

Specification of 420kV Composite Hollow Insulator

(Specification No. TS/HVE/2019-20/CHI/001)

1. **Purpose:** 420kV composite hollow insulator would be used for mounting of optical sensors in high voltage substation.
2. **Scope of Supply:** Two (2) number of 420 kV, composite hollow insulator (porcelain not acceptable).
3. **Technical Specifications:** Vendor to confirm each point of the technical specification table:

S.No.	Parameter	Specification/Requirement	Vendor's Confirmation
Electrical Requirement			
1.	System voltage	420 kV	
2.	System frequency	50 Hz	
3.	Standard Insulation Level a) Lightning Impulse withstand voltage b) Switching Impulse withstand voltage c) Power Frequency withstand voltage (1 min)	a) 1425 kV b) 1050 kV c) 650 kV	
Insulator Data (Refer Figure 1)			
4.	Creepage distance, L	10500 mm minimum	
5.	Insulator Length, H	Approx. 4200 mm	
6.	Arcing distance, SW	Vendor to specify	
7.	Insulator inner tube diameter	ID (ϕ I) : 130 mm $\pm$ 2 mm	
8.	Tube material	FRP	
9.	Shed material	Silicone rubber	
10.	Outer flange diameter (both top & bottom)	230 mm $\pm$ 2 mm (with 12 bolting holes at 200 mm PCD)	
Mechanical Requirement			
11.	Mechanical Load	< 2.0 kN	
12.	Burst pressure	> 1.5 MPa at RT	
Physical Requirement			
13.	Service temperature	- 40 to + 80 °C	
14.	Insulator Weight	Vendor to specify	
15.	Insulating Medium	None (Air)	

4. **Insulator Drawing:** Drawing of the proposed composite hollow insulator should be submitted along with the technical bid.
5. **Warranty:** Vendor shall provide warranty for the insulator to ensure reliability of the insulator for a period of not less than 12 months.
6. **Other Information:** Vendor should provide reference list of customers to whom similar insulators has been supplied. Also, vendor can furnish any other/additional information, considering overall requirements.

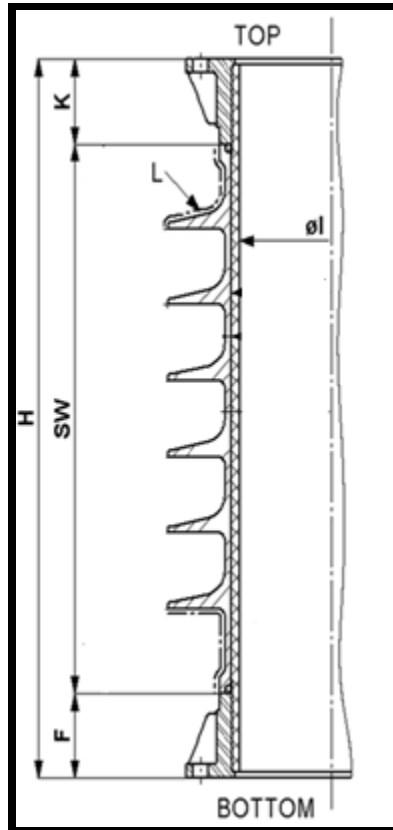


Figure 1: Typical Insulator Geometry for 420kV Composite Hollow Insulator