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

GB/T 22578.2-2017

**Electrical insulation system (EIS) -- Thermal evaluation of
combined liquid and solid components -- Part 2: Simplified test
(English Translation)**

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Foreword

GB/T 22578 "thermal insulation of liquid and solid electrical insulation system (EIS)" is divided into the following sections.

--- Part 1. General requirements;

--- Part 2. Simplify the test.

This section GB/T 22578 Part 2.

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

This section uses the translation method identical with IEC/T S62332-2.2014 "Electrical Insulation System (EIS) solid and liquid components of the thermal evaluation Set Part 2. Simplify the test. " the documents of our country that are consistent with the corresponding international documents quoted in this part are as follows.

Test methods for electrical strength of insulating materials - Part 1. Test at power frequency (IEC 60243-1.:2006);

2013, IDT);

--- GB 2536-2011 electric fluid transformer and switch unused mineral insulating oil (IEC 60296:2003, MOD);

Test methods for winding wires - Part 5. Electrical properties (IEC 60851-5-2004, IDT);

--- GB/T 5654-2007 liquid insulation materials relative permittivity, dielectric loss factor and DC resistivity measurements (IEC 60247:2004, IDT);

--- GB/T 7095.1-2008 enamelled copper flat winding wire Part 1. General provisions (IEC 60317-0-2:2005, IDT);

(GB/T 7252-2001 Guideline for analysis and judgment of dissolved gases in transformer oil (IEC 60599:1999, NEQ);

--- GB/T 11021-2014 Electrical insulation heat resistance and representation (IEC 60085:2007, IDT);

--- GB/T 11026.3-2017 Thermal insulation of electrical insulating materials - Part 3. Procedures for the calculation of heat resistance characteristic parameters (IEC 60216-3:2006, MOD);

--- GB/T 11026.4-2012 Electrical insulating materials heat resistance - Part 4. Aging oven Single-chamber oven (IEC 60216-4-1:2006, IDT);

--- GB/T 11026.7-2014 Electrical insulating materials heat resistance Part 7 of the insulating material to determine the relative heat index (RTE) (IEC 60216-5:2008, IDT);

--- GB/T 20628.2-2006 Cellulose paper for electrical use - Part 2. Test methods (IEC 60554-2:2001, MOD);

Insulating liquids - Determination of dielectric dissipation factor for conductance and capacitance - Test method (IEC 61620).

1998, IDT);

Liquid inorganic chemical products - Determination of colorimetric method (ISO 2211:1973, MOD) --- GB/T 23770-2009;

--- GB/T 29305-2012 Measurement of viscosity average degree of polymerization of new and aged cellulosic electrical insulating materials.

2004 A1:2007, IDT);

--- JB/T 60763-2.1992 laminated cardboard specification Part 2. Test methods (IEC 60763.2:1992, IDT).

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.

This part of the drafting unit. Taihu Lake Electric New Materials Co., Ltd., Yantai Mushi Special Paper Co., Ltd., mechanics Beijing Institute of Electrical Technology and Economy, Guangdong Ruizhi Power Technology Co., Ltd., Haihong Electric Co., Ltd., Jiangsu Zhongtian Bole Da Transformer Co., Ltd., Shanghai Electric Apparatus Research Institute,

State Power Science and Technology Research Institute, DuPont China Group Co., Ltd.
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1 Scope

GB/T 22578 provisions of this part of the thermal insulation of electrical insulation system sealed tube test procedures, proposed a solid and liquid containing group Thermal classification of materials used in electrical insulation systems. Provides for the cellulose paper and mineral insulating oil composition of the reference system and by any solid and liquid insulating materials to be evaluated system for comparative aging test method.

This section applies to the voltage level has nothing to do with thermal stress as the main aging factor of the liquid and solid components of the electrical insulation system System. Especially suitable for liquid immersion transformer insulation system.

Other methods similar to those proposed in this section may also be used to evaluate electrical equipment containing liquid and solid components such as bushings, Cables or capacitors, however, require the experience gained using the test methods presented in this section as an additional condition.

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.

Thermal insulating properties of electrical insulating materials - Part 2. Selection of test criteria IEC 60216-2.

2005, IDT)

GB/T 20112-2015 Assessment and identification of electrical insulation systems (IEC 60505:2011, IDT) GB/T 22578.1-2017 Thermal insulation of electrical and insulating systems (EIS) liquid and solid components - Part 1. General requirements (IEC/T S62332-1:2011, IDT) IEC 60085 electrical insulation heat rating and classification (Electricalinsulation-Thermalevaluationanddesig-nation IEC 60156 Insulation liquid power frequency breakdown voltage test method (Insulatingliquids-Determinationof thebreakdownvoltageatpowerfrequency-Testmethod) IEC 60216-3 Electrical insulating materials - Heat resistance - Part 3. Procedures for calculating heat resistance characteristics parameters (Electricalinsulating materials-Thermalenduranceproperties-Part 3: Instructionsforcalculatingthermalendurance characteristics IEC 60216-4-1 Electrical insulating materials - Heat resistance - Part 4-1. Aging ovens Single chamber ovens (Electricalinsulating materials-Thermalenduranceproperties-Part 4-1.ageingovens-Single-chamberovens) IEC 60216-5 Electrical Insulating Materials Heat Resistance Part 5. Determination of Relative Heat Resistance Index (RTE) of Insulating

Materials (Electrical insulating materials-Thermal endurance properties-Part 5.
Determination of relative thermal endurance index (RTE) of an insulating material IEC 60243-1
Insulating materials electrical strength test methods Part 1. Test at power frequency
(Electrical strength of insulating materials-Test methods-Part 1: Tests at power frequencies) IEC
60247 insulation liquid relative dielectric constant, dielectric loss factor and DC resistivity
measurements [Insulating liquids-Measurement of relative permittivity, dielectric
disaggregation factor ($\tan \delta$) and d.c. resistivity]