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

GB/T 18380.13-2022

**Tests on electric and optical fibre cables under fire conditions - Part 13:
Test for vertical flame propagation for a single insulated wire or cable -
Procedure for determination of flaming droplets/particles**

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Standardization Administration**

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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 13 of GB/T 18380 "Burning test of cables and optical cables under flame conditions". GB/T 18380 has been issued

The following parts are distributed.

- Part 11. Test device for vertical flame spread test of a single insulated wire and cable;
- Part 12. Test method for vertical flame spread of single insulated wire and cable 1kW premixed flame;
- Part 13. Test method for the vertical spread of flame of a single insulated wire and cable to determine burning drips (objects)/particles;
- Part 21. Test device for vertical flame spread of single insulated thin wire and cable;
- Part 22. Test method for vertical spread of flame of single insulated thin wire and cable - Diffusion type flame test method;
- Part 31. Test device for vertical flame spread of bundled wires and cables installed vertically;
- Part 32. Vertically installed bundled wire and cable flame vertical spread test AF/R;
- Part 33. Vertically installed bundled wire and cable flame vertical spread test Class A;
- Part 34. Vertically installed bundled wire and cable flame vertical spread test Class B;
- Part 35. Vertically installed bundled wire and cable flame vertical spread test Class C;
- Part 36. Vertical flame spread test of bundled wires and cables installed vertically Class D.

This document replaces GB/T 18380.13-2008 "Cables and Optical Cables Fire Tests under Flame Conditions - Part 13.Single Insulation

Wire and cable flame vertical spread test method for the determination of burning drips (objects)/particles", in line with GB/T 18380.13-2008

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the reference documents of terms and definitions (see 3.1, 3.1 of the.2008 edition);
- Changed the pretreatment requirements for filter paper (see 4.3, 4.3 of the.2008 edition);
- Increase the measurement method and rounding rules of the outer diameter of the sample (see 5.1);
- Added the requirement that the position of the burner should be fixed and the countermeasures for the movement of the specimen during the test (see 5.4.1);
- Changed the technical requirements for the outer diameter of non-circular cables or optical cables (see Table 1, Table 1 of the.2008 edition);
- Added the description "Blue flame tip touch position" (see Figure 2);
- Changed the recommended gas and air flow (see Appendix NA, Appendix B of the.2008 edition).

This document is equivalent to IEC 60332-1-3.2015 "Cables and Optical Cables Fire Tests under Flame Conditions Part 1-3.Single Insulation

Test Method for Determination of Burning Drops (Objects)/Particles by the Vertical Flame Propagation Test of Edged Wire and Cable".

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

- In order to harmonize with existing standards, the standard name is changed to "Cables and optical cables under flame conditions - Part 13.Single

Test Method for Determination of Burning Drops (Objects)/Particles by Vertical Flame Propagation Test of Insulated Wire and Cable";

- Added note in 5.4.1 to give the recommended gas and air flow;
- Added Appendix NA (informative).

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

Introduction

Flame retardant wire and cable or optical cable products are widely used in various construction projects.

It is of great significance to reduce the occurrence of disasters and the spread of flames, reduce fire losses, and ensure the safe evacuation of all kinds of people. GB/T 18380 aims to establish

The test method for the flame retardant performance of different flame retardant wire and cable or optical cable products under different installation and laying conditions is planned to be composed of 11 parts.

--- Part 11. Test device for vertical spread of flame for a single insulated wire and cable. The purpose is to specify for single insulated electrical

Test device for vertical flame spread test of wire and cable.

--- Part 12. Single insulated wire and cable flame vertical spread test 1kW premixed flame test method. the purpose is

Test method for determining the vertical flame spread of a single insulated wire or cable or fiber optic cable under 1 kW premixed flame conditions.

--- Part 13. Test method for vertical flame spread of a single insulated wire and cable to determine burning drips (objects)/particles.

The purpose is to determine the test for the determination of burning drips (objects)/particulates in the vertical flame spread test of a single insulated wire and cable method.

--- Part 21. Test device for vertical flame spread test of a single insulated thin wire and cable. Intended to be specified for single insulation

Test device for vertical flame spread test of thin wire and cable.

--- Part 22. Vertical flame spread test method for single insulated thin wire and cable Diffusion-type flame test method. The purpose is to determine the total

Insulated thin wires and cables with a cross-section less than 0.5mm² and thin optical cables or conductors that may break under 1kW premixed flame conditions

Test method for vertical spread of flame on thin wires that may fuse.

--- Part 31. Vertically installed bundled wire and cable flame vertical spread test test device. The purpose is to provide for vertical

Test device for vertical flame spread of straight-mounted bundled wires and cables, and installation arrangement and calibration.

--- Part 32. Vertically installed bundled wire and cable flame vertical spread test AF/R

category. The purpose is to determine the applicable

Test method for the ability of special cables to be used in special installations to inhibit the spread of flame when installed in vertical bundles.

--- Part 33. Vertical flame spread test of bundled wires and cables installed vertically Class A. The purpose is to determine the

Test for the ability of wire, cable or optical cable products to inhibit the spread of flame when installed in vertical bundles in the case of metal material volume content

method.

--- Part 34. Vertical flame spread test of bundled wires and cables installed vertically Class B. The purpose is to determine the medium for rating

Test on the ability of wire, cable or optical cable products to inhibit the spread of flame when installed in vertical bundles in the case of non-metallic material volume content

method.

--- Part 35. Vertical flame spread test of bundled wires and cables installed vertically Class C. The purpose is to determine the

Test for the ability of wire, cable or optical cable products to inhibit the spread of flame when installed in vertical bundles in the case of metal material volume content

method.

--- Part 36. Vertical flame spread test of bundled wires and cables installed vertically Class D. The purpose is to determine the very low

Test method for the ability of small cable products to inhibit the spread of flame when installed in vertical bundles in the case of non-metallic material volume content.

Fire testing of electrical and optical cables under flame conditions

Part 13. Single insulated wire and cable flame vertical

Spread test to determine burning drips/particulates

experiment method

1 Scope

This document describes the tests for the evaluation of drips/particulates from the burning of a single insulated wire or cable or fiber optic cable under specified flame conditions

method.

Note. If necessary, carry out the test of this document and the test of GB/T 18380.12