

**EXTRA CO**  
COMPOSITES INDIA PRIVATE LIMITED



# GRP ROUND TAPERED E-TRANS & LIGHTING POLES

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**LINED WITH TRUST AND  
REINFORCED WITH PERFECTION**



## ABOUT OUR COMPANY

Extraco Composites India Pvt Ltd., is a leading manufacturer in fibre glass industry, operating in accordance with the quality standards of ISO 9001:2015. Commitment to quality and customer satisfaction has always ensured successful completion of projects by providing a combination of reliable products and services. Much knowledge has been accumulated during the past two decades, resulting from extensive research, Product testing and providing advanced information on product performance.

The GRP Products & services provided by Extra Co. meet client requirements by providing long - term performance solution to the highest international standards.

## ACCREDITATIONS

Extra Co. has obtained the followings accreditations:

- ❖ ISO 9001 : 2015 Certified for Quality Management.



## QUALITY ASSURANCE POLICY - ISO 9001 : 2015

To build Quality into the processes with Continual Improvement, to the customers standards, for achieving defect free products on time, every time aiming at Total Customer Satisfaction, by involvement of personnel and upgradation of technology with commitment to satisfy applicable legal requirement.

## OVERVIEW

E-Trans poles are specially made with fibers and resins suitable for transmission lines 11kV, 22kV, 33kV, sub transmission utility as per REC requirement.

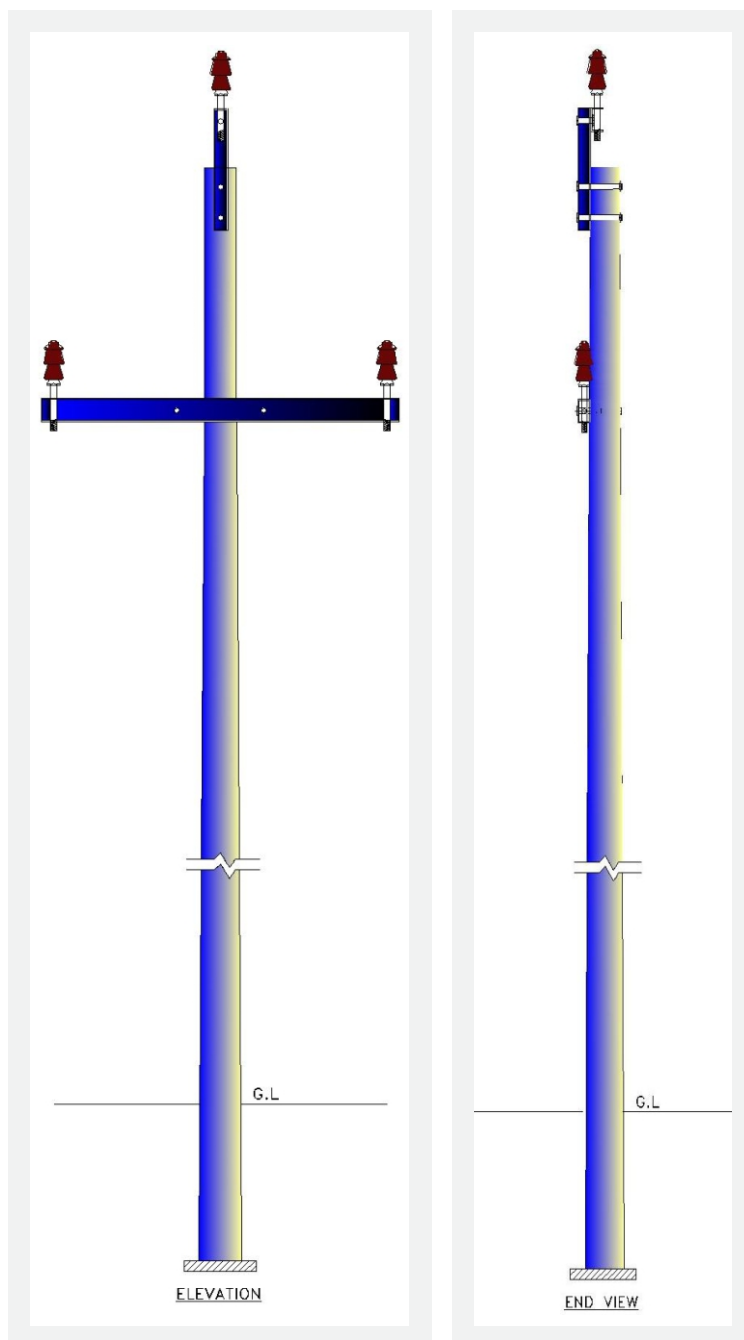
E-light poles are specially made with fibers and resins suitable for street lights, garden lights and general industrial lights.

