COMPOISTE POLYMER INSULATOR

'MEMF' Polymeric Standoff Insulators

Insulators are devices which are used on electricity supply networks to support, separate or contain conductors at high voltage.

Insulators have the dual functions of mechanically supporting aerial conductors while also providing adequate electrical insulation between the energized conductor and the supporting pole or structure. Insulators are used in distribution systems and design to accept cantilever or tension loading.

The MEMF Standoff Insulator is a light weight direct molded composite insulator, using HTV silicone rubber. The HTV Silicone rubber is chemically bonded to the FRP core providing impenetrable interface sealing mechanism and the crimped assembly ensures optimal mechanical performance.

Corrosion resistance end fitting are crimped to the pultruded fibergalss core to allow the transition of mechanical loading to the line and mounting structure.

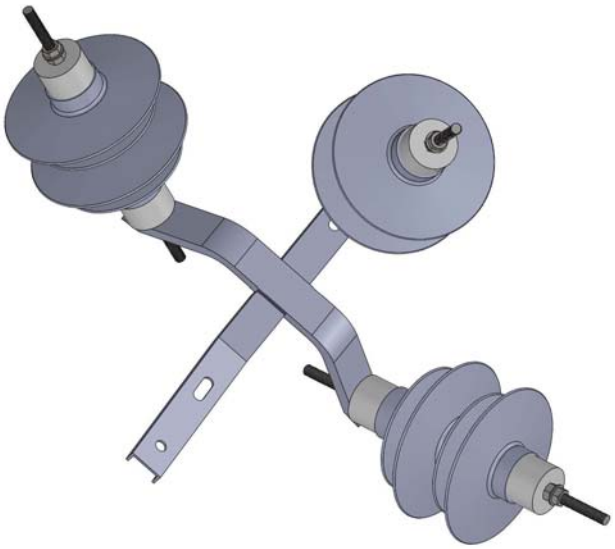
Features

Crimp technology
* Maximum mechanical strength without Damaging the fiber glass rod

Silicone Housing
* High tracking and erosion resistance
* Excellent performance under polluted
* Reduced Maintenance costs.

Composite design
* Lightweight – easy installation
* Vandal and break resistant
* Impact resistant

Direct bonding to end fitting
* Ideal moisture barrier, avoids moisture ingress to the fiber glass rod.



Applications:-

The insulator range is suitable for medium voltage in the following applications:-

- Standoff application for cable terminations
- Support insulators for fuse holder

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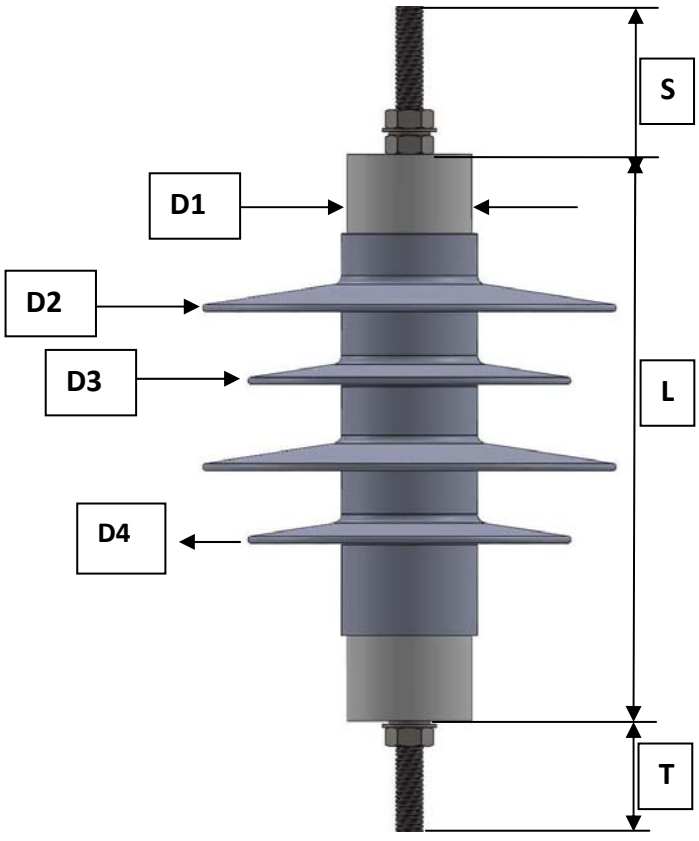
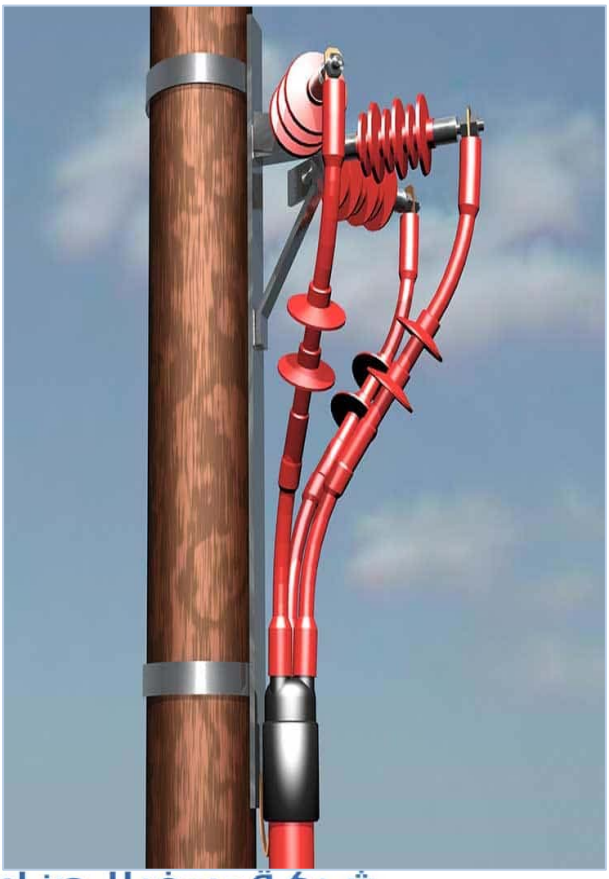
MEMF Standoff Insulators

