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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 18380.31-2022

Tests on electric and optical fibre cables under fire conditions - Part 31: Test for vertical flame spread of vertically-mounted bunched wires or cables - Apparatus

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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 31 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 18380.31-2008 "Burning test of electrical and optical cables under flame conditions - Part 31.Vertical installation

"Test device for vertical flame spread of bundled wires and cables", compared with GB/T 18380.31-2008, except for structural adjustment and editing

In addition to the changes, the main technical changes are as follows.

--- Increased the requirements for the air intake method, the requirements for the intake box, and the requirements for the cross-sectional area and length of the intake pipe (see 5.2, 5.2 of the.2008 edition);

--- Increased the connection requirements of the Venturi mixer to the burner, the mass flow of propane gas and air (see 6.1,.2008 edition of

6.1);

--- Changed the distance between the centerline of the burner and the bottom of the test chamber (see 6.2, 6.2 of the.2008 edition);

--- Added optional extensions and optional rungs for steel ladders (see Figure 4, Figure 4 of the.2008 edition).

This document is equivalent to IEC 60332-3-10.2018 "Cables and Optical Cables Fire Tests under Flame Conditions Part 3-10.Vertical

Installed bundled wire and cable flame vertical spread test test device".

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 Fire Tests under Flame Conditions Part 31.Vertical

Installed bundled wire and cable flame vertical spread test test device";

---Incorporates the technical errata content of IEC 60332-3-10.2018/COR1.2018, and the outer margins of the clauses involved

The placement is marked with a vertical double line (||);

--- Deleted Appendix A (informative) of IEC 60332-3-10.2018, its content is only for suppliers of burners and mass flow meters

information.

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 31.Vertically installed bundles of wires and cables

Test device for vertical flame spread test

1 Scope

This document describes in detail the test set-up for the vertical flame spread test of vertically installed bundles of wire, cable or fiber optic cables under specified conditions.

and its placement and calibration.