## E-TRANS POLES

TECHNICAL DATA & SPECIFICATIONS	
Pole mounting height	7.5m – 13m for L.T /11kV/33kV
Pole manufacturing process	High quality glass roving wound in double helical method.
Wind load	Designed for maximum 50kg/cm <sup>2</sup> /75kg/cm <sup>2</sup> /100kg/cm <sup>2</sup> wind load.
Colours	Any color on request standard colours are Black, Grey, Brown, Blue.
Cross arm	As per system voltage.
Fixing clamps	As per requirement.
Pole mounting	Buried
Dia of poles	Tip dia - 125mm /150mm /200mm / 250mm
	Bottom dia - Depends on height of Pole
Finish of pole	Natural pigmented UV color
	Smooth pigmented color finishing with putty and UV painted.
Standards followed signs	REC Standard.
	ASCE-104- Recommended practice for Fiber Reinforced Polymer Products for O/H utility line structures.
	ASCE-111- Reliability based Design of utility pole structures.
	ANSI C 136.201990 FRP Poles.
Wind load on poles	Is875 - 1987 - Code of practice for design loads for buildings and structures loads.
	ASTM - D 4923 Standard specifications for reinforced thermosetting plastic
Deflection allowable	As per AASHTO LTS-4 15% deflection and 1% strain at maximum wind load.
	E Trans Poles deflection limited to < 5 %

## PROPERTIES

Mechanical Properties	Electrical Properties	Chemical Properties
Tensile strength - 250 N/mm <sup>2</sup>	Surface resistivity - 10 <sup>13</sup> ohm cm	Corrosion resistant
Flexural Elongation - 7.5 %	Resistivity - 10 <sup>15</sup> ohm cm	Temperature non conductive
Flexural Strength - 170 N/mm <sup>2</sup>	Creep resistance - KA 3c	Ageing and weather resistant
Flexural Modulus - 7000 N/mm <sup>2</sup>	Di electrical strength - 30kV/mm	Scratch resistant optional
Impact strength	Melting temperature - 220°C	Flame retardant optional



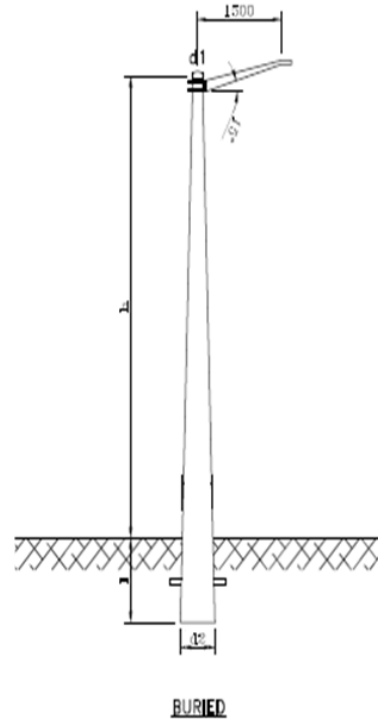
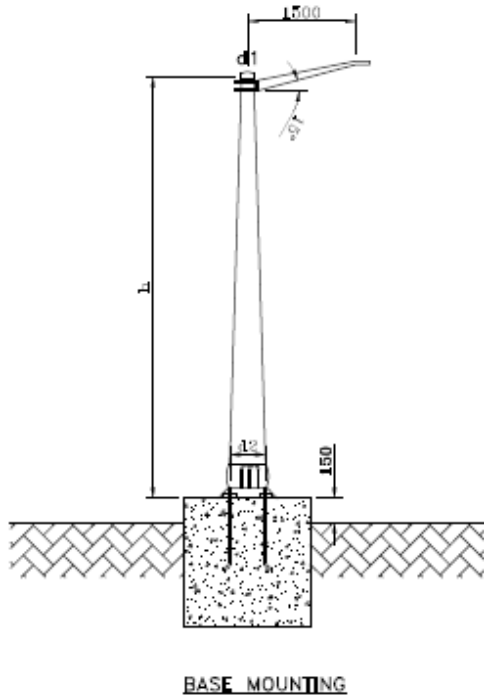
## UTILITY POLES

