



www.krystalcomposites.com

KC-106 Composite Lighting Poles & Flag Masts



www.krystalcomposites.com

INTRODUCTION



Krystal Composites (India) Pvt. Ltd. manufactures and exports composite raw material & end user products for industrial sectors such as chemical processing, oil & gas, metals and mining, water and waste treatment, infrastructure, construction, pharmaceuticals, food and beverage, pulp and paper, electronics, railways, aerospace, marine, defense, wind energy, telecommunications and many more. . .

A leader in the field of composites in India, the company delivers standard as well as customized solutions that are ideal replacements for conventional materials particularly those prone to corrosion. The State-of-the-Art facility located close to in the western part of India, provides high-quality engineered advanced composite solutions and reliable services, complying with customer specifications as well as national and international standards. Oriented towards continuous improvement, the company operates using principles of Total Integrated Management, ensuring complete customer satisfaction. Dedicated to single point responsibility it encompasses conceptual design, prototype development, testing, manufacturing, logistic support, installation and comprehensive after sales service.

COMPOSITES

Composite materials or Composites are engineered materials made from two or more constituent materials with different physical or chemical properties. In general terms, a composite is a material made from two or more substances which give properties, in combination, that are not available from any of the ingredients alone. The most visible applications are Helmets, F1 Cars and Speed Boats made of FibreGlass. Krystal Composites is engaged in the manufacturing of Glass Fibre Reinforced Plastic (GFRP) at its state of art plant in Gujarat, India. The Indian Composites Industry has been growing at a consistent rate over the last few years allowing us to leverage our expertise & exploiting the opportunities offered by the Indian Market.

LIGHTING POLES & FLAG MASTS

Krystal Composites poles are high-tech and innovative, withstand high mechanical stress and withstand the most extreme atmospheric conditions. They are used in places where poles of other materials face serious problems, such as coastal areas where salinity may be detrimental as well as marshlands and areas with high temperature fluctuation. Essentially, Krystal Composites Composite Poles are well suited for locations where traditional materials struggle to offer a definite and lasting solution.

Unlike steel or aluminum, glassfiber reinforced thermosetting composites are anisotropic by nature. In street furniture, such as Poles and Masts, their anisotropy is used to advantage by ensuring frangible failure, in the event of a road traffic accident, thereby saving lives.

In addition, there are no surface treatments as with traditional poles that will leech out into the ground or atmosphere. Composite products are non-polluting, have a long life and can be reused in a different location as if they are brand new. Hence, Krystal Composites Poles offer an ecological solution, as well as saving lives.

