SumiP®

TRUSTED BRAND SINCE 1988

FIBERGLASS POLES

Bringing Alternative & Advanced Solutions to Global Markets

Established in late 80's Sumip Composites Pvt. Ltd., has been developing innovative fiberglass products for various industrial, electrical and instrumentation applications across the globe. Carefully designed, following intensive research, Sumip's fiberglass solutions have continually proven to be the trademark of strength and durability, withstanding the test of time, while offering superior quality performance.

Sumip's portfolio of products includes GRP Cable Trays, GRP Street Light Poles, GRP Enclosures, GRP Ladders, GRP Gratings, GRP Handrails, Trefoil Clamps etc. that have diverse applications in various sectors. Increasingly enabled by the introduction of newer polymer resin matrix materials and high performance reinforcement fiberglass, Sumip's products have witnessed a steady expansion in usage, owing to their long service life.

Sumip composites have three strategic business units which are certified by quality and product experts.

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Vision:

Converting metal to composites (GRP) in remotest corners of the globe.

Mission:

Each & every individual has to be a leader.

Innovations for Building the Future

In a world that is constantly developing and evolving, there is an unabated thirst for new materials with improved properties and low carbon footprint. At Sumip, we continuously innovate materials and solutions that are effective, sustainable and futuristic.

Our state-of-the-art infrastructure, R&D and high-standard quality control system ensure excellent design and development, production, product delivery and after sales service.

*FRP : Fiber Glass Reinforced Plastic (Polymer)
*GRP : Glass Fiber Reinforced Plastic (Polymer)

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Advantages of Sumip Poles

CORROSION RESISTANCE
Sumip Poles have higher corrosion resistance. They resist damage from the weather and harsh chemicals that can easily destroy traditional materials.

LIGHT WEIGHT
Sumip poles are lighter than conventional poles like cement, metal, wood and others, which makes them a great alternative for diverse design requirements with significant weight reduction.

NON-CONDUCTIVE
Sumip poles are nonconductive which means they do not conduct electricity.

HIGH STRENGTH
Sumip poles are stronger than conventional poles since they have very high impact strength.

ZERO MAINTENANCE
No special coating, painting or periodic inspection is required for Sumip poles.

Sumip GRP Poles

Transforming lighting systems across the world

Sumip produces a wide range of fiber-reinforced polymer or reinforced plastic (FRP) products, manufacturing process: CNC Filament winding, pultrusion process and centrifugal casting. Innovating continuously, Sumip brings advanced solutions that often out perform conventional materials in the most critical and demanding applications. The organisation's commitment to providing superior quality solutions, has led to the engineering of some of the most modern and effective fiberglass lighting products that are both innovative and economical, making it optimal choice of street light /platform/solar lighting poles needs across the globe.

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AESTHETICALLY EYE PLEASING
Sumip poles come with a semi-textured finish that gives them a uniform and pleasing appearance.

ECONOMICAL
Transportation and installation cost of Sumip poles are much lower than that of conventional material. In Addition, Sumip poles have a longer life span and deliver a hassle-free experience.

DURABILITY
Impervious to corrosion, water, salt, insects, animals and pole rot make it a highly durable choice.

WIND LOADS
Sumip Poles are designed for strength and durability. It is accustomed to withstanding wind speed up to 250 km/hr

SAFETY
GRP Pole is an insulator that avoids any risk of electrocution as well as less risk of damage/ injury in case of any accidents.

