Established in 1970 as a Fasteners manufacturing unit, Supreme & Co. has been exporting its products since 1975 and has since evolved into India’s leading manufacturer and exporter of products for Power Transmission and Distribution, Construction, Railways, Telecom and Engineering Industries.

Supreme & Co. has been accredited with ISO-9001:2008, ISO-14001:2004, certification by BSI Limited. Over the years, Supreme has developed numerous new products for specific needs of its customers and possess the capability of developing new products from scratch to fulfill the customer’s requirements.

Now Supreme has taken one step forward in this direction and started manufacturing of COMPOSITE POLYMER INSULATORS for high voltage applications.

DESIGN OF SILICONE RUBBER COMPOSITE INSULATORS :

Silicone Rubber Composite Insulator consists of THREE basic parts,
~ Resin Bonded Fiber Glass Rod ( Core Rod )
~ Silicone Rubber Housing ( Sheathing )
~ Metal End Fittings

Weather Shed: Design According to aerodynamic

Housing : Thickness Conforms to International Standard

End fitting : High Quality Steel Compressed with Fully Automated Crimping machine

Our products will include Various types of Composite Insulators Ranging from 11kV-400kV as per IEC Specifications.

> 11- 33 kV Disc Insulators
> 11-33 kV Pin Insulators
> 66 kV 70kN / 90kN Disc Insulator ( Suspension & Tension )
> 132 kV 70kN / 90kN / 120kN Disc Insulator ( Suspension & Tension )
> 220 kV 70kN / 90kN / 120kN Disc Insulator ( Suspension & Tension )
> 400 kV 120kN / 160 kN Disc Insulator ( Suspension & Tension )

Supreme Manufactures Polymeric Insulators Ranging from 11kV- 400kV. Our products are being tested for Design Test & Type Test as per IEC – 61109 -2008 at CPRI Bangalore, ERDA Vadodara and other NABL approved Labs.

<table>
<thead>
<tr>
<th>Nominal Voltage in kV</th>
<th>Specified MechanicalLoad (SML) in kN</th>
<th>Sectional Length in mm</th>
<th>Min. Creepage Distance in mm</th>
<th>Wet Power Frequency withstand in kV (rms)</th>
<th>Dry Lighting Impulse withstand in kV (rms)</th>
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<td>13020</td>
<td>680</td>
<td>1550</td>
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</table>
Polymer Insulator

KEY FEATURES:

* Light weight (up to 70% less than Ceramic insulators). Ease of installation as easier to handle and transport.
* Outstanding resistance to environmental factors such as U.V. light, ozone, acids, contaminations and moisture.
* Silicone Rubber sheds provide perfect Hydrophobic performance, hydro-phobicity transfer in to pollution layer also possible, good resistance to ageing and tracking & erosion.
* Stable behavior at extreme climatic conditions -50 to +50 deg C.
* Suitability for polluted and salty atmospheres etc.
* Resistance to breakage and vandalism, practically unbreakable.
* Eliminates or reduces maintenance (such as washing) and are compatible with existing porcelain insulators.
* Energy Efficiency (Low leakage current due to more surface resistivity).
* Safety (Light weight for handling and installation, eliminates catastrophic mechanical failures).
* Consistent mechanical and electrical performance throughout entire service life.

THE PROCESS:

**Moulding:**
Housing is formed by high pressure automatic injection moulding machine which injects silicone rubber into mould to form the seamless sheathing either by one or multiple shots. Both housing and core are chemically bonded together during the vulcanization process. The strength of the bond is greater than the tearing strength of the silicone rubber itself.

**Crimping:**
End fittings are assembled by a pressure controlled multi step crimping process. Modern pressure control technology prevents damaging the fiber glass rod while achieving maximum mechanical strength. The gaps between the fittings are sealed during the molding process to avoid moisture ingress to the fiber glass rod.

TESTING FACILITY:
Polymer insulators undergo various design tests, type tests, routine tests and acceptance tests as per IEC-61109. Our laboratories are well equipped with latest modern equipments to carry out all the tests for incoming raw materials such as Silicone Rubber, FRP Rods, End fittings, Sealants etc. as well as for the intensive tests on the final products.

Tests on Silicone Rubber:
* Tracking & Erosion Test
* Volume Resistivity
* Tensile and Tear Strength
* Hardness (Shore A)
* U.V and Weathering Test
* Dielectric Strength

Tests on FRP Rods:
* Specific Gravity
* Glass Content
* Water Diffusion Test
* Dye Penetration Test

Tests On End Fittings:
* Thickness of Zinc Coating
* Uniformity of Zinc Coating
* Micro-structural of metal fitting

We also have the facility to carry out various routine tests and acceptance tests according to IEC-61109.
1. Routine Electrical Test
2. Mechanical Strength Test etc.