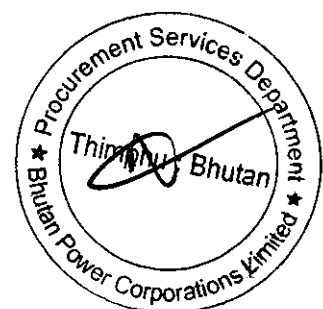


Technical Specification for Lot No. 5 (Lightning Arrestor)



Technical Specification for Lot 5 (Lightning Arrestor)

1.0 General Specification for Lightning Arrestors

1.1 Scope

This Specification covers the design, manufacture, testing and inspection, packing, shipping, delivery, and performance requirements of Insulators and its fittings for transmission lines.

Any departure from the provisions of this Specification shall be disclosed in the deviation sheet. This section covers the design, manufacture, testing, and delivery to site of polymer insulators and fittings for transmission lines.

1.2 The lightning arrestors shall be of the metal oxide, gapless, single pole type, suitable for outdoor use on a three-phase 50 Hz system and shall have the following parameters:

Table 1: Specification of Surge Arrestors

Parameter	33 kV	11 kV
Applicable standard	IS 3070, IEC 60099-4	
Rated Voltage (rms)	30 kV	9 kV
Nominal discharge current (kA)	10 kA	10 kA
MCOV	24.4 kV	7.65 kV
Maximum Residual Voltages for:		
Steep Current impulse (1/20 micro sec.)	85 kV	26.5 kV
Lightning Impulse protection level (8/20 micro sec.)	71.8 kV	21.7 kV
Switching impulse protection level (30/60 micro sec.)	60 kV	18 kV
Type of Housing Insulator	Polymer with alternating sheds	
Moisture sealing system	Housing directly molded onto the arrester. Housing pressed on arrester with caps at the end not acceptable.	
Colour	Grey/Brown	

Note: Ground and line lead of the arrester is important. The lead voltage can contribute as much as the arrester protective level for long length. Therefore, arrester lead length shall be as short and straight as possible.

BIL value should be corrected above 1000 meters.



1.2 Arrestor Fittings

Surge arresters will be connected between phase and earth to protect distribution transformers and switchgear. It shall be complete with the following:

- Arrestor terminal shall be nut and bolt (M12), suitable for connecting lugs with 14 mm dia hole or clamp type to accommodate standard conductor sizes used by BPC.
- Earth connection lead or earthing clamp terminals.
- The surge arresters shall be provided with mounting brackets complete with bolts, nuts and washers, suitable for mounting either vertically or horizontally on cross-arm channel (ISMC 75x40) bearing 18 mm dia holes.
- Disconnect or device for disconnecting it from the system in the event of arrester failure to prevent a persistent fault in the system and it shall give a visible indication when the arrester has failed. The arrester disconnect shall be tested as per IEC 60099-4.
- Over pressure relief device shall be provided for relieving internal pressure in an arrester and preventing explosive shattering of the housing following prolonged passage of flow current or internal flashover of the arrester.

