

Specification for High Voltage, Low Resistance Type Grounding Resistors

Scope

This specification covers the design, manufacture and testing of high-voltage, low-resistance type Neutral Grounding Resistors (NGR) for installation outdoors onto a concrete pad or power transformer.

Applicable Standards

The NGR shall be designed, manufactured and tested as per the latest revisions of IEEE-32.

Resistors

The resistive elements shall be low temperature coefficient, resistor grade stainless steel of sufficient mass to withstand the rated current and prescribed duty.

The resistors shall be mounted in corrosion resistant support frames, using stainless-steel hardware.

The entire resistor assembly shall be mounted on insulators rated for the system voltage.

All resistor terminals and interconnections between resistor units shall be stainless-steel using stainless- steel hardware including lock washers. High current connections shall be spot or TIG welded as appropriate.

Connections between resistors and bushings or current transformers shall be solid copper or stainless steel bus or copper cables.

Enclosures

The frame of the enclosure shall be made from structural steel angles welded together, or bolted together with stainless-steel hardware. The top of the enclosure shall be solid, slightly overhung and sloped. It shall be embossed with stiffening ribs. The enclosure shall have forged eyebolts in each corner for lifting purposes.

The bottom of the enclosure shall be screened with expanded or perforated metal with openings of 1/2" or less. This screening shall be welded or bolted in and is not removable. It shall be elevated 4 to 6 inches above the base of the unit.

Bolt-on side covers on all four sides shall be used. Screened covers may be furnished for certain applications. Stainless-steel hardware shall be used. Louvered or screened openings shall not exceed 1/2".

A durable nameplate, permanently attached to one side cover shall show the manufacturer and the complete rating. Painted enclosures shall be suitably cleaned, primed and painted. Stainless-steel and aluminum enclosures (in particular) shall be protected from scratching during manufacture, assembly and shipment.

CSA Approved Enclosure

To meet CSA outdoor requirements, solid side covers and elevated, hooded roof shall be supplied. All of the other requirements outlined above shall be met.

