



C. J. ENGINEERING WORKS
HEAVY METAL FORMERS & FABRICATORS
MFRS. OF : "CAMLIFT" LIFTING CLAMPS & "CENTRICOM" FRP POLE



CENTRICOM
Advance Utility Composites Structures

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Introduction of "CENTRICOM" frp utility poles





MANUFACTURING PROCESS

Centrifugal casting is a production technology used to make composite **poles** (with fiberglass) in the **shape of a truncated cone** with maximum length of 10 meter.

The pole is formed by inserting the reinforcement (fiberglass) in a specific rotating mould that has a truncated-cone cavity. Due to **centrifugal force**, the fiberglass adheres to the walls of the mould and takes its shape. The matrix (resin) inside the mould is impregnated with fiberglass due to the rapid rotation of the mould (centrifugal casting). It also hardens by polymerizing when it comes in contact with the heated mould.

The poles produced by centrifugal casting can have consistence thickness due to the possibility of controlling the distribution of the reinforcement inside the mould. This way, tapered poles are obtained which are reinforced only in the critical areas determined by their use. This is accomplished without increasing thickness and thus weight over the entire length.

This technology makes it possible to make products with a high degree of dimensional and physical-mechanical repeatability. These poles find wide use, for example, as **lighting poles** and **supports for electricity, telephone, Sinages, and etc.**



Comparison of	Composite Poles	Steel Poles
Weight	Specific weight 1860Kg/m ³ , about 26-32% that of steel.	Specific weight 7800Kg/m ³ , about 3-4times heavy then composite pole.
Rusting	Non corrosive due to basic material characteristics	Even after powder coating or galvanizing, rusting starts from the base.
Installation	Light in weight, can be handled by 1 or 2 person	Very heavy, needs lifter machines which adds the cost
Maintenance	Completely maintenance free	Need re-coating or refurbish after some time.
Surface finish	Smooth and surface layer can be integrated with the base material, so the surface layer will NOT fall off with time	The surface coating often fall off after some time, for the index of expansion against temperature and much deferent for metal and surface coating, so after time coating is easy to peel off.
Insulation	Nonconductive, very good insulation	Conductive, have risk for electricity leakage.
Service life	Longer than metal, 20 to 25 years	Shorter life due to rusting
Wind resistance	Our poles can withstand wind speed of 200 Km/Hr.	-
Accessories	We make single, double arm for light fittings, base bracket for mounting	-
Corrosion resistance	Very good against water, acid rain, sea water, salty air, chemicals. So can be used in all locations.	Can be attacked by water, acid rain and sea water. So limited in some locations



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Bendability	It can withstand stability after bending up to 25 to degree	It can be bend but does not have stability
Impact	When the vehicle impact on the pole its can break down at time and person in the vehicle will be safe.	When the vehicles impact on pole its will damage the vehicle and the person may get injury.



"CENTRICOM" tapered pole dimensions

Sr. No.	Length 'mm'	Top OD 'mm'	Bottom OD 'mm'	Weight 'Kg'	Avg. Thk 'mm'	Test Load on Top 'Kg'
1	3000	76	127	10	5	200
2	4000	76	144	10	5	200
3	5000	76	160	17	5	200
4	6000	76	177	19.5	5	200
5	7000	76	194	25.6	5	200
6	8000	76	211	39	6	200
7	9000	76	228	40.4	6	200
8	10000	76	245	46	6	200

Note : 1. Weight mentioned may vary in +/-5.0%

2. Dimensional tolerance in +/-1.0 %