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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 5169.47-2022

Fire hazard testing for electric and electronic products - Part 47: Guidance on the different levels of power and energy related to the probability of ignition and fire in low voltage electrotechnical products

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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"

drafted.

This document is part 47 of Fire Hazard Testing of Electrical and Electronic Products. "Fire Hazard Test of Electrical and Electronic Products" has been published

See in part in Appendix NA.

This document is identical to IEC TS60695-1-14.2017 "Fire Hazard Test Part 1-14.Ignition and

Guidelines for the classification of electrical power and energy related to the probability of fire. The file type is adjusted from IEC technical specifications to my country's national standards.

The following minimal editorial changes have been made to this document.

--- In order to be consistent with the existing standard series, the name is changed to "Fire Hazard Test for Electrical and Electronic Products Part 47.Compatible with low-voltage electrical products."

"Guidelines for the classification of electrical power and energy related to ignition and ignition probability of products";

--- IEC 60695-1-10, IEC 60695-1-11, IEC 62368-1.2014, IEC Guide104 and ISO /

IEC Guide51 moved to References;

--- Added informative appendix NA to list the published parts of "Fire Hazard Test for Electrical and Electronic Products".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

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Introduction

All electrical and electronic products are designed with fire risk and potential fire hazard in mind. Design of components, circuits and components

and materials are screened to reduce the potential fire risk to a

within the allowable range.

IEC 60695-1-10, IEC 60695-1-11 and IEC 60695-1-12 provide guidance on how to achieve this.

Fires involving electrical and electronic products can also be caused by non-electrical external ignition sources. The overall risk assessment needs to take this factor into account.

The purpose of the Fire Hazard Test for Electrical and Electronic Products is to save lives and reduce the severity of fires by reducing the number or severity of fires.

Protect property. It can be done by.

--- Prevent ignition caused by live parts as much as possible, and if ignition occurs, limit the scope of ignition to the enclosure of electrical and electronic products;

--- Minimize the spread of the flame to the product shell as much as possible, and will include heat, smoke, toxic or corrosive gases, etc.

The harmful effects of the product are minimized.

"Fire Hazard Test of Electrical and Electronic Products" now consists of 38 parts, which are divided into three sub-fields.

--- Fire hazard test evaluation guidelines and terminology standards, including 1 term and 8 evaluation guidelines, the purpose is for the professional field

provide guidelines and reference procedures for fire hazard assessment;

--- Small-scale fire test standards, including 4 basic test methods for glow wire/hot wire, 9 flame test methods, and 2 abnormal resistance

The purpose of this paper is to introduce the method of thermal capability test, which is suitable for the use of electrical and electronic equipment manufacturers and testing institutions, with a specific heat source model.

Small-scale test methods for heat sources intended to cause fires;

--- Risk assessment criteria for combustion flow, including 2 corrosiveness, 2 smoke haze, 5 toxicity, 3 heat release, 2 flame surface

Spread, the purpose is to provide measurement of combustion flow toxicity, corrosiveness, smoke haze and heat release of electrical and electronic products and their materials

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Guidelines and the state of the art in current test methods.

This document is part 47 of "Fire Hazard Tests for Electrical and Electronic Products" and is intended to provide technical committees with

Guidelines for power levels and energies for ignition and ignition, and it provides technical committees with guidelines on fire safety measures, which are

Application is necessary to reduce the possibility of ignition.

The probability of fire depends to a large extent on the specific fire scenario of the electrical product itself. Therefore, the product committee is ultimately responsible for deciding which

Some fire safety measures are suitable for their products.

Fire hazard test for electrical and electronic products

Part 47.Ignition and fire with low voltage electrical products

Guidelines for Probabilistically Dependent Electric Power and Energy Grading

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1 Scope

This document provides guidelines for the classification of electrical power and energy that may lead to ignition and fire in low-voltage electrical products. it can be produced

The quality committee determines which fire hazard protection is available based on the electrical energy dissipated as heat.

This document deals with common products used in normal household environments, not in special environments, such as those used in explosive atmospheres

product.

This document is intended for use by technical committees in the preparation of standards based on the principles set out in IEC Guide 104 and ISO /IEC Guide 51.

One of the tasks of technical committees is to use this series of standards wherever applicable when preparing standards in the field. unless relevant

Standard specifically mentioned or listed, the requirements of this document, test methods or test conditions will not apply.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

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

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this document.

GB/T 5169.1-2015 Fire hazard test for electrical and electronic products - Part 1.Terminology for fire test (IEC 60695-4.2012,

IDT)

ISO 13943.20081) Fire Safety Vocabulary (Firesafety-Vocabulary)

1) There is a new version of ISO 13943.2017.

3 Terms and Definitions

The terms and definitions defined in ISO 13943.2008 and GB/T 5169.1-2015 and the following terms and definitions apply to this document.

3.1

fire hazard

Undesired potential substances or conditions caused by fire.

[Source. ISO 13943.2008, 4.112]

3.2

fire hazard protection firehazardsafeguard

Components, systems or instructions specially provided to reduce the possibility of ignition or spread of flame.

Note 1 to entry. Fire hazard protection is also commonly referred to as a method of protection.

Note 2.Examples include restrictors, distance from ignition sources, materials with flame retardant properties.

3.3

ignition ignition

Persistent light-off (not recommended)

< usually> the start of burning.

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