Product Series	LRS-24-540	LRS-36-1320
Model	LRS-24-12.5-265	LRS-36-12.5-420
Length L (mm)	265±10	420±10
Standard stud length S (mm)	60±5	60±5
Standard stud length T (mm)	60±5	60±5
Diameter of metal parts D1 (mm)	ϕ50±2	ϕ50±2
Diameter of Big Shed D2 (mm)	ϕ181±2	ϕ181±2
Diameter of Small Shed D3 (mm)	ϕ148±2	ϕ148±2
Creepage Distance (mm)	>590	>1320
Dry arc distance (mm)	>245	>435
Number of sheds (D4)	4	9
Electrical parameters		
Impulse Withstand (kV)	>150	>250
Wet power frequency withstand (kV)	>65	>135
Mechanical parameters		
Cantilever Load withstand -KN	12.5	12.5
Maximum design cantilever load-KN	6.25	6.25
Tensile Load -KN	12.5	12.5





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Key Features of Composite Insulators

Factors	Composite Insulator	Ceramic Insulator
Resistance to flashovers in Polluted atmosphere	High	Low
Resistance to puncture	Not puncturable	Puncturable
Anti-Tracking and erosion resistance	Excellent	Poor
Dielectric Strength	Excellent	Lower then Polymeric
Resistance to Cracking and Erosion in polluted atmosphere	High	Low
Contamination & Pollution	Performance not affected and has a longer life	Highly affected
Hydrophobicity	The hydrophobicity properties of silicone rubber provide excellent insulating behavior and resists wetting by forming beads water without the needs of washing and greasing even in humid or polluted climates. Hence low failure rate combined with low overall operating and maintenance cost.	Non hydrophobic, porcelain surface forms water films on the surface making easy path leading to more flashovers.
Self Cleaning property	Due to hydrophobicity recovery characteristic	Due to Glaze and inclination of sheds
Maintenance	No Maintenance is required	Needs maintenance like cleaning, washing, greasing
Safety	Polymeric insulators provide very high level of safety, superior flexibility and strength. Not susceptible to explosion.	Porcelain insulators are susceptible to explosion and breakages, due to high fragile properties.
Weight	Light (60-70% less than Ceramic Insulator)	More
Resistance to breakage and Vandalism	Unbreakable	Breakable in Vandalism prone areas
Mechanical Failure	Single piece hence no such problem	Reduction in mechanical strength and separation due to pings getting eroded
Artificial Pollution Test	Not Applicable	Mandatory
Power Arc Test	Not Applicable	Mandatory

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Insulator Selection Parameters

When selecting insulators, it's necessary to describe the insulator parameters by the following terms:

Creepage Distance	Shortest distance or the sum of the shortest distance along the surface on an insulator between two conductive parts which normally have the operating voltage between them
Arcing Distance	Shortest distance in air external to the insulator between the metallic parts which normally have the operating voltage between them
Specified Mechanical Load (SML)	Load specified by the manufacturer, which is used for mechanical tests.
End Fitting	Integral component or formed part of an insulator intended to connect it to a supporting structure, or to a conductor, or to a conductor, or to an item of equipment, or to another insulator.
Specified Cantilever Load (SCL)	Cantilever load which can be withstood by the insulator when tested under the prescribed conditions.
Maximum Design Cantilever Load (MDCL)	Cantilever load level above which damage to the insulator begins to occur and that should not be exceeded in service.
Routine Test Load	Routine test load, applied to all assembled composite insulators during routine mechanical test at 50% of specified mechanical load for at least 10 seconds.

Why MEMF Insulator?

- **SEC Approved supplier for composite insulator**
- **Product design and developed according to IEC & SEC SDMS 15-SDMS-02 requirements.**