless steel brace and a ball at the tip.

All the arms have a tip diameter of 60 mm for the light fitting.





BRET 78
Straight double arm measuring 1.20 m in length that can be fitted to columns with tip diameter of 78 mm.



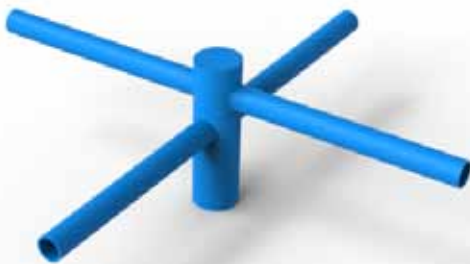
PROYECT 2
Straight rectangular-section double arm measuring 1.20 m in length for 2 or 3 floodlights. Fitting for columns with a tip diameter of 78 mm.



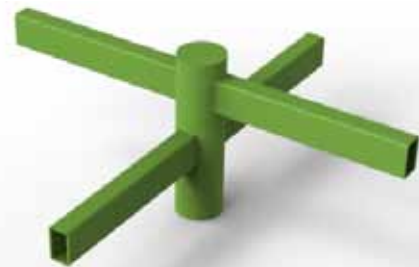
D-BRACE 78
Straight arm measuring 3.00 m in length with stainless steel braces. Fitting for columns measuring 78 mm in diameter at tip.



BREY 78
Straight triple arm that can be fitted to columns with tip diameter of 78 mm.



BREX 78
Straight four-way arm that can be fitted to columns with tip diameter of 78 mm.



PROYECT 4
Straight rectangular-section double arms measuring 1.20 m in length for 4 floodlights. Fitting for columns with a tip diameter of 78 mm.



Low and medium voltage poles

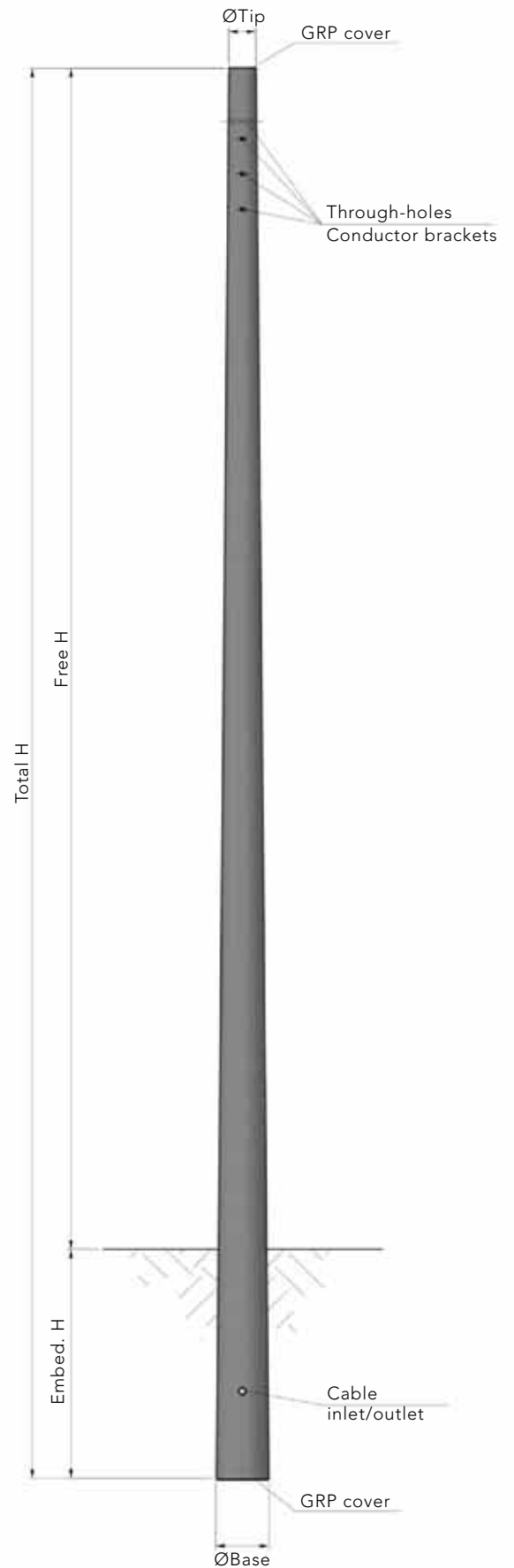
Unlike GRP columns for public lighting, the GRP poles used by power companies for low and medium voltage lines have no applicable international regulations that enable us to standardise the manufacturing process.

The power companies in each country provide us with the specifications or internal standards that we must meet.

These poles are defined by five values: length, working stress (useful stress), safety coefficient, bending stress and maximum deflection in relation to the useful height of the post.



- Total length of pole (m)
- Free height (m)
- Embedding height (m)
- Diameter at tip (mm)
- Tapering (mm/m)
- Weight (Kg)
- Nominal stress or payload (kg)
- Bending stress (Kg)
- Safety coefficient
- Maximum allowed deflection (% useful height)



Other uses



Besides being used for public lighting and power line poles, GRP columns can also be used for telecommunications antennas, CCTV camera poles, photovoltaic columns, frangible masts at airports, fencing, flagpoles...

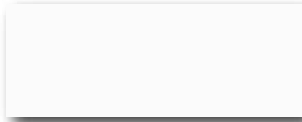
Adhorna's design and engineering department can develop any other application required on the market.



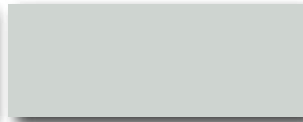
Colour chart

Smooth or Against Stickers Rough Finish

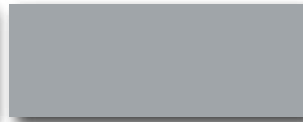
RAL 9003
White



RAL 7035
Light grey



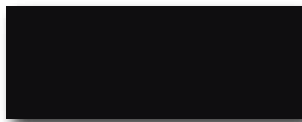
RAL 7045
Telegrey



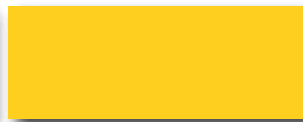
RAL 7024
Graphite grey



RAL 9005
Black



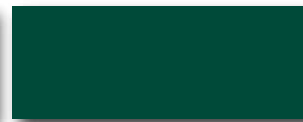
RAL 1023
Traffic yellow



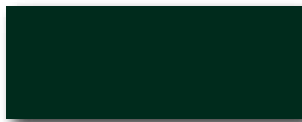
RAL 6001
Emerald green



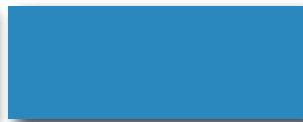
RAL 6005
Moss green



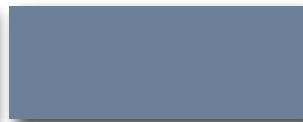
RAL 6009
Fir green



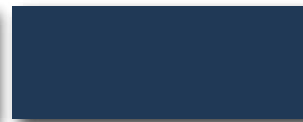
RAL 5012
Light blue



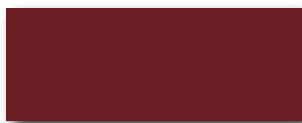
RAL 5014
Pigeon blue



RAL 5003
Sapphire blue



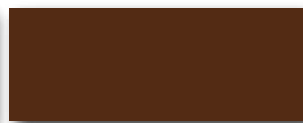
RAL 3004
Purple red



RAL 3020
Traffic red



RAL 8011
Nut brown



Texturized Finish

REF 9906
Metallic grey text



REF 9923
Dark grey text



REF 9905
Black text



REF 6012
Green text



