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

GB/T 46331-2025

Optical fibre cable for direct surface application

地面直接敷设用光缆

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ITU-T L.110.2017 "Optical cables for direct terrestrial installation".

This document has undergone significant structural adjustments compared to ITU-T L.110.2017. A comparison of the structural numbering changes between the two documents is provided below.

See Appendix A for the table.

This document differs significantly from ITU-T L.110.2017. The relevant clauses are indicated in vertical margins.

Straight lines (|) are marked. A summary of these technical differences and their reasons can be found in Appendix B.

The following editorial changes have been made to this document.

---Abbreviations such as "DA", "RA", "SA", and "WiMax" have been removed;

---Chapter 5, which contains no technical content, has been removed;

---Appendix I (informative) regarding usage experience in other countries has been removed;

---Appendix C (Informative) has been added, outlining the main performance characteristics and test methods for optical cables;

---References GB/T 29233-2012 and YD/T 5102-2024 have been added.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Telecommunications Standardization Technical Committee (SAC/TC485).

1 Scope

This document defines the terminology and definitions for optical cables used in direct terrestrial installations, specifies the characteristics and structure of optical fibers and cables, and describes the corresponding...

Experimental methods.

This document applies to the design, development, production, and inspection of optical cables for direct terrestrial installation (hereinafter referred to as "optical cables").

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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

This document.

GB/T 2951.11 General test methods for insulation and sheathing materials of cables and optical fibers-Part 11: General test methods for thickness and Dimensional measurement and mechanical property testing (GB/T 2951.11-2008, IEC 60811-1-1:2001, IDT) GB/T 7424.21-2021 General Specification for Optical Cables Part 21: Basic Test Methods and Mechanical Performance Test Methods for Optical Cables (IEC 60794-1-21:2020, MOD) GB/T 7424.22-2021 General Specification for Optical Cables Part 22: Basic Test Methods and Environmental Performance Test Methods for Optical Cables (IEC 60794-1-22:2017, MOD) GB/T 7424.23-2021 General Specification for Optical Cables Part 23: Basic Test Methods for Optical Cables and Test Methods for Optical Cable Components (IEC 60794-1-23:2019, MOD) GB/T 7424.24-2020 General Specification for Optical Cables Part 24: Basic Test Methods and Electrical Test Methods for Optical Cables (IEC 60794-1-24:2014, MOD) GB/T 9771 (all parts) Single-mode optical fiber for communication GB/T 12357.1 Multimode optical fiber for communication - Part 1: Characteristics of Category A1 multimode optical fiber (GB/T 12357.1-2024) IEC 60793-2-10:2022, MOD) GB/T 14733.12 Telecommunications Terminology - Optical Fiber Communication [GