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

GB/T 11026.7-2025

Replacing GB/T 11026.7-2014

**Electrical insulating materials - Thermal endurance properties -
Part 7: Determination of relative temperature index(RTI)of an
insulating material
(English Translation)**

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Reference

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 is Part 7 of GB/T 11026 "Heat Resistance of Electrical Insulation Materials". GB/T 11026 has already published the following parts.

- Part 1: Aging Procedures and Evaluation of Test Results;
- Part 2: Selection of Test Judgment Criteria;
- Part 3: Procedures for calculating heat resistance characteristic parameters;
- Part 4: Aging Oven - Single Chamber Oven;
- Part 5: Precision ovens with aging temperatures up to 300°C;
- Part 6: Aging Ovens - Multi-chamber Ovens;
- Part 7: Determining the Relative Temperature Index (RTI) of Insulating Materials;
- Part 8: Determining the heat resistance index (TI and RTI) of insulating materials using the fixed time limit method;
- Part 9: Guidelines for calculating heat resistance using simplified procedures;
- Part 10: Guidelines for accelerating the determination of the relative heat resistance index (RTEA) based on activation energy calculations using analytical testing methods.

This document replaces GB/T 11026.7-2014 "Heat Resistance of Electrical Insulation Materials - Part 7: Determination of Relative Heat Resistance of Insulation Materials".

Compared with GB/T 11026.7-2014, the main technical changes in the "Real-Time Expansion (RTE) Index" are as follows, except for structural adjustments and editorial changes.

- a) The term "Relative Heat Resistance Index (RTE)" has been changed to "Relative Temperature Index (RTI)" (see full text, 2014 edition).

- b) Added "When thermal stress is the primary aging factor, the calculation procedure in this document is applicable to determining the heat resistance, etc., of electrical insulation systems." Level (see Chapter 1);
- c) The term "validation test" has been changed to "inspection test" (see Chapter 1, 2014 edition);
- d) The term "estimated heat resistance index" has been changed to "estimated temperature index" (see 3.1.2, 2014 version 3.1.2);
- e) The term "relevant time" has been changed to "relevant time of RTI" (see 3.1.6, 2014 version 3.1.6);
- f) The term "relative heat resistance index" has been changed to "relative temperature index" (see 3.1.10, 2014 edition of 3.1.10).

This document is modified to adopt IEC 60216-5:2022 "Electrical insulating materials - Heat resistance - Part 5: Determination of relative temperature Index (RTI) of insulating materials".

The technical differences between this document and IEC 60216-5:2022, and the reasons therefor, are as follows.

- a) IEC 60216-1:2013 (see 5.3) has been replaced with the normatively referenced GB/T 11026.1 to improve operability;
- b) Modify "shall comply with the requirements of IEC 60216-1:2013, 5.3.2, 5.4 and 5.5" to "shall comply with GB/T 11026.1". The requirements (see 5.3) are to increase operability;
- c) IEC 60216-2:2005 (see Chapter 1) has been replaced with the normatively referenced GB/T 11026.2 to increase operability.

The following editorial changes have been made to this document.

---In accordance with the GB/T 11026 series standard numbering, the original English name has been changed to "Electrical Insulation Materials Heat Resistance Part 7: Determination" "Relative Temperature Index (RTI) of Insulation Materials";

---Replace IEC 60216-3 and IEC 60216-6 in the non-software examples of Informative Appendix C with GB/T 11026.3 and GB/T 11026.3 respectively. GB/T 11026.8.

Introduction

GB/T 11026 aims to establish test procedures, test judgment criteria, aging ovens, and relative standards for the heat resistance of electrical insulation materials. Procedures for evaluating heat resistance index, etc.

GB/T 11026 consists of the following 10 parts.

---Part 1: Aging Procedures and Evaluation of Test Results. The aim is to establish aging procedures for evaluating the heat resistance of insulating materials and to improve... How to evaluate the results of aging tests.

---Part 2: Selection of Test Judgment Criteria. The purpose is to propose criteria for judging the endpoint of thermal aging tests on insulating materials.

---Part 3: Procedures for calculating heat resistance characteristic parameters. The purpose is to establish the method for obtaining heat resistance characteristic parameters using GB/T 11026.1 and GB/T 11026.2.

The experimental data were used to derive a calculation program for the heat resistance characteristic parameters.

---Part 4: Aging Oven - Single-chamber oven. The purpose is to specify that the temperature used for heat resistance aging tests should be 20°C higher than ambient temperature.

A single-chamber oven that operates over the entire or a portion of the temperature range of 500°C.

---Part 5: Precision ovens with aging temperatures up to 300°C. The purpose is to specify the temperature relative to ambient temperature used in heat resistance aging tests.

A precision oven that operates within the entire or part of the temperature range of 20°C to 500°C.

---Part 6: Aging Oven - Multi-chamber Oven. The purpose is to specify that the temperature used for heat resistance aging tests should be 20°C higher than ambient temperature.

A multi-chamber oven that operates within or in part of a temperature range of 500°C.

---Part 7: Determination of the Relative Temperature Index (RTI) of Insulation Materials. The aim is to establish the use of GB/T 11026.1 and... The test and calculation procedures for deriving the relative temperature index from the test data obtained in GB/T 11026.2.

---Part 8: Determining the Heat Resistance Index (TI and RTI) of Insulating Materials Using the Fixed Time Limit Method. The aim is to establish the use of fixed time limits... The experimental and calculation procedures for deriving the heat resistance index were developed.

---Part 9: Guidelines for Calculating Heat Resistance Using Simplified Procedures. The aim is to establish simplified procedures for obtaining the heat resistance properties of insulating materials.

---Part 10: Guidelines for accelerating the determination of the relative heat resistance index (RTEA) based on activation energy calculations using analytical experimental methods. Objective The goal is to establish a thermal degradation activation energy