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

GB/T 18380.12-2022

**Tests on electric and optical fibre cables under fire conditions-Part
12:Test for vertical flame propagation for a single insulated wire or
cable-Procedure for 1 kW pre-mixed flame**

电缆和光缆在火焰条件下的燃烧试验 第12部分：单根绝缘电线电缆火焰垂直蔓延
试验 1 kW 预混合型火焰试验方法

(English Translation)

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Foreword

GB/T 18380 Test on Electric and Optical Fibre Cables under Fire Conditions can be divided into the following 11 parts.

- Part 11. Test for Vertical Flame Propagation for a Single Insulated Wire or Cable
 - Apparatus;
- Part 12. Test for Vertical Flame Propagation for a Single Insulated Wire or Cable
 - Procedure for 1kW Pre-Mixed Flame;
- Part 13. Test for Vertical Flame Propagation for a Single Insulated Wire or Cable-
 - Procedure for Determination of Flaming Droplets/Particles;
- Part 21. Test for Vertical Flame Propagation for a Single Small Insulated Wire or Cable
 - Apparatus
- Part 22. Test for Vertical Flame Propagation for a Single Small Insulated Wire or Cable
 - Procedure for Diffusion;
- Part 31. Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables
 - Apparatus;
- Part 32. Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables
 - Category A F/R;

--- Part 33. Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables - Category A;

--- Part 34. Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables - Category B;

--- Part 35. Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables - Category C;

--- Part 36. Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables - Category D.

This Part is Part 12 of GB/T 18380.

This Part equivalently adopts IEC 60332-1-2:2004 Test on Electric and Optical Fibre Cables under Fire Conditions - Part 1-2. Test for Vertical Flame Propagation for a Single Insulated Wire or Cable - Procedure for 1kW Pre-Mixed Flame (English Version).

For the benefit of use, this Part made the following editorial modifications.

- a) Delete the Foreword and Introduction of the international standard;
- b) Add the Foreword for the national standard of this Part;
- c) Add the appendix B;
- d) Use the decimal point "." to replace the comma "," that is used for the decimal point;
- e) Use "Part 12" to replace "Part 1-2";
- f) The Clause 2 quotes Chinese national standards that adopt the international standard rather than the international standard.

The Appendixes A and B of this Part are informative.

This Part was proposed by China Electrical Equipment Industry Association.

This Part shall be under the jurisdiction of National Technical Committee for Standardization of Wires and Cables.

Drafting organization of this Part. Shanghai Electric Cable Research Institute.

Participating drafting organizations of this Part. Jinshan Electric Wire & Cable Ltd.

Tianjin; Baosheng Science and Technology Innovation Co., Ltd.; Shanghai Nanyang Electrical Appliance Co., Ltd.; Shanghai Yalong Industry Group Co., Ltd.; and Anhui Hualing Cable Group Co., Ltd.

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Test on Electric and Optical Fibre Cables under Fire

Conditions - Part 12. Test for Vertical Flame

Propagation for a Single Insulated Wire or Cable -

Procedure for 1kW Pre-Mixed Flame

1 Scope

This Part of GB/T 18380 specifies the test method for the vertical flame propagation of a single wire or cable under flame conditions. The test device is specified in GB/T 18380.11-2008.

NOTE 1: If necessary, the test in GB/T18380.12-2008 can be carried out simultaneously with the test in GB/T18380.13-2008.

The recommended performance requirements are given in Appendix A.

This Part specifies the conventional usage of 1kW pre-mixed flame. It is not applicable to testing small-sized single wires and cables with a total cross-section area of less than 0.5 mm², because the conductors shall be melted before the end of the test; and it is neither applicable to the small optical cables, because the optical cable shall break before the end of the test. In these cases, the test method can refer to GB/T 18380.22-2008.

NOTE 2: The use of wires and cables that can delay the spread of flames and meet the requirements of this Standard is not sufficient to ensure that the wires and cables can prevent the spread of flames under all laying conditions. Therefore, in some occasions with high risk of spreading, for example in long vertical runs of bunches of cable, special installation precautions

shall also be taken. It shall not be considered that the cable sample meets the performance requirements specified in this Standard, and the bundled cable shall also show similar performance (see GB/T18380.31~18380.36 series of standards).

2 Normative References

The provisions in following documents become the provisions of this Part of GB/T

18380 through reference in this Part. For dated references, the subsequent

amendments (excluding corrigendum) or revisions do not apply to this Part, however, parties who reach an agreement based on this Part are encouraged to study if the

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