Applications

STREET LIGHTING

GARDEN LIGHTING

FLAG POLES

JETTY LIGHTING

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SOLAR LIGHTING

MALL & MULTIPLEX LIGHTING

COOLING TOWER AREA

CCTV POLES

Specifications

Standards Applicable

1.1 IS 2713 – 1980 Specs. For tubular street light pole for overhang power line.

1.2 IS 875(PART 3)-1987 Code of practice for design loads for building & structures - WINDLOAD.

1.3 IS 6746 – Polyester Resin System.

4.1 ANSI C 136.20 1990 – Glass Reinforced Plastics (GRP) Lighting pole.

4.2 ASTM D 4923-01 – Standard Specs for Reinforced Thermosetting Plastic Pole.

4.3 AASHTO LTS-4: Standard specifications for structural supports for highways signs, luminaries , traffic signals

Technical Details

Types of pole: (A) Anchor type (D) Burial type

Pole type	Available size above ground	Application	Manufacturing Process
Anchor type A 1000	Available up to 9 mtr	Street Lighting	Filament Winding
Burial type D 1000	Available up to 7.5mtr	Street Lighting	Filament Winding
Anchor type A 3000	Available up to 12 mtr	Street Lighting	Filament Winding
Burial type D 3000	Available up to 10.5 mtr	Street Lighting	Filament Winding
Anchor type A 5000	Available up to 6 mtr	Street, Platform, Garden Lighting	Pultrusion
Burial type A 5000	Available up to 5 mtr	Street, Platform, Garden Lighting	Pultrusion
Anchor type A 7000	Available up to 12 mtr	Street Lighting	Centrifugal casting
Burial type D 7000	Available up to 10.5 mtr	Street Lighting	Centrifugal Casting
Anchor type A 8000	Available up to 15.5 mtr in multiple segments	High Mast /Multi Utility Pole	Filament Winding

2.1 The GRP/FRP poles are rounded with classic entasis tapers.

GRP columns shall be manufactured by the CNC 4 axial filament winding, Centrifugal Casting, Pultrusion Process and shall withstand the force of required wind speed we design up to 250 km/hour.

2.2 Sumip Light poles are available in different shapes like cylindrical & conical, joint less from 1 m to 12 m, also available in a variety of colour options.

Sumip Utility poles are available in Cylindrical tapered shape and having different segment, it will be available in specific colour.

2.3 The poles are coated with ultraviolet resistant uniform coating for protection from UV rays and a rich finish.

2.4 The surface of the pole is smooth, free from cracks/bubbles and uniformly coloured for aesthetic appeal. No periodic painting required.

2.5 The pole length includes a tolerance that does not exceed 0.03m per 10m. GRP columns are highly resistant to impact deflection, bending, safe in case of a collision, resistant to fire, electrically non conductive and safe to use without grounding.

2.6 Deflection of the pole is as per AASTHO LTS-4, maximum deflection is not exceeding 10% of the length of the pole above the ground line when subjected to maximum wind loading, with not more than 1% permanent deflection.

2.7 GRP columns are corrosion proof, resistant to chemical reactions, with UV protection against weather ability and a guaranteed lifetime of 20 years.

2.8 The columns is either the burial type or the flanged base type (Anchor type), with suitable cable access. Flanged base plates shall be of galvanized steel/mild steel equal in construction to flange plates used on steel columns (15mm to 20mm thickness) with four-six anchor bolts for fixing at ground level, we do provide convenient cable entry on the pole below the ground level for Cable entry in the pole.

Accessories

3.1 Brackets. 3.2 Junction Boxes. 3.3 Mounting Plates.

Corrosion resistance of resin system

Two standard composite resin systems are available. For most of the application polyester is widely used. A vinyl ester composites resin system is used where strong acid (like hydrochloric acid), strong alkalis (like Caustic Soda), organic solvents and halogenated organic conditions exist. An abbreviated guide can be provided on request to assist in the selection of the proper resin system for individual application.

COMPARISION

COMPARISION	SUMIP POLE	CONVENTIONAL POLE (STEEL)
WEIGHT	50% LIGHTER THAN CONVENTIONAL POLES	HIGH
CORROSION RESISTANCE	VERY GOOD	LOW
INSULATION	VERY GOOD	BAD
MAINTENANCE	LOW	HIGH
INSTALLATION DUE TO WEIGHT	EASY	DIFFICULT
SAFETY	SAFE	UNSAFE (CONDUCTIVE)
IMPACT RESISTANCE	HIGH	LOW
TRANSPORTATION COST	LOW	HIGH
EMI/RFI TRANSPARENCY	TRANSPARENT TO RADIO WAVES AND EMI/RFI TRANSMISSION	CAN INTERFERE WITH RFI/EMI/WAVES
COST	INITIAL COST IS HIGH WHILE TRANSPORTATION INSTALLATION AND MAINTENANCE IS VERY LESS, THEREBY MAKING FOR LOWER LIFE CYCLE COST	HAS A LOWER INITIAL COST BUT VERY HIGH MAINTENANCE COST

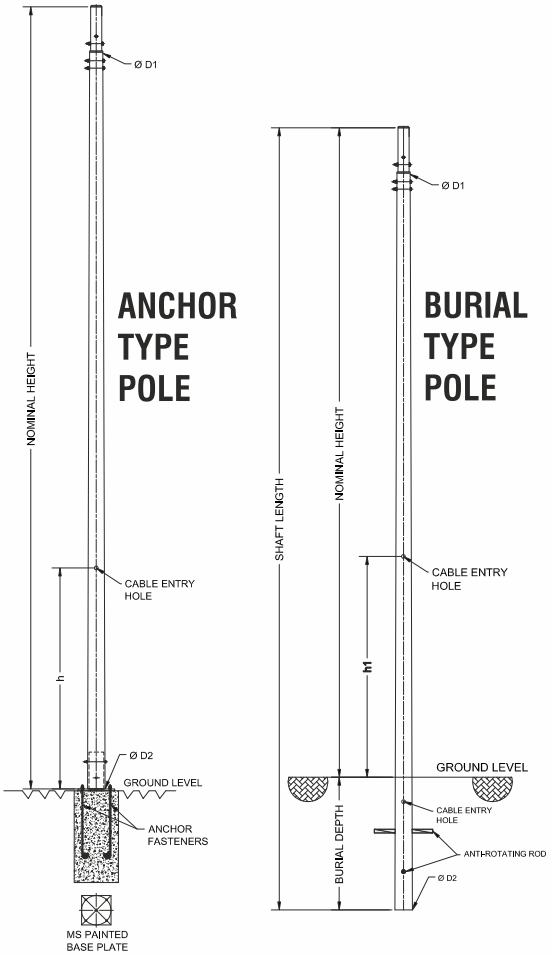
Manufacturing Process

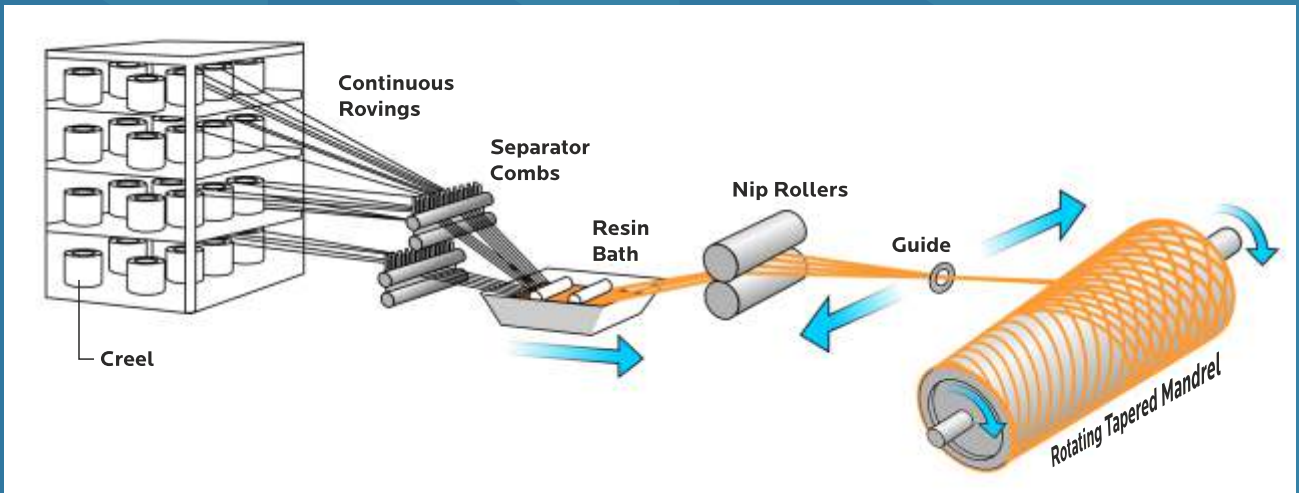
A) Filament Winding Process

In filament winding process, continuous fiberglass filaments, called Rovings, are unwind and passed continuously to the resin tank. In resin tank, catalyzed liquid resin is filled and fiber Rovings are impregnated completely with the resin. These resin impregnated Rovings are passed onto a rotating mandrel. These Rovings are winded around them and rel in a controlled manner and in a specific fiber orientation.

The profile of the mandrel is exactly the same as that of the final product requirement. Impregnated fibers are winded under controlled tensioning conditions and predetermined paths (Desired Length & varying Angles) on a Rotating mandrel in order to optimize the mechanical characteristics of the product until reaching the required thickness. Curing of the composite is done with heat, generally in an oven and final composite product is taken out of the mandrel.