### BILL OF MATERIAL

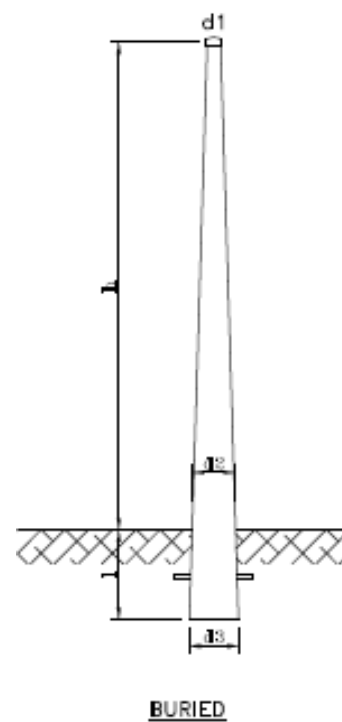
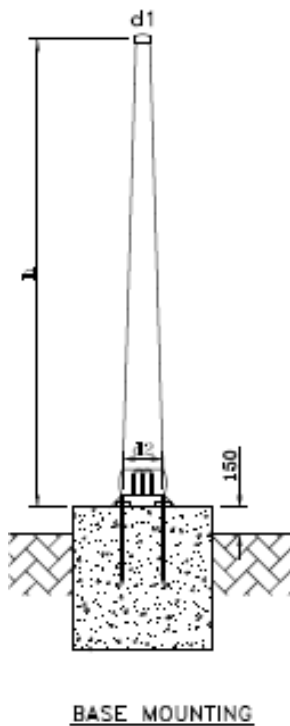
S. NO.	DESCRIPTION	QTY
1	7.5 MTR SUPPORT	1
2	CROSS ARM	2
3	CLAMP	2
4	NUT BOLT 16	6
5	11KV PINS	3
6	11KV INSULATORS	3
7	EARTHING SET COMPLETE	1

ALL DIMENSIONS IN MM

## E-LIGHT POLES TOP / SIDE MOUNTING



## TOP MOUNTING



## E-LIGHT POLES

### TECHNICAL DATA & SPECIFICATIONS

Pole mounting height	2.5m-12m for top mounting
	4m-12m for side mounting
Pole manufacturing process	High quality glass roving wound in double helical method.
Wind load	Designed for maximum 150 kmph wind load.
Colours	Any colour on request standard colours are white, blue, black, green & grey.
Lamp mounting	Top or side or both.
Side mounting arm	Upto 1.5m single or double or four.
Fixing clamps	As per requirement.
Pole mounting	Base mounting
	Precast concrete foundation
	Buried
Dia of poles	Top mounting
	Top dia - 100 mm
	Bottom dia - ~ 300 m varies depends upon height of pole
	Side mounting
	Top dia - 125 mm
	Bottom dia - ~ 300 m
Finish of pole	Natural pole pigmented UV color.
	Smooth pigmented color finishing with putty and UV painted.
Standards followed signs	AASHTO LTS – 4 – Standard specifications for structural support for highway luminaries and traffic signals.
	ANSI C 136.201990 FRP Poles.
Wind load on poles	IS875 – 1987 – Code of practice for design loads for buildings and structures loads.
	ASTM –D 4923 Standard specifications for reinforced thermosetting plastic
Deflection allowable	As per AASHTO LTS-4 15% and 1% strain at maximum wind load.
	E Light Poles deflection limited to < 5 %

## PROPERTIES

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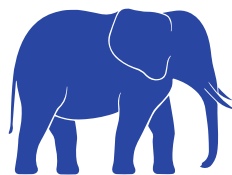
## THE ADVANTAGES OF E-TRANS POLES AND E-LIGHT POLES

- ❖ Non corrosive and life expectancy is 50 years.
- ❖ Non conductive and act as insulator even in rainy season.
- ❖ Very light (1/4 of steel density) can be handled by few personnel.
- ❖ Maintenance free with UV coats and pigmented for required colour.
- ❖ Flexible so that it can absorb vibration, tremors.
- ❖ Motor accidents can be minimized being light.
- ❖ Can be buried direct irrespective of acidic / alkalic soils or in concrete and cathodic protection is not required.

## APPLICATION

- ❖ **Electric Power Transmission:** FRP transmission poles are used in the electric power industry for overhead transmission lines. They offer advantages such as lightweight construction, corrosion resistance, and non-conductivity, making them suitable for use in areas with high corrosion or conductivity risks.
- ❖ **Lighting and Street Poles:** FRP poles are increasingly being used for street lighting and outdoor area lighting due to their durability, corrosion resistance, and aesthetic appeal. They provide a cost-effective alternative to traditional metal or concrete poles.
- ❖ Overall, FRP transmission poles offer numerous benefits, including corrosion resistance, lightweight construction, non-conductivity, and durability, making them suitable for a wide range of applications across various industries.





# EXTRA CO

COMPOSITES INDIA PRIVATE LIMITED

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