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

GB/T 5169.20-2021

**Fire hazard testing for electric and electronic products - Part 20:
Surface spread of flame. Summary and relevance of test
methods**

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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 part 20 of GB/T 5169 "Fire Hazard Test for Electrical and Electronic Products". GB/T 5169 has released the following

part.

---Part 1. Terminology of fire test;

---Part 2. General rules for fire hazard assessment guidelines;

---Part 5. Test flame needle flame test method device, confirmation test method and guidance;

---Part 9. Guidelines for Fire Hazard Assessment, General Rules for Pre-selection Test Procedures;

- Part 10.Glow wire/hot wire basic test method Glow wire device and general test method;
- Part 11.Glow wire/hot wire basic test method Glow wire flammability test method of finished product (GWEPT);
- Part 12.Glow-wire/hot-wire basic test methods. Glow-wire flammability index (GWFI) test method for materials;
- Part 13.Glow Wire/Glow Wire Basic Test Method Material Glow Wire Ignition Temperature (GWIT) test method;
- Part 14.Test flame 1kW nominal pre-mixed flame device, confirmation test method and guide;
- Part 15.Test flame 500W flame device and confirmation test method;
- Part 16.Test flame 50W horizontal and vertical flame test method;
- Part 17.Test flame 500W flame test method;
- Part 18.General rules for the toxicity of combustion streams;
- Part 19.Abnormal hot mold compression stress release deformation test;
- Part 20.Summary and correlation of flame surface spread test methods;
- Part 21.Abnormal hot ball pressure test method;
- Part 22.Test flame 50W flame device and confirmation test method;
- Part 23.Test flame 500W vertical flame test method for tubular polymeric materials;
- Part 24.Guidelines for Fire Hazard Assessment Insulating Liquids;
- Part 25.General Rules for Smoke Blur;
- Part 26.Summary and relevance of smoke fuzzy test methods;
- Part 29.General rules for heat release;
- Part 30.Summary and relevance of heat release test methods;
- Part 31.General rules for the spread of flames on the surface;
- Part 32.Heat release of heat release of insulating liquid;
- Part 33.Guideline for Fire Hazard Assessment, General Rules for Ignitability;
- Part 34.Summary and correlation of ignitability test methods for fire hazard assessment guidelines;
- Part 35.General rules for the corrosion hazards of combustion streams;
- Part 36.Summary and correlation of the corrosion hazard test methods of the combustion

stream;

---Part 38.Summary and correlation of the toxicity test method of the combustion stream;

---Part 39.Use and explanation of the results of the toxicity test of the combustion stream;

---Part 40.Toxicity evaluation device and test method of combustion stream;

---Part 41.Calculation and explanation of the results of the toxicity evaluation test of the combustion stream;

---Part 42.Test flame confirmation test guidelines;

---Part 44.Guidelines for Fire Hazard Assessment, Fire Hazard Assessment;

---Part 45.Fire hazard assessment guidelines for fire safety engineering;

--- Part 46.Determination of the characteristic heat flux during ignition of the non-contact flame source of the test flame.

This document replaces GB/T 5169.20-2013 "Fire hazard test of electrical and electronic products-Part 20.Flame surface spread test

``Method Summary and Relevance'', compared with GB/T 5169.20-2013, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Updated normative reference documents (see Chapter 2, Chapter 2 of the.2013 edition);

b) updated terms and definitions (see Chapter 3, Chapter 3 of the.2013 edition);

c) The measurement parameters "burnout length" and "flame surface spread rate" in 4.1.1 test method are changed to "linear burning rate (HB points)

Class)" and "Vertical Spread of Flame (V Class)" (see 4.1.1.4, 4.1.1.3 of the.2013 edition);

d) The range of non-applicable products for which the test method is changed (see 4.1.2.1, 4.1.2.1 of the.2013 edition);

e) The requirements for test flames have been added (see 4.1.3.1);

f) The requirements for sample size are changed (see 4.1.3.1, 4.1.3.1 of the.2013 edition);

g) The scope of application of the test method is changed (see 4.1.4.1, 4.1.4.1 of the.2013 edition);

h) The use conditions and scope of the test method have been changed (see 4.1.4.5, 4.1.4.5 of the.2013 edition);

i) The "flame spread meter" test method has been added (see 4.1.6);

j) Added the description of some other parameters that can be measured during the experiment (see 4.2.2.2, 4.2.2.4 and 4.2.2.6);

- k) Added description of repeatability and reproducibility test (see 4.2.2.5);
- l) Table 1 is changed, the length of the steel ladder in the table is changed from the original "4m" to "3.5m", and Note 2 is changed (see Table 1, Table 1 of the 2013 edition);
- m) Table 2 is changed, the comparison of vertical steel ladder test methods in EN50399 is added in the last column, and the footnote of the chart is added
- j and k (see Table 2, 2013 edition of Table 2).

The translation method used in this document is equivalent to IEC 60695-9-2:2014, Fire Hazard Test Part 9-2: Flame Surface Spread Test

Summary and relevance of test methods.

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

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

2012, IDT);

---GB/T 16499-2017 Preparation of electrical and electronic safety publications and basic safety publications and multi-disciplinary shared safety publications

Guidelines for the application of objects (IEC Guide 104:2010, NEQ);

---GB/T 20002.4-2015 Drafting of specific content in the standard Part 4: Safety related content in the standard (ISO /IEC

Guide 51:2014, MOD).

The following editorial changes have been made to this document.

---In order to be consistent with the existing standard series, the name of this document is changed to "Fire Hazard Test of Electrical and Electronic Products Part 20: Flame Table

Summary and relevance of surface spread test methods.

Introduction

All circuits must consider the risk of fire. The purpose of component, circuit and equipment design and material screening is to reduce the possibility of fire

This is true even in the event of foreseeable abnormal usage, malfunctions and failures.

GB/T 5169 "Fire hazard test for electrical and electronic products

The purpose of the "inspection" is to save lives and protect property by reducing the number of fires or reducing the severity of fires. It can be passed.