Computer controlled machines (CNCs) are used which independently monitor every movement of the whole process. Filament winding results in the highest Fiber to Resin ratio among all fabrication methods and consequently offers the highest strength to weight ratio.





MODEL & SPECIFICATIONS:

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ANCHOR 1000 SERIES

Model No.	Nominal Height	Baseplate (mm)	Top OD (mm)	Bottom OD (mm)
A 1025	2.5m	250x250	89	115
A 1030	3m	250x250	89	120
A 1035	3.5m	250x250	89	126
A 1040	4m	250x250	89	131
A 1045	4.5m	250x250	89	136
A 1050	5m	250x250	89	141
A 1055	5.5m	250x250	89	146
A 1060	6m	250x250	89	152
A 1065	6.5m	300X300	89	157
A 1070	7m	300X300	89	162
A 1075	7.5m	300X300	89	167
A 1080	8m	300X300	89	173
A 1085	8.5m	300X300	89	178
A 1090	9m	350X350	89	183

ANCHOR 3000 SERIES

Model No.	Nominal Height	Baseplate (mm)	Top OD (mm)	Bottom OD (mm)
A 3025	2.5m	250x250	114	137
A 3030	3m	250x250	114	142
A 3035	3.5m	250x250	114	147
A 3040	4m	250x250	114	151
A 3045	4.5m	250x250	114	156
A 3050	5m	250x250	114	161
A 3055	5.5m	250x250	114	165
A 3060	6m	250x250	114	170
A 3065	6.5m	250x250	114	175
A 3070	7m	300X300	114	179
A 3075	7.5m	300X300	114	184
A 3080	8m	300X300	114	189
A 3085	8.5m	300X300	114	193
A 3090	9m	300X300	114	198
A 3095	9.5m	300X300	114	203
A 3100	10m	350X350	114	207
A 3105	10.5m	350X350	114	212
A 3110	11m	350X350	114	217
A 3115	11.5m	400X400	114	221
A 3120	12m	400X400	114	226

BURIAL 1000 SERIES

Model No.	Nominal Height	Burial Depth	Shaft Length	Top OD (mm)	Bottom OD (mm)
D 1025	2.5m	0.9m	3.4m	89	124
D 1030	3m	0.9m	3.9m	89	130
D 1035	3.5m	0.9m	4.4m	89	135
D 1040	4m	1m	5m	89	141
D 1045	4.5m	1m	5.5m	89	146
D 1050	5m	1m	6m	89	152
D 1055	5.5m	1m	6.5m	89	157
D 1060	6m	1m	7m	89	162
D 1065	6.5m	1m	7.5m	89	167
D 1070	7m	1m	8m	89	173
D 1075	7.5m	1.2m	8.7m	89	180

