

Technical Specification for 33kV Bus Post Insulator (BPI)

As per OPTCL Norms

This document summarizes the technical standards and specification requirements generally followed by Odisha Power Transmission Corporation Limited (OPTCL) for 33kV Bus Post Insulators (BPI) used in Air Insulated Substations (AIS).

1. Applicable Standards

Sl. No.	Standard	Description
1	IS 2544	Porcelain Post Insulators
2	IEC 60273	Characteristics of Indoor & Outdoor Post Insulators
3	IEC 815	Selection of Insulators for Polluted Conditions
4	IS/IEC Relevant Clauses	Routine, Type & Acceptance Tests

2. Technical Parameters

Parameter	OPTCL Requirement
Rated Voltage Class	36kV
Application	33kV AIS Bus Support
Insulator Type	Solid Core Station Post Insulator
Material	Brown Glazed Porcelain
Power Frequency Withstand Voltage	70kV rms
Lightning Impulse Withstand Voltage	170kVp
Minimum Creepage Distance	1050 mm
Pollution Level	Heavy Pollution
Minimum Cantilever Strength	≥ 300 kg
Mounting Arrangement	4 Top / 8 Bottom Holes
Bolt Size	M12
Approximate Height	508 mm
Installation	Outdoor Service

3. Type Tests

Power Frequency Withstand Test Lightning Impulse Withstand Test Cantilever Failing Load Test Temperature Cycle Test Porosity Test Galvanization Test for Metal Parts Visual and Dimensional Verification

4. Service Conditions

Maximum Ambient Temperature: 50°C Suitable for Coastal & Heavy Pollution Zones of Odisha Designed for Outdoor Substation Environment Capable of withstanding short circuit mechanical stresses

Reference:

OPTCL Technical Specification Volume-II Part-II – Post Insulator (Pin & Station Type)