

SOLID CORE POST INSULATORS FOR SUBSTATIONS

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PURPOSE AND SCOPE

This specification defines the functional and performance requirements, enabling parameters and additional technical requirements for solid core post insulators rated from 1 kV to 420 kV connected to the National Grid UK Electricity Transmission System.

The specific requirements for solid core post insulators detailed in this document are by reference to IEC 60273, BS EN 60168 and associated documents and support the more general conditions defined in the companion documents TS 1 and TS 2.1.

This specification applies to new build and asset replacement schemes. For new build, post insulators shall be supplied to IEC 60273. For asset replacement and extensions to existing substations, post insulators may be required which are interchangeable with existing equipment, in which case they shall comply with the physical characteristics as given in Appendix A of this specification.

PART 1 – PROCEDURAL

1 RATINGS AND PERFORMANCE REQUIREMENTS

In addition to the general ratings and performance requirements defined in TS 1 and TS 2.1, post insulators shall satisfy the requirements in IEC 60273.

2 TEST REQUIREMENTS

2.1 Type Tests

Type tests shall be as required in TS 1 and TS 2.1, together with the requirements of BS EN 60168. Where the purchaser is presented with test options within BS EN 60168, the following shall apply: -

2.1.1 Dry Lightning Impulse Withstand Test

Either test method described in BS EN 60168 is acceptable.

2.1.2 Dry or Wet Switching-Impulse Withstand Voltage Test

The test shall be performed in wet conditions.

Either test method described in BS EN 60168 is acceptable.

2.1.3 Mechanical Failing Load Tests

In addition to the bending test, the tensile and torsion tests shall be performed during type testing as described in BS EN 60168.

2.1.4 Test for Deflection Under Load

This test shall be performed during type tests to determine the top flange deflection obtained as a result of applying 70% of the specified mechanical failing load.

2.1.5 Radio Interference Test

This special test shall be performed as described in BS EN 60168 and BS EN 60437.

2.1.6 Sample Testing

Sample testing requirements are dependant on production quantity and other commercial considerations. Where sample testing is required it shall be as detailed in BS EN 60168, with any site specific requirements being detailed in the Contract Enquiry Document or Supplemental Agreement.

2.2 Routine Testing

Routine tests shall be as required in TS 2.1 and the requirements of BS EN 60168. Where the purchaser is presented with test options within BS EN 60168, the following shall apply: -

2.2.1 Routine Mechanical Test on Complete Post

This test shall be performed with a load applied of 70% of the specified mechanical failing load.

3 FORMS AND RECORDS

Not applicable.

PART 2 - DEFINITIONS AND DOCUMENT HISTORY

4 DEFINITIONS

The definitions given in TS 1, TS 2.1 and UKBP/TP183 apply to this document.