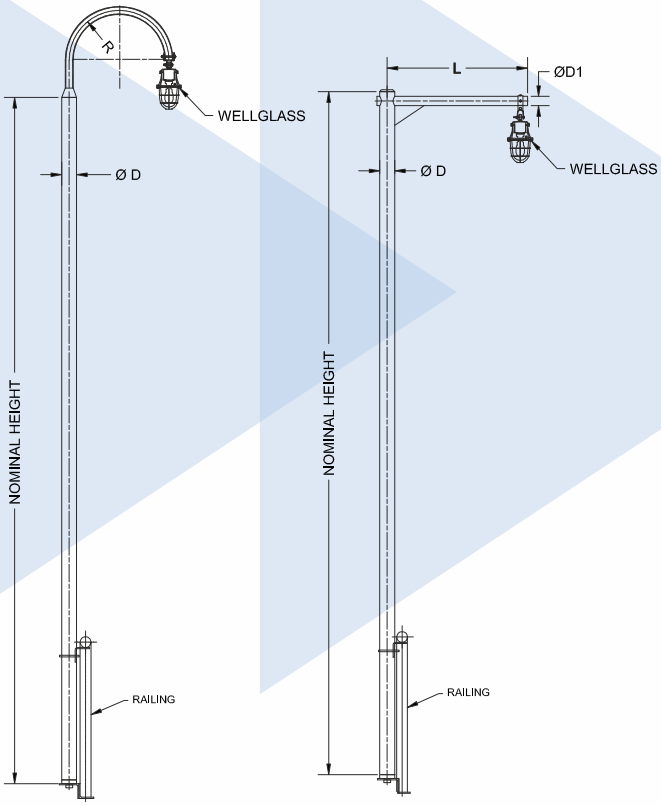
BURIAL 3000 SERIES

Model No.	Nominal Height	Burial Depth	Shaft Length	Top OD (mm)	Bottom OD (mm)
D 3025	2.5m	0.9m	3.4m	114	146
D 3030	3m	0.9m	3.9m	114	150
D 3035	3.5m	0.9m	4.4m	114	155
D 3040	4m	1m	5m	114	161
D 3045	4.5m	1m	5.5m	114	165
D 3050	5m	1m	6m	114	170
D 3055	5.5m	1m	6.5m	114	175
D 3060	6m	1m	7m	114	179
D 3065	6.5m	1m	7.5m	114	184
D 3070	7m	1.2m	8.2m	114	191
D 3075	7.5m	1.2m	8.7m	114	195
D 3080	8m	1.5m	9.5m	114	203
D 3085	8.5m	1.5m	10m	114	207
D 3090	9m	1.5m	10.5m	114	212
D 3095	9.5m	1.5m	11m	114	217
D 3100	10m	1.5m	11.5m	114	221
D 3105	10.5m	1.5m	12m	114	226

Note: Nominal Height is the height above ground
*The above dimension are indicative only and can very ±10mm
Tolerances Diameter = ± 2mm, Overall Length = ± 30mm

B) Pultrusion Process

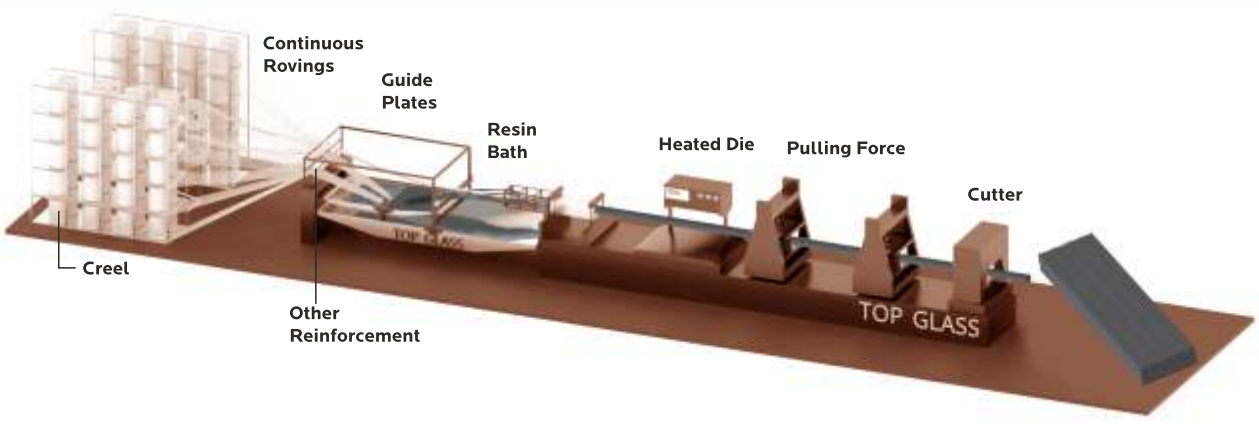
Pultrusion is a process used for composites, which is similar to the conventional process of extrusion. In this process the reinforcing material, in form of a tape or mat or roving, passes through a resin bath. Finally, the Resin enrich / coated reinforcing material passes through a heated die, where resin gets continuously cured, and the composite acquires its final and intended cross section. Unlike extrusion, where the material is pushed thru a die, the process of pultrusion involves pulling of reinforcing materials (Fibers, Tapes, Rovings, Mats, etc.) through the die.



MODEL & SPECIFICATIONS:

Sr. No	Model No.	Nominal Height in mtr	Nominal Height in Ft	Total Length in mm
POLES 5100 SERIES (OD of Pole 60 mm)				
1	D 5110	1.0	3.28	1000
2	D 5115	1.5	4.92	1500
3	D 5120	2.0	6.56	2000
4	D 5125	2.5	8.20	2500
5	D 5130	3.0	9.84	3000
6	D 5135	3.5	11.48	3500
POLES 5300 SERIES (OD of Pole 76 mm)				
1	D 5310	1.0	3.28	1000
2	D 5315	1.5	4.92	1500
3	D 5320	2.0	6.56	2000
4	D 5325	2.5	8.20	2500
5	D 5330	3.0	9.84	3000
6	D 5335	3.5	11.48	3500
7	D 5340	4.0	13.12	4000
8	D 5345	4.5	4.28	4500
9	D 5350	5.0	16.4	5000
POLES 5400 SERIES (OD of Pole 100 mm)				
1	D 5410	1.0	3.28	1000
2	D 5415	1.5	4.92	1500
3	D 5420	2.0	6.56	2000
4	D 5425	2.5	8.20	2500
5	D 5430	3.0	9.84	3000
6	D 5435	3.5	11.48	3500
7	D 5440	4.0	13.12	4000
8	D 5445	4.5	4.28	4500
9	D 5450	5.0	16.4	5000
10	D 5455	5.5	18.05	5500
11	D 5460	6.0	20	6000

*The above dimension are indicative only and can very ±10mm



C) Centrifugal Casting Process

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Casting of Products using Centrifugal Forces is known as centrifugal casting process. The centrifugal casting process involves insertion of Glass Fibers and Catalyzed liquid resin injection into the rotating Tubular mold. High centrifugal forces ensures that the reinforcing fibers are thoroughly saturated with resin and forced the inserted material against the mold wall. In the final step of production, the pole is heated to cure the resin. The mold rotates while this process takes place, which ensures that the pole remains in shape with a uniform wall thickness over the entire length and an exact outer diameter. A PLC Controlled Machine is used to control the Speed of rotation of molds at desired RPM and to govern the required Centrifugal force for achieving uniform thickness of pole.

MODEL & SPECIFICATIONS:

ANCHOR 7000 SERIES

Model No.	Nominal Height	Baseplate (mm)	Top OD (mm)	Bottom OD (mm)
A 7040	4m	250x250	76	142
A 7045	4.5m	250x250	76	151
A 7050	5m	300x300	76	159
A 7055	5.5m	300x300	76	167
A 7060	6m	300x300	76	176
A 7065	6.5m	300x300	76	184
A 7070	7m	300x300	76	192
A 7075	7.5m	300x300	76	201
A 7080	8m	300x300	76	209
A 7085	8.5m	350x350	76	217
A 7090	9m	350x350	76	225
A 7095	9.5m	350x350	76	234
A 7100	10m	350x350	76	242
A 7105	10.5m	350x350	76	250
A 7110	11m	350x350	76	259
A 7115	11.5m	350x350	76	267
A 7120	12m	350x350	76	275

BURIAL 7000 SERIES

Model No.	Nominal Height	Burial Depth	Shaft Length	Top OD (mm)	Bottom OD (mm)
D 7030	3m	1m	4m	76	142
D 7035	3.5m	1m	4.5m	76	151
D 7040	4m	1m	5m	76	159
D 7045	4.5m	1m	5.5m	76	167
D 7050	5m	1.2m	6.2m	76	179
D 7055	5.5m	1.2m	6.7m	76	187
D 7060	6m	1.2m	7.2m	76	196
D 7065	6.5m	1.2m	7.7m	76	204
D 7070	7m	1.5m	8.5m	76	217
D 7075	7.5m	1.5m	9m	76	225
D 7080	8m	1.5m	9.5m	76	234
D 7085	8.5m	1.5m	10m	76	242
D 7090	9m	1.5m	10.5m	76	250
D 7095	9.5m	1.5m	11m	76	259
D 7100	10m	1.5m	11.5m	76	267
D 7105	10.5m	1.5m	12m	76	275

Note: Nominal Height is the height above ground
*The above dimension are indicative only and can very ±10mm
Tolerances Diameter = ± 2mm, Overall Length = ± 30mm

Solar Poles

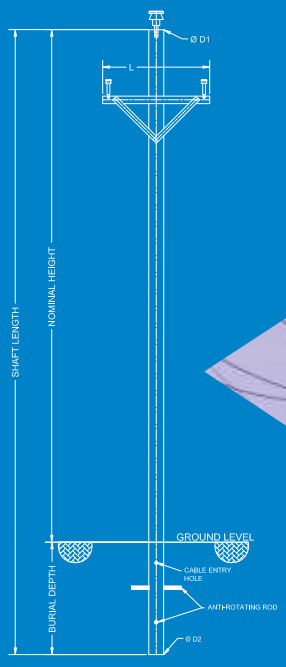
Sumip provides poles that produce solar powered light. These poles are engineered for high winds, safe and need minimal installation time.

