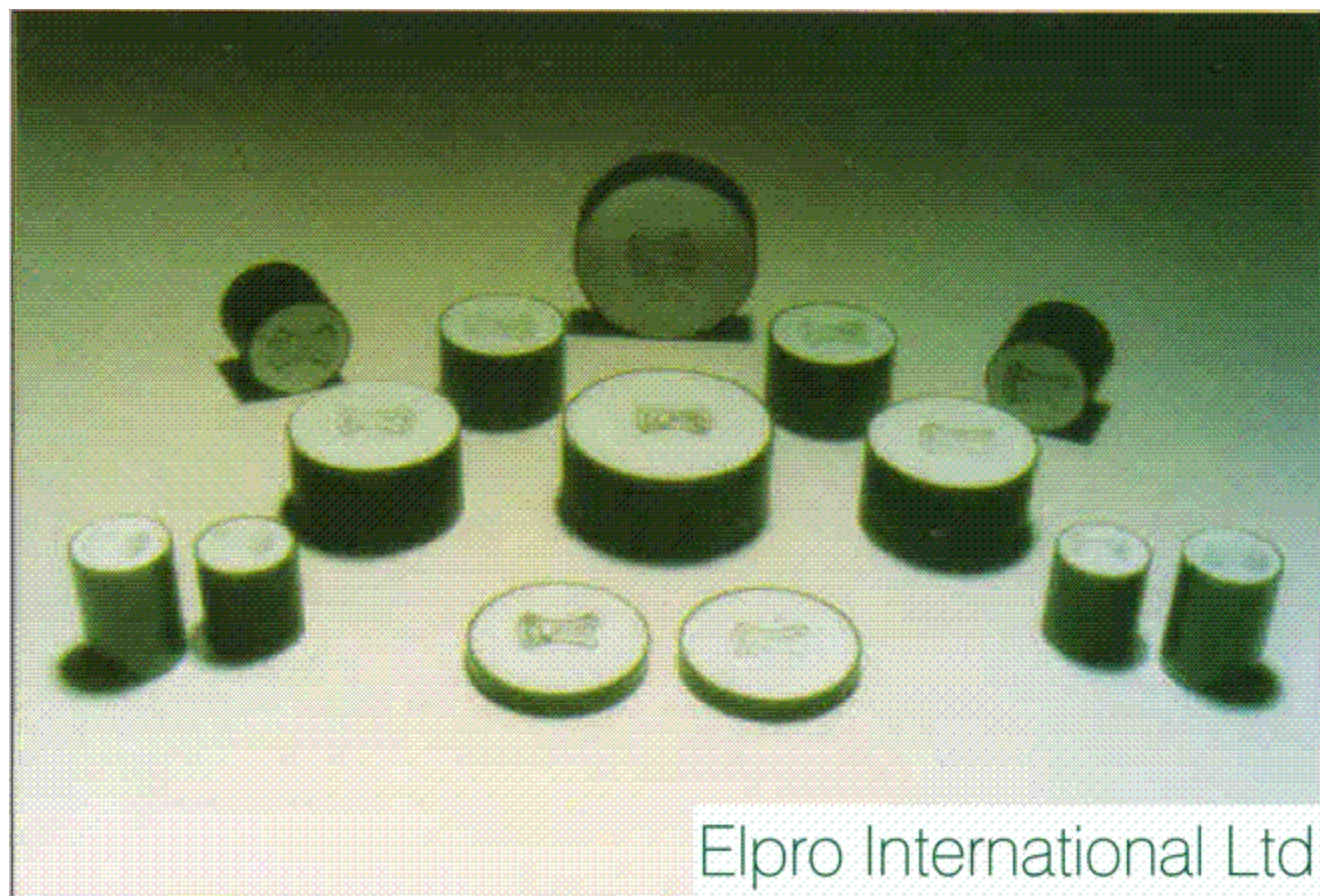


# ZINC OXIDE DISK

## ADVANCED METAL OXIDE TECHNOLOGIES



ELPRO's Zinc Oxide discs, the prime elements for gapless surge arresters, are manufactured under licence from GE, USA incorporating the latest developments in metal oxide technologies to meet International Standards.

The metal oxide elements are composed of a specially formulated compound of zinc oxide and proportionate amount of other selected metal oxides, a composition which has been arrived at by years of Research and Development. The process of manufacturing is carried out in a controlled atmosphere. This ensures a high quality product with a non-linear character which allows a very low leakage current at continuous operating voltage. Apart from providing a very high degree of protection margin, ELPRO discs provide excellent temporary overvoltage withstand capability.

The insulation collar provided on ZnO blocks is the result of a dedicated ELPRO R&D activity to ensure the high current withstand capability of the disc. The special manufacturing process followed exclusively at ELPRO are in line with the GE manufacturing operations and this certifies ELPRO as an ISO 9001 organisation for the manufacture and supply of ZnO discs for Lightning Arresters.

Discs are subjected to the following tests on a 100% basis as part of the Quality Control plan.

1. Residual Voltage Test at Nominal Discharge Current.
2. Strength Test to Verify Energy Dissipation Capability.
3. Watt Loss Test.

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Each disc bears an acceptance stamp only after passing these tests. Samples from each lot are subjected to accelerated ageing test to ensure the continuous Watt Loss reduction over a period of 1000 hours at 115 C and 1.05 times COV.

Each disc bears quality stamp of Elpro along with Residual Voltage value at Nominal Discharge Current and Watt Loss at MCOV.

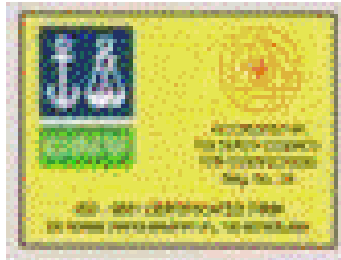
ELPRO's range of ZnO discs, manufactured in different diameter and height combinations, meet the specific requirements of Distribution Class and Station Class-I to Class-IV of lightning Arrester as specified in IEC 99-4 1991, ANSI C62-11 1993 and IS-3070 (Pt.3)1993 standards. These discs having different energy handling capabilities to precisely meet a wide range of protection requirements are type tested at CESI, Italy. Facilities exist in ELpro's own High Voltage Laboratory to conduct Routine and Acceptance Tests of the discs prior to shipment as per customer's requirement. During handling/storing, if any disc gets damaged by way of chipping and cracking, the same should not be used. While assembling the discs, proper care should be taken to make the same free from any foreign particle. The discs are suitable for operating in dry air column.

ELPRO's ZnO discs, engineered to meet and exceed some of the world's highest quality standards, have been satisfactorily utilised by leading Lightning Arrester manufacturers in different countries including Italy, Korea, Russia, South Africa, Turkey to name a few.

## TYPE OF ZnO DISK

*Technical particulars are standard and subject to change without any notice due to continuous development activities*

LINE DISCHARGE CLASS	DISTRIBUTION	CLASS-1	CLASS-2	CLASS-3	CLASS-4
L.D. RECTANGULAR WAVE AT 2000 $\mu$ S	75A	250A	420A	650A	1000A
NOMINAL DISCHARGE CURRENT	5kAp	10kAp	10kAp	10kAp	20kAp
REFERENCE CURRENT	1mAp	1.5mAp	2.25 mAp	3.25 mAp	5 mAp
HIGH CURRENT 4/10 $\mu$ S	As per IEC/ANSI				



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