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

GB/T 20111.4-2017

**Electrical insulation systems -- Procedures for thermal
evaluation -- Part 4: Selection of the appropriate test method for
evaluation and classification of electrical insulation systems**

电气绝缘系统 热评定规程 第4部分：评定和分级电气绝缘系统试验方法的选用导
则

(English Translation)

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Foreword

GB/T 20111 "thermal insulation electrical insulation procedures" is divided into the following sections.

- Part 1. General requirements for low pressure;
- Part 2. Thermal evaluation of general-purpose models requires winding applications;
- Part 3. Thermal evaluation of encapsulated coil models requires winding wound electrical insulation system (EIS);
- Part 4. Guidance on the selection of test methods for the assessment and classification of electrical insulation systems.

This section GB/T 20111 Part 4.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses the redrafted law to amend the use of IEC/T R61857-2.2015 "Electrical Insulation System Thermal Rating Part 2.

Select the appropriate test method to assess and grade electrical insulation system. " this section and IEC/T R61857-2.2015 technical differences and the reasons are as follows.

- Added "comment" in scope (see Chapter 1);
- On the normative references, this section made a technical difference with the adjustment to adapt to China's technical conditions, adjust the situation Concentration reflected in the second chapter "Normative references", the specific adjustments are as follows.
 - Equivalent to the use of international standards GB/T 17948.1 replaced IEC 60034-18-21;
 - Equivalent to the use of international standards GB/T 17948.3 replaced IEC 60034-18-31;
 - Equivalent with the international standard GB/T 20111.1 replaced IEC 61857-1;
 - Equivalent with the international standard GB/T 20111.2 instead of IEC 61857-21;
 - Equivalent with the international standard GB/T 20111.3 instead of IEC 61857-22;

- Equivalent with the international standard GB/T 20112 instead of IEC 60505;
 - Equivalent with the international standard GB/T 20139.1 replaced IEC 61858-1;
 - Replace IEC 61858-2 with GB/T 20139.2 which adopts the same international standard;
 - Equivalent with the international standard GB/T 22566 instead of IEC 62068;
 - Replace GB/T 22578.1 equivalent to IEC/T S62332-1 with international standards;
 - Replace IEC/T S62332-2 with GB/T 22578.2 equivalent to international standards;
 - Equivalent to the international standard GB/T 23642 instead of IEC/T S61934;
 - Replace GB/T 26170 equivalent to IEC/T S62101 with international standards;
 - Increased reference to IEC/T S62332-3.
- According to IEC/T R61857-2.2015 on the terms of the expression and understanding of the standard full text, the term "test/test mode Type "to" Test Model "(see 3.2)," Packaging Equipment "to" Packaging "(see 3.4);
- Modify the title of Chapter 5 to "Select test stress" (see Chapter 5);
- Modify Chapter 6 of the contents of Table 1 to Table 4 to assess the performance type, test parameters to test stress, test subjects /Evaluation purposes, compared with IEC/T R61857-2.2015 compared to the standard operability more favorable. Removed in Table 1 about positive in the formulation of the two test method standard presentation (see Chapter 6).

This part is proposed by China Electrical Equipment Industry Association.

This part of the National Electrical Insulation Materials and Insulation Evaluation Committee Standardization Technical Committee (SAC/TC301) centralized.

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Division, Suzhou Taihu Electrical New Material Co., Ltd., Shanghai Electric Institute of Science and Technology, Harbin University of Science and Technology, 3M China Limited.

1 Scope

This section GB/T 20111 specifies the selection and classification of electrical insulation system test method selection guidelines. Provides for the assessment and grading Electrical insulation system standard selection guidelines, but also provides a single factor or multi-factor stress assessment has established the selection of insulation system standards Guidelines.

This section applies to the IEC standard operating voltage range of electrical products used in the established or proposed electrical insulation system.

NOTE The structure and expected operating conditions of electrical products are the basis for the selection of suitable test methods.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 17948.1 rotary motor insulation structural functional evaluation scattered winding test procedures thermal rating and grading (GB/T 17948.1-2000, IEC 60034-18-21:1992, IDT) GB/T 17948.3 rotary motor insulation structure functional assessment of molded winding test procedures 50MVA, 15kV and below electricity Insulation thermal insulation machine rating and grading (GB/T 17948.3-2006, IEC 60034-18-31:1992, IDT) GB/T 20111.1 Thermal insulation electrical insulation systems Part 1 - General requirements Low pressure (GB/T 20111.1-2015, IEC 61857-1:2008, IDT) GB/T 20111.2 Thermal insulation of electrical insulation systems - Part 2. Particular requirements for general purpose models - Winding applications (GB/T 20111.2-2016, IEC 61857-21:2009, IDT) GB/T 20111.3 Thermal insulation of electrical insulation systems - Part 3 - Thermal requirements of encapsulated coil models - Winding Gas Insulation System (EIS) (GB/T 20111.3-2016, IEC 61857-22:2008, IDT) GB/T 20112 electrical insulation system assessment and identification (GB/T 20112-2015, IEC 60505:2011, IDT) GB/T 20139.1 Electrical insulation systems Thermal rating of the adjusted electrical insulation system (EIS) component rating established Part 1 Spiral winding EIS (GB/T 20139.1-2016, IEC 61858-1:2014, IDT) GB/T 20139.2 Electrical insulation systems Thermal rating of adjusted electrical insulation system (EIS) component adjustments Level 2 Points. Molding Winding EIS (GB/T 20139.2-2017, IEC 61858-2:2014, IDT) GB/T 22566 electrical insulating materials and systems repeated voltage shock under the aging assessment of a common method (GB/T 22566-2017, IEC 62068:2013, IDT) GB/T 22578.1 Thermal Insulation of Liquid and Solid Components of Electrical Insulation Systems (EIS) Part 1. General Requirements (GB/T 22578.1-2017, IEC/T S62332-1.2011, IDT) GB/T 22578.2 Electrical insulation system (EIS) - Thermal evaluation of liquid and solid components - Part 2 - Simplified test (GB/T 22578.2-2017, IEC/T S62332-2.2014, IDT) GB/T 23642 electrical insulation materials and systems transient rise and repeated surge voltage conditions of partial discharge (PD) electrical measurements (GB/T 23642-2017, IEC/T S61934.2011, IDT) GB/T 26170 rapid thermal and electrical integrated stress assessment of electrical insulation systems (GB/T 26170-2010, IEC/T S62101.