Maintenance Poles

Sumip also provide poles which are used for flood light installations with permanent climber arrangement. It is available in sizes 9M to 12M.

Utility Poles

Utility Poles serve as a support system for overhead power lines and various other public utilities such as telephone cables, fiber optic cables etc. Sumip's utility poles have been designed keeping in mind the technical as well as environmental requirements such as dead load of cables, self-load of poles, wind load, ice load and temperature variations etc.



MODEL & SPECIFICATIONS:

Model No.	Nominal Height in mm	Burial Depth in mm	Shaft Length in mm
D 8080	8000	1500	9500
D 8090	9000	1500	10500
D 8100	10000	2000	12000

Accessories

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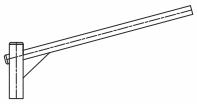
(i) Brackets

Sumip supplies brackets with attractive designs in a variety of different material like MS, Fiber, Aluminium, etc. Single, Double and three arm brackets are three kinds of brackets that are available for use.

A01



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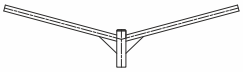

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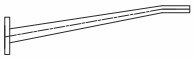

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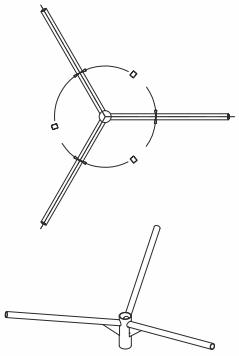

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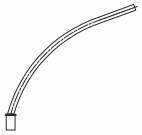

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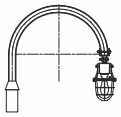

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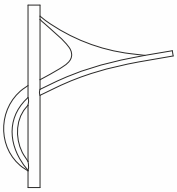

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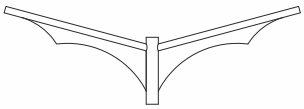

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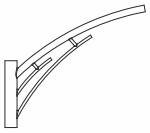

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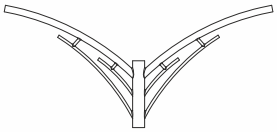

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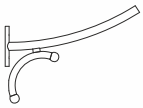

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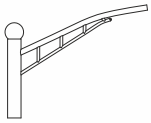

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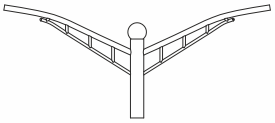

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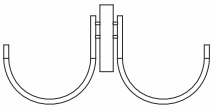

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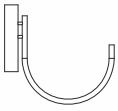

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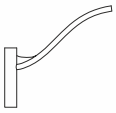

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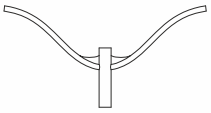

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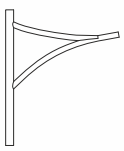

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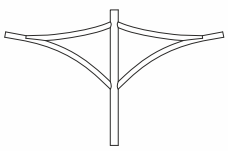
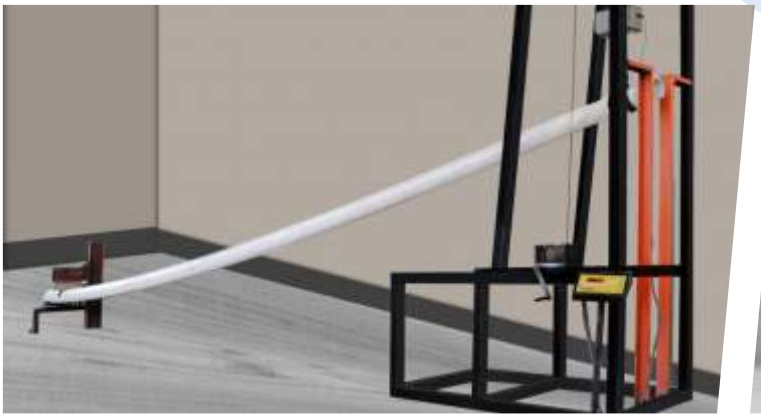


(ii) Junction Boxes

We use fiberglass and polyester resin to build junction boxes to ensure corrosion resistance. **Sumip provide two types of junction boxes: Internal & External.**

Testing Facility

Our testing facility is equipped with all modern equipment that helps us ensure the highest quality output. Our synergistic team of well qualified experts run this facility. They use the most scientific approach to solve challenges faced during the testing phase. Our deflection test as per ASTM 4923-01 MAX is upto 15% and permanent deflection tests max upto 5%.



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