

TECHNICAL SPECIFICATION FOR 33 KV, FUSE SET.

Horizontality mounted 33 KV, Fuse sets, each set comprising of three numbers re-wirable fuses (contained in mica barrel) suitable for three phases, 50 cycles per second AC supply and for the protection of the transformers in outdoor installations are required. The fuse sets shall be complete with 44 KV Post insulators and fuse mounts suitable for mounting on steel fabricated supporting structure or RCC pillar, (The support is not to be provided by the tenderer) and shall generally conform to current ISS: 9385 (part I & III)/1979 and 1980. The insulators shall conform to the latest relevant ISS.

Particulars of rated current and voltage required are given below:

Sl. No.	Rates Current	Voltage
1.	100 A	36 KV

1.0 GENERAL REQUIREMENT.

- 1.1 The fuse set shall be suitable for operation under all whether conditions including 100% humidity and max. Ambient temp. of 50 deg. C. All the exposed metallic parts of the fuse set shall be either nonferrous or heavily coated galvanized steel.
- 1.2 The temp. of all parts of fuse i.e. fuse contacts and terminals when they are carrying the rated current continuously shall be in accordance with the ISS: 9385.
- 1.3 Re-wirable type fuses shall be used.

2.0 CONSTRUCTIONAL REQUIREMENT.

- 2.1 Fuse carrier will consist of mica barrel of special quality suitable for outdoor and shall be non-ignitable.
- 2.2 The fuse element tube and carrier should be capable of withstanding extreme thermal shocks.
- 2.3 The contacts should be fabricated from phosphor Bronze and all current carrying parts should be of copper/copper alloy heavily tinned.
- 2.4 Fuse contacts and fixed contacts shall be so constructed that when the fuse is properly installed and the service conditions are normal, the following requirements are met:
 - A. Adequate contact between the fuse contacts and the fixed contacts after repeated engagement and disengagement and after the fuse has been left untouched for a long period.
 - B. The fuse carrier shall be so held in its contact as to prevent it from being unintentionally isolated from the contacts during normal service and short circuit operation.
 - C. Compliance with clause 1.3 maintained.

2.5 Fuse links shall be of such construction or so guarded as to prevent danger from overheating, arcing and scattering of hot metal or other substance when in operation, service or when tested in accordance with relevant standards.

2.6 Fuse links shall be sufficiently robust mechanically to ensure that no damage results from normal handling and vibration or operation of their associated equipment. Fuse links for outdoor use shall be of material which effectively resists deterioration under normal climatic conditions.

3.0 **FUSE CARRIER AND FUSE MOUNTS**

All non metallic parts of the fuse carrier and fuse mounts shall be constructed of non-ignitable, non-hygroscopic insulating material complying with the requirement of relevant ISS. Each fuse shall be fitted with an indicating device to indicate the blowing of fuses.

4.0 **INSULATORS**

The insulators shall conform to the ISS: 2544:1963 and latest amendment thereof. The tenderers, along with their offer shall submit the certified copies of all type and routine tests specified in the relevant ISS so as to ensure the compliance with the provisions of the said ISS.

The Post Insulator shall be suitable mounted on G.I. channel base size 100×50 mm

5.0 Exposed metallic parts including bolts and nuts shall be either non ferrous or heavily coated not dip galvanized steel.

5.1 All the bolts wherever they fall into current carrying path shall be of brass with phosphor bronze washers.

6.0 **CONNECTORS**

Aluminium connectors on both sides suitable for Dog conductor shall also be provided for making connection from fuse set to line/equipment. The drawing of connector must be submitted along with Tender.

7.0 **TESTS**

Fuse set shall be subjected to the following type tests and routine tests in accordance with ISS: 9385.

8.0 **TYPE TEST**

The offered equipment must be of proven design through successful type testing as per ISS:9385 (Part-I) 1979 during last 5 years counted from the date of opening of tender. The Type Tests required to be conducted on the equipment offered shall be as given below:

- a. Dielectric Test (6.3)
- b. Temp. Rise Test (6.4)

The purchaser however reserves the right to get type test conducted on any piece during the currency of the contract at his own cost. TO & FRO transportation of the equipment to testing house shall however be arranged by the contractor FREE in capital to Purchaser.

9.0 **ROUTINE TEST**

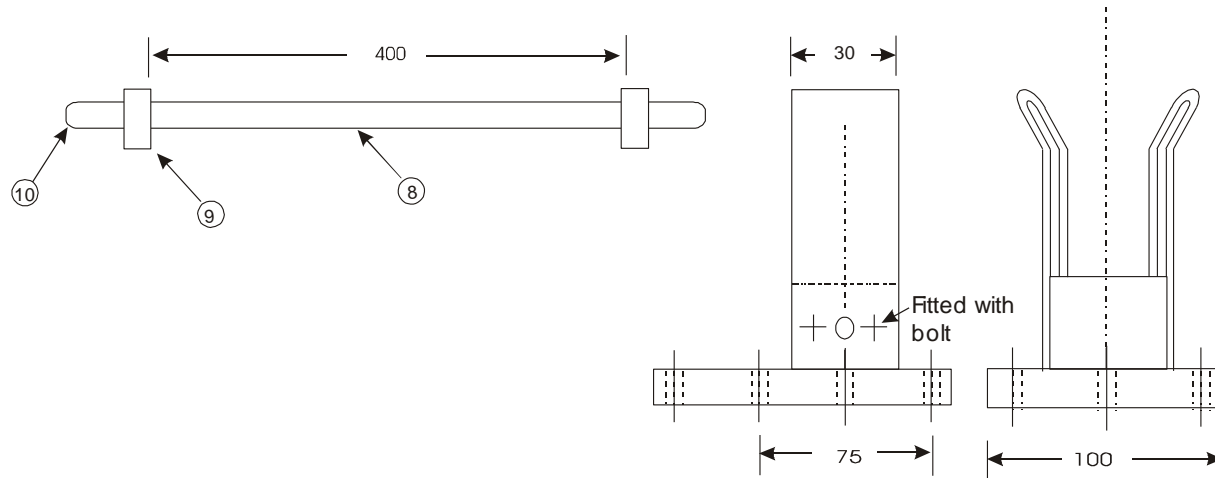
Fuse set shall be subjected to following routine tests in accordance with ISS: 9385.
High Voltage Test

The detailed dimensional drawing of fuse set showing details of each component part must be submitted along with offer failing which tender shall not be considered.

10.0 **MARKING**

The markings on fuse links and fuse bases shall be made as per provisions of IS: 9385 (part-I) under clause 5.

33 KV Fuse set



Sl. No.	Particulars
1.	M.S. Galvanized Channel 100 x 50 x 6 mm
2.	C.I. Galvanized Pin suitable for Insulator
3.	C.I. Cap Galvanized
4.	33 KV Tested Quality Insulators
5.	Electrolytic Copper Jaws, 30 x 2.5 mm
6.	Aluminium Lugs suitable for ACSR Dog conductor
7.	Locking arrangement of G.I. Wire size 5 mm dia.
8.	Mica fuse tube 400 mm long
9.	Brass Brackets duly tinned
10.	Brass cap duly tinned with mica.
11.	Bolts & nuts, M.S. Galvanized
12.	Tolerance $\pm 5\%$ in dimensions