Composite Lighting Poles on Bridges



CHARACTERISTICS OF COMPOSITE POLES



Single Arm Bracket



Base Bracket



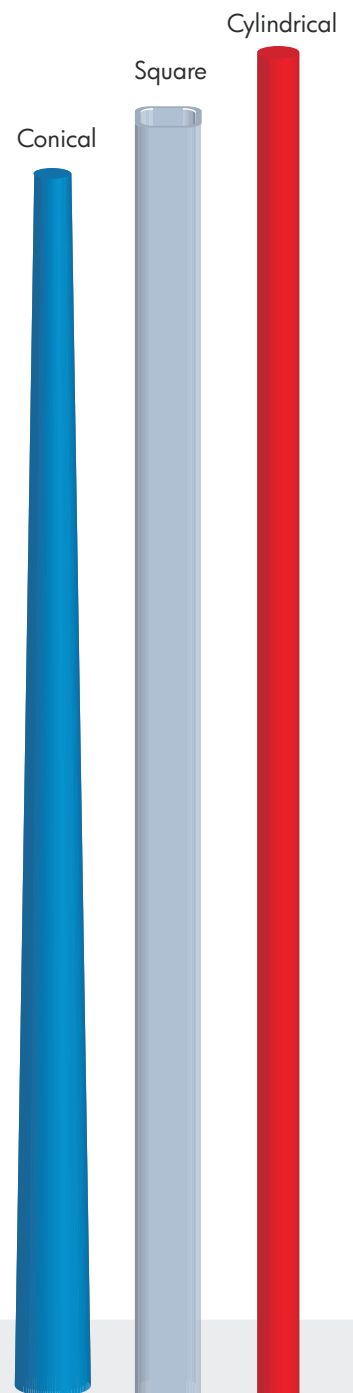
Double Arm Bracket

TECHNICAL CHARACTERISTICS

- They have excellent electrical properties & grounding is not essential.
- The mechanical properties are superior as compared to conventional poles.
- They are manufactured in accordance with the standard test requirements of the customers.
- The surface is covered with special polyester non-woven veil protecting the pole from UV rays, as well as environmental and chemical attacks, giving smooth finished surfaces and better aesthetics.
- "Weather-O-Meter" tests have been carried out in the laboratories. These tests have simulated a 25-year real exposure in our latitudes without any emerging of glass fibres or drop-off in the mechanical characteristics. Hence, the life of a Composite pole is more than 25yrs.

Krystal Composites Composite Poles provide a valid solution to problems caused by salt, smog, extreme weather condition, marshlands, electrical discharge and temperature fluctuations.

Krystal Composites Composite Poles are available in different shapes, length & colours.



External Junction Box



Internal Junction Box



Junction Box Cover



ADVANTAGES OF COMPOSITE POLES



- **Light weight:**

Lighter than Steel, Concrete & Wooden Poles resulting in lower installation and transportation costs.

- **Maintenance:**

No Maintenance required due to its inherent technical properties.

- **High Mechanical Strength:**

Low mechanical stiffness of the composite material enables high mechanical strength of the Poles.

- **Frangibility:**

In road traffic accidents involving poles, Composite Poles cause fewer deaths than steel or concrete poles, due to their ability to fail in a controlled manner.

- **Economical:**

Composite Poles are less expensive than conventional poles and involve lower installation costs due to their light weight, they can be hand-carried to inaccessible places, do not require any surface treatments, grounding servicing or painting.

Rusted steel pole with required grounding



Weak Base of Steel Pole



Krystal Composites Composite Poles stay perfectly intact in any situation



APPLICATIONS OF COMPOSITE POLES

The excellent mechanical properties and resistance to chemical and corrosive attack combined with simple installation techniques have evolved a wide variety of uses for Krystal Composite Poles to develop.

In addition to the advantages already described, Krystal Composite's Poles are aesthetically pleasing in any outdoor situation because of the wide range of colour choices and the pleasant appearance.

- Installation of electric lighting poles
- Installation of telephone lines
- Installation of overhead lines or lighting in chemical plants
- Traffic lights
- Directional Sign Systems
- Road lighting
- Lighting of small and large leisure areas & sport complexes
- Urban equipments
- Lighting of parks and other open spaces
- Advertising signs and standard poles
- Poles for protective barriers



Parking Lighting Poles

Signages



Traffic Light Poles



Street Lighting Poles



OTHER COMPOSITE PRODUCTS IN THE KRYSZAL COMPOSITES RANGE



EASY Reach



Industrial Cable Management System



Pultruded Structural Profiles



Piping System



Handrails & Ladders



Wind Energy



Rotor Blade



Gratings



Railway Frontend



Railway Interior

- | Phenolic, Unsaturated Polyesters & Epoxy Resins | Piping System |
- | Moulded, Pultruded & Phenolic Gratings | Pultruded Structural Profiles |
- | Access Systems - Easy Reach | Telecom Tower |
- | Rotor Blades, Nacelle Covers & Nose Cones | Carbon Fibre | Sound Barrier |
- | Lighting Poles & Flag Masts | Handrails & Ladders | SMC Doors | Louvres



www.krystalcomposites.com

Head Office

Krystal Composites (India) Pvt. Ltd.

101, SUDAIN, Plot No. 97, Hindu Colony Road No. 3, Dadar (E), Mumbai 400014. INDIA

Tel: +91 22 2410-4500 / 4700 / 4900 • Fax: + 91 22 2410-5400

Email: sales@krystalcomposites.com