

Accessories:

We also manufacture and supply the following accessories.

Arrester Disconnectors used with distribution class Arresters (5kA) to facilitate interruption of short circuit current in the remote event of Arrester failure and visual indication to enable field personnel to replace the arresters.

Surge Monitor

used with station class Arresters (> 10 kA) for live condition monitoring of arresters.

Insulating Base

enables arresters to be isolated from its base (earth) to facilitate connection of surge monitor.

Mounting Structure

facilitates mounting of arresters at required heights.

**Awards & Recognitions****Our other Products :**

Current and Voltage Transformers upto 220kV
Composite Insulators upto 400kV



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Surge Arrester



Electrical Power Systems experience high energy Impulses / Surges. These surges need to be diverted to protect the power characteristics, power lines and power equipment.

Metal Oxide Surge Arresters are efficient surge diverting devices employed in Electrical Power Systems. These consist of 3 operating parts viz.

- I) Metal Oxide Non Linear Resistor Elements
- II) Housing (Insulator)
- III) Conducting Electrodes

(I) Metal Oxide Non Linear Resistor Elements:

Metal Oxide Resistors exhibit Non-linear Resistance (NLR) Characteristics and are non-conducting at Power Frequency Voltages but change-over to conducting mode in surge domain. They have remarkable property of springing back to non-conduction mode soon after diverting the surges through themselves to ground. These can best be observed by their V-I characteristic curves.

As can be seen from the curves, between PFV and Surge Voltages, the Current jumps from 10^{-6} to 10^6 A (10^{12} times) as against just only 3 times increase in voltages which makes them ideally suited.

(II) Housing (Insulator)

NLR Stacks are securely housed in rigid insulators and serve many functions, viz.

- Provide structural strength to the internal stack assembly
- Dissipate the heat generated by NLRs into the atmosphere
- Minimize the effects of environmental pollution.
- Facilitates handling, transportation and installations.

Housings made of two different materials are available.

(I) PORCELAIN (ii) POLYMER (Silicone Rubber)

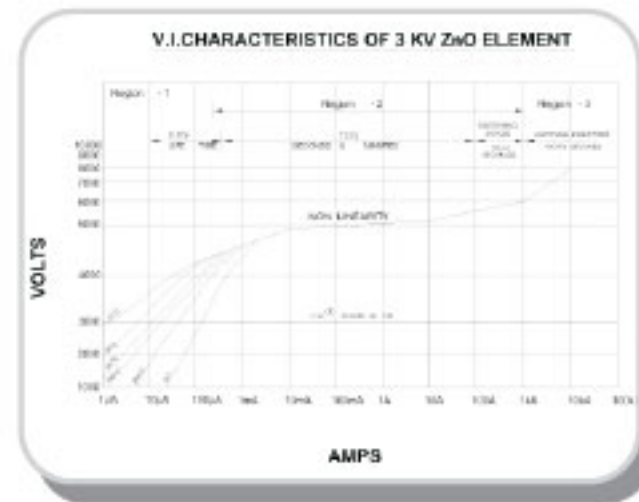
However, Silicone Rubber Housings additionally have following advantages:

- Hydrophobicity (Water repellent characteristic), Does not allow water droplets to remain on its surface.
- Unbreakable
- Light Weight (about 1/3rd of Porcelain Housing of the same rating)
- Compact (Volume about 1/3rd of Porcelain Housings of the same rating)
- Improved anti-pollution characteristics

(III) Conducting Electrodes (End Castings)

Specialty designed and processed aluminum alloy castings are fixed to each end of the porcelain Housing with Sulphur cement. Fasteners are used to fix the End Castings for Silicone Rubber Housings. The end castings are in firm electrical contact with the internal NLR Stack assembly and serve to:

- Interconnect Arrester Units to form Multi-unit Arrester of higher ratings.
- Accommodate Pressure Relief Device
- Assemble easily at site due to their modular construction.



MANUFACTURE

NLR Blocks

Required Metal Oxides are procured from reputed National / International sources and are tested in our in-house Laboratories to ensure their purity and impurity levels and other characteristics are within acceptable norms.

The metal oxides are mixed in specified proportion, wet mixed in deionised water to form slurry. The slurry is spray dried to obtain homogenized powder. The powder is compacted to obtain uniformly high density cylindrical blocks of required diameter and height.

The Blocks are sintered in pre-programmed furnaces at high temperature. They are then lapped, the curved surfaces insulated and plane surfaces metal coated. The blocks are thereafter subjected to thorough electrical screening tests.

Polymer (Silicon Rubber) Housings:

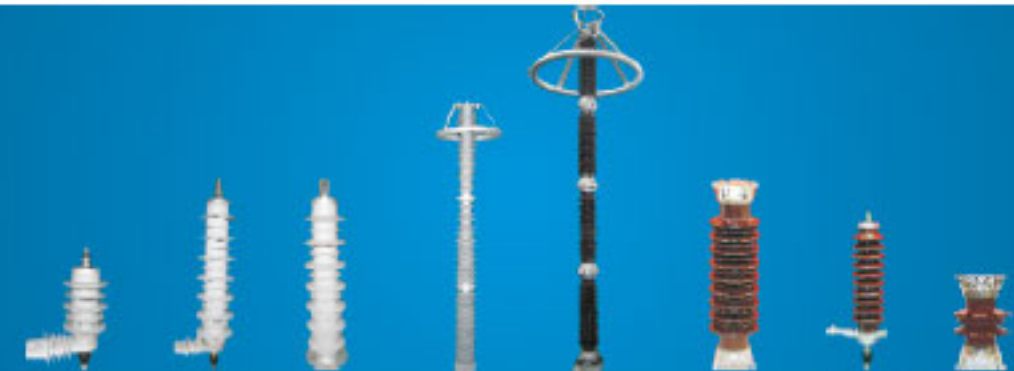
Silicon Rubber housing material is injection moulded over fibre glass tube to form the sheath and sheds.

SURGE ARRESTERS

We manufacture:

Distribution Class (5kA) Arresters - 0.5kV to 33kV

Station class (10/20 kA) Arresters - 3kV to 400kV of Discharge Class 1,2,3 & 4



QUALITY CONTROL

Type, Routine and Acceptance tests specified in IEC 60099-4 / IS-3070 (part-3) are conducted on Surge Arresters, Surge Monitors and Arrester Disconnectors.

