

PRODUCED IN ITALY FOR OVER 30 YEARS

For over thirty years, Top Glass has produced **tapered fibreglass utility poles** using **centrifugal casting**, a technology developed entirely inside the company and drawing on its design capabilities and production systems.

Top Glass **lighting and aerial lines poles** are **inexpensive compared to traditional options** in steel, aluminium, wood or concrete thanks to their features like:



LIGHTNESS:

low logistics cost due to their light weight and easily portable by hand.



MECHANICAL RESISTANCE:

high strength level to weight ratio, excellent mechanical properties



ELECTRICAL INSULATION:

high insulating properties accommodate increased safety for workers and the public.



DURABILITY:

installation and use with almost zero maintenance.



ATMOSPHERIC RESISTANCE

strong resistance to atmospheric agent and weathering.



NO CORROSION: adapt for contact with diverse chemicals, especially acids, alkaline substances and solvents. They do not rust.

AVAILABLE DIMENSIONS

Tapered fiberglass reinforced poles adapt to various uses including as:

- LIGHTING POLES
- TRAFFIC LIGHT POLES
- SIGNAGE POLES
- FLAGPOLES
- HARBOUR POLES
- POLES FOR AERIAL AND TELEPHONE LINES



TAPERED FIBERGLASS REINFORCED LIGHTING POLES

LENGTH L	TOP DIA d	BOTTOM DIA D	WEIGHT	AVERAGE THICKNESS	LOAD ON TOP
[mm]	[mm]	[mm]	[kg]	[mm]	[kg]
3.000	60	110	5,5	4	200
3.600	60	120	7,6	4	200
4.000	60	127	8,6	4	200
4.600	60	135	10,1	4	200
5.000	60	145	11,3	4	200
5.600	60	155	13,8	4	200
4.000	76	143	10	4	250
4.800	76	155	11,5	4	250
5.000	76	160	17	4	250
5.800	76	170	18	4	250
6.000	76	177	19,5	4	250
6.800	76	190	24,6	4	250
7.000	76	194	25,6	4	250
8.000	76	210	39	5	250/300
9.000	76	225	40,4	5	250/300
10.000	76	245	46	6	250/300
11.000	76	260	56	6	250/300
11.600	76	270	57,5	6	250/300
12.000	76	278	68,2	6	250/300
12.600	76	290	70	6	250/300
13.000	76	295	80,6	6	250/300
13.600	76	305	87,8	6	250/300

TAPERED FIBERGLASS AERIAL LINES POLES

LENGTH L	TOP DIA d	BOTTOM DIA D	WEIGHT	AVERAGE THICKNESS	LOAD ON TOP
[mm]	[mm]	[mm]	[kg]	[mm]	[kg]
8.000	115	250	41	5	500
9.000	120	270	61	6	500
10.000	120	288	65	6	500
11.000	120	304	75	6	500

- The load on top values indicated on the table refer to rigidity fixed constraint of the poles
- Standard colors: grey/ black
- Other diameters, lengths and colors on demand

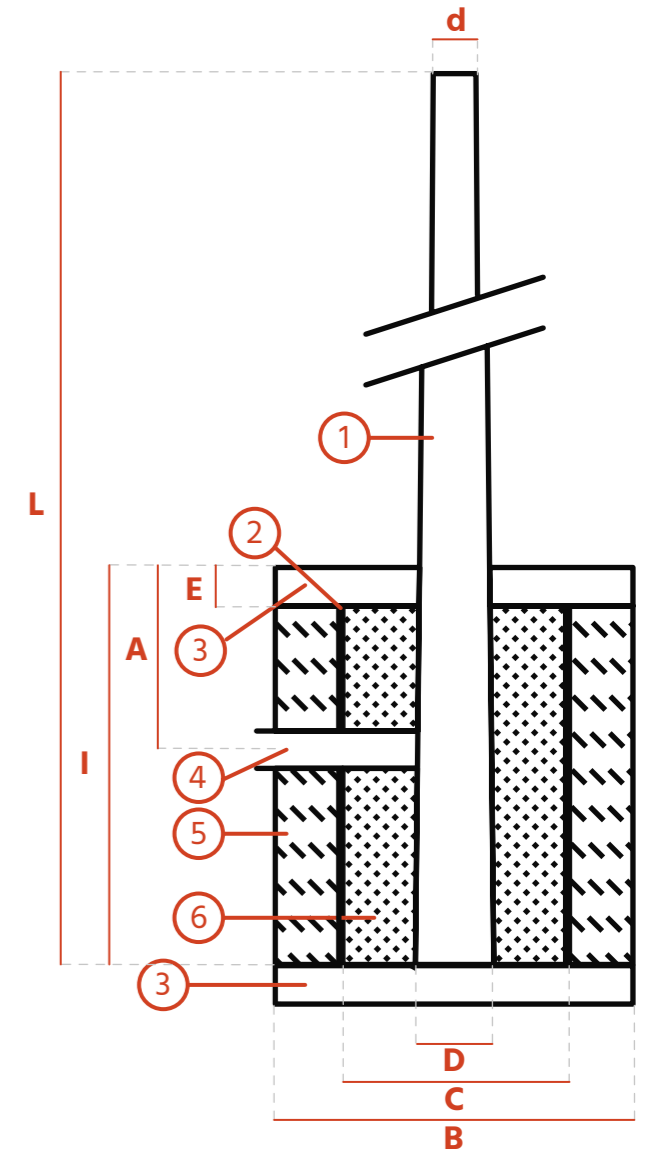
SUGGESTION FOR FOUNDATIONS

LIGHTING POLES						
LENGTH L	ABOVE GROUND L-I	A	B	C	E	I
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
3.000	2.400	300	400	300	100	600
3.600	3.000	300	400	300	100	600
4.000	3.400	300	400	300	100	600
4.600	4.000	300	400	300	100	600
5.000	4.400	300	400	300	100	600
5.600	5.000	300	400	300	100	600
4.000	3.400	300	400	300	100	600
4.800	4.000	300	400	300	100	800
5.000	4.200	300	400	300	100	800
5.800	5.000	300	400	300	100	800
6.000	5.200	300	400	300	100	800
6.800	6.000	300	500	300	100	800
7.000	6.200	300	500	300	100	800
8.000	7.000	300	500	400	100	1.000
9.000	8.000	300	600	400	100	1.000
10.000	9.000	300	600	400	100	1.000
11.000	9.900	300	600	400	100	1.100
11.600	10.500	300	600	400	100	1.100
12.000	10.800	300	600	400	150	1.200
12.600	11.400	300	600	500	150	1.200
13.000	11.700	300	600	500	150	1.300
13.600	12.300	300	600	500	150	1.300

AERIAL LINES POLES						
LENGTH L	ABOVE GROUND L-I	A	B	C	E	I
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8.000	6.750	300	600	400	100	1.250
9.000	7.600	300	600	400	100	1.400
10.000	8.500	300	600	500	150	1.500
11.000	9.350	300	600	500	150	1.650

- Suggestion for foundations values are approximate
- The installer has the responsibility to choose the best foundations conditions

- ① POLE
- ② TUBULAR PIPE
- ③ CONCRETE SLAB
- ④ SERVICE HOLE DIA 50 mm
- ⑤ DRY TAMPED GROUND
- ⑥ RIDDLED SAND



THE TECHNOLOGY

Centrifugal casting is a production technology used to make **composite poles** (with fibreglass) in the shape of a **truncated cone** (tapered poles) with **maximum length**, set only for logistical constraints, of **13.6 metres**.

The pole is formed by inserting the reinforcement (fibreglass) and the matrix (resin) in a **specific rotating mould** that has a truncated-cone cavity.

This technology makes it possible to make products with a **high degree of dimensional and physical-mechanical repeatability**.



MEAN PHYSICAL-MECHANICAL PROPERTIES

PROPERTY	TEST METHOD	UNIT OF MEASUREMENT	MEAN VALUE
Specific weight	ASTM D792	g/cm ³	1,65
Glass content by weight	ISO 1172	%	45 ÷ 55
Water absorption	ISO 62	%	0,5
Dielectric strength	ASTM D149	kV/mm	5
Surface electrical resistivity	EN 61340	Ω	10 ¹²
Loss factor at 50 HZ (tg δ)	ASTM D150	-----	0,05
Thermal class	-----	CLASS	F
Longitudinal thermal expansion coefficient	ISO 11359-2	K ⁻¹	15 x 10 ⁻⁶
Thermal conductivity	EN 12667- EN 12664	W/mK	0,3
Longitudinal flexural strength	ASTM D790	MPa	350
Longitudinal tensile strength	ASTM D638	MPa	400
Longitudinal tensile modulus	ASTM D638	GPa	22
Longitudinal compression strength	ASTM D695	MPa	200
Impact strength	ISO 179	kJ/m ²	180

VALUES REFER TO REINFORCED PROFILES WITH FIBREGLASS IN A **POLYESTER MATRIX**

Tolerance for mechanical properties refers to longitudinal direction: ± 10%

The data provided is accurate. However, Top Glass does not assume any liability as to its use.

Certificate of Conformity CE for GRP lighting columns

