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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 13398-2008

Replacing GB 13398-2008

**Insulating hollow tubes, foam-filled tubes and solid rods for live
working**

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1.Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB 13398-2008 "Hollow Insulating Tubes, Foam-Filled Insulating Tubes and Solid Insulating Rods for Live Working" and is consistent with...

Compared with GB 13398-2008, apart from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the.2008 edition);
 - b) A new Chapter 3, "Terminology and Definitions," has been added (see Chapter 3);
 - c) The classification method and type names have been changed (see 4.1, Chapter 3 of the.2008 edition);
 - d) Added naming conventions and examples (see 4.2);
 - e) Appearance requirements have been added (see 5.1);
 - f) The requirements for the nominal outer diameter range and corresponding dimensional tolerances have been changed (see 5.2, 4.2 of the.2008 edition);
 - g) The requirement for material density has been removed (see 4.1 in the.2008 edition);
 - h) The requirements for leakage current and the names of insulation performance under rain conditions, as well as the temperature rise requirements, have been changed (see 5.4, 4.3.1 of the.2008 edition).
- 4.3.2);

- i) The nominal outside diameter series range and corresponding bending performance requirements have been changed (see 5.5.1, 4.4.1 of the.2008 edition);
 - j) The requirement for residual deflection in the bending resistance of solid insulating rods has been changed (see 5.5.1, 5.7 in the.2008 edition);
 - k) The nominal outside diameter series range and corresponding torsional performance requirements have been changed (see 5.5.2, 4.4.2 of the.2008 edition);
 - l) The requirements for the residual angle of torsional resistance of Type I hollow insulating tubes and foam-filled insulating tubes have been changed (see 5.5.2,.2008 edition).
- 5.8);
- m) Tensile strength requirements have been added (see 5.5.3);
 - n) The name, nominal outer diameter range, and corresponding radial extrusion resistance requirements for radial extrusion resistance have been changed (see 5.5.4,.2008 edition).
- (4.4.3)
- o) The name and requirements for axial compressive strength have been changed (see 5.5.4, 4.4.4 in the.2008 edition);
 - p) The insulation withstand voltage requirement has been removed (see 4.3.3 in the.2008 edition);
 - q) The sample requirements have been changed (see 6.1.1, 5.1 in the.2008 version);
 - r) Increased requirements for the testing environment (see 6.1.2);
 - s) The method of visual inspection has been changed (see 6.2.1, 5.2.1 in the.2008 version);
 - t) The location and frequency of dimensional checks have been changed (see 6.2.2, 5.2.2 in the.2008 version);
 - u) The density test has been removed (see 5.1.1 in the.2008 version);
 - v) The requirements for dye solubility, drying conditions, and sample end length for the penetration test have been changed (see 6.3.3,.2008 edition).
- 5.3);
- w) The insulation test methods before and after moisture absorption have been modified (see 6.4.1, 5.4.1 in the.2008 version);
 - x) The method for testing insulation under rain conditions has been changed (see 6.5, 5.5 in the.2008 edition);
 - y) The time for maintaining the initial torque during the torsion test has been changed (see 6.7, 5.8 in the.2008 edition);

- z) An axial tensile test method has been added (see 6.8);
- aa) The axial compression test procedure has been modified (see 6.10, 5.10 in the.2008 edition);
- ab) The requirements for test classification have been changed (see 7.1, 6.1 in the.2008 edition);
- ac) The requirements for type testing have been changed (see 7.2, 6.2 in the.2008 edition);
- (ad) The requirements for sampling tests have been changed (see 7.3, 6.3 in the.2008 edition);
- ae) Added requirements for test reports (see 7.4);
- (af) The description of factory testing has been removed (see 6.4 in the.2008 version);
- (ag) The requirements for the mark have been changed (see 8.1, 7.1 in the.2008 edition);
- (ah) The acceptance requirement has been removed (see 7.2 in the.2008 version);
- (Al) The packaging requirements have been changed (see 8.2, 7.3 of the.2008 edition);
- aj) Increased requirements for transportation and storage (see 8.3);
- (ak) The dimensions of some mechanical testing fixtures have been changed (see Appendix E, Appendix C of the.2008 edition);
- al) A schematic diagram of the specimen in the axial tensile test has been added (see Figure E.4);

The appendix containing the parameter tables for insulating tubes and rods has been deleted (see Appendix F in the.2008 edition).

This document is modified to adopt IEC 60855-1.2016 "Live working with foam-filled insulating tubes and solid insulating rods - Part 1.Circular cross-sections".

"Pipes and bars of cross-section" and IEC 61235.1993 "Insulated hollow tubes for live working electrical equipment".

Compared with IEC 60855-1.2016 and IEC 61235.1993, this document has undergone many structural adjustments, and the relationship between the two documents is more complex.

See Appendix A for a list of changes in structural numbering.

This document differs significantly from IEC 60855-1.2016 and IEC 61235.1993 in several technical aspects, particularly in the outer clauses.

The margins are marked with a vertical single line (|). A summary of these technical differences and their reasons can be found in Appendix B.

The following editorial changes have been made to this document.

---To align with my country's standards system, the title of this document has been changed to "Hollow Insulating Tubes, Foam-Filled Insulating Tubes, and Solid Insulating Tubes for Live Working".

Heart Insulation Rod;

---Includes errata from IEC 61235.1993/COR1.1999 and IEC 61235.1993/COR2.2000, covering the relevant...

---Informative Appendices A and B have been added;

---Informative Annex F of IEC 61235.1993 has been deleted;

---References have been removed.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Electricity Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Live-Line Working (SAC/TC36).

1 Scope

This document provides the classification and naming of hollow insulating tubes, foam-filled insulating tubes, and solid insulating rods for live-line working, and specifies the technical requirements.

The requirements, inspection rules, marking, packaging, transportation and storage are described, along with the corresponding test methods.

This document applies to the design, production, and manufacturing of hollow insulating tubes, foam-filled insulating tubes, and solid insulating rods for live-line working tools.

test.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 1034 Determination of water absorption of plastics (GB/T 1034-2008, ISO 62.2008,