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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 17651.2-2021

Measurement of smoke density of cables or optical fiber cables burning under defined conditions - Part 2: Test procedure and requirements

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Foreword

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

Drafting.

This document is the second part of GB/T 17651 "Determination of Smoke Density of Cables or Optical Cables Burning under Specific Conditions". GB/T 17651

The following parts have been released.

---Part 1.Test device;

---Part 2.Test procedures and requirements.

This document replaces GB/T 17651.2-1998 "Determination of smoke density of cables or optical cables burning under specific conditions-Part 2.Tests

Steps and Requirements", compared with GB/T 17651.2-1998, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

---Added the applicable documents of normative reference documents (see Chapter 2);

--- Added applicable documents of terms and definitions (see Chapter 3);

---The general requirements for the selection of the number of specimens have been added

(see 5.2.1.1);

---Modified the selection of the number of specimens with the outer diameter of the cable or optical cable less than or equal to 5.0mm and not less than 1.0mm (see 5.2.1.3,

5.2.1 of the.1998 edition);

---The selection of the number of specimens for non-circular cables has been added (see 5.2.1.4);

---Modified the installation requirements of the test samples (see 5.2.2, 5.2.2 of the.1998 edition);

---Modified the method for determining the end of the test (see 6.5, 6.5 in the.1998 edition);

---The calculation method of minimum light transmittance has been added (see 6.6);

---Modified the test result evaluation method (see Chapter 7, Chapter 7 of the.1998 edition);

---Modified the repeated test procedure (see Chapter 8, Chapter 8 of the.1998 edition);

---Added test report requirements (see Chapter 9);

---Added guidance on the principle and use of smoke measurement (see Appendix A);

---The recommended performance requirements have been added (see Appendix B).

The translation method used in this document is equivalent to IEC 61034-2.2019 ``Determination of Smoke Density of Cables Burning under Specific Conditions Part 2.

Test procedures and requirements".

The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows.

---GB/T 2951.11-2008 General test methods for insulating and sheathing materials of electric and optical cables-Part 11.General test methods

Method thickness and dimensions measurement mechanical performance test (IEC 60811-1-1.2001, IDT)

---GB/T 5169.1-2015 Fire hazard test of electric and electronic products Part 1.Fire test terminology (IEC 60695-4.

2012, IDT)

---GB/T 17651.1-2021 Determination of smoke density of cables or optical cables burning under specific conditions Part 1.Test device

(IEC 61034-1.2019, IDT)

This document has made the following editorial changes.

---In order to be consistent with the existing standard series, the name of this document is changed to "Determination of Smoke Density of Cable or Optical Cable Burning under Specific Conditions"

Part 2.Test Procedures and Requirements;

---In order to match the sequence of pictures and texts, the positions of Fig. 2 and Fig. 3 are exchanged;

---According to the provisions of GB/T 1.1-2020, change the number of articles starting from 0 in the document to starting from 1;

---Adjust the unquoted IEC Guide104 in the main text of IEC 61034-2.2019 to the reference.

Introduction

The smoke density of a cable or optical cable is an important indicator for evaluating the burning performance of a cable or optical cable. In the event of a fire, the cable or optical cable

The low-smoke characteristics of the company ensure the safe evacuation of all types of personnel and the normal development of fire and rescue work, and it is important for social public safety and reducing fire losses.

Has an important role. GB/T 17651 is a basic test method for determining the smoke emission of cables or optical cables in the event of a fire. GB/T 17651

It aims to establish a test method standard for the smoke density of different wire and cable or optical cable products burning under specific conditions. It is proposed to be composed of the following two parts.

Sub-composition.

---Part 1.Test device. The purpose is to establish a test suitable for the determination of the smoke density of cables or optical cables burning under specific conditions.

Requirements for testing devices and qualification approval procedures for testing devices.

---Part 2.Test procedures and requirements. The purpose is to establish a test for the determination of the smoke density of a cable or optical cable burning under specific conditions.

Inspection procedures and recommended compliance requirements.

GB/T 17651 is issued in two parts, which together specify a method for determining the smoke density of a cable or optical cable burning under specific conditions.

law. Users of this test method should note that the number of samples and bundles of

cables or optical cables in the test may not represent the actual installation.

Happening.

Part 1 introduces in detail the test equipment and the combination of the test equipment used to determine the smoke density of cables or optical cables burning under specific conditions.

Lattice recognition. It includes a test chamber with a volume of 27m3, a light measuring device for light measurement, standard fire source, smoke mixing, blank test and test equipment

Detailed information about the conformity accreditation procedures set up. Appendix A provides guidance on various aspects of the test device.

It may be useful in case inspection.

Part 2 gives the test procedures, and when specific requirements are not given in a specific cable standard or specification, the informative appendix gives a recommendation.

Recommended compliance requirements.

Cable or fiber optic cable burns under certain conditions

Determination of smoke density. Part 2.Test procedures and requirements

1 Scope

This document describes the test procedure used to determine the density of smoke released by a cable or optical fiber

The preparation, assembling and burning methods of test cables or optical cable samples are recommended for the requirements for evaluating test results.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations

Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

This document.

IEC 60695-4 Fire hazard testing for electrical and electronic products Part 4.Firehazard testing terms (Firehazard testing-

Part 4.Terminologyconcerningfiretestsforelectrotechnicalproducts)

IEC 60811-203 General test methods for non-metallic materials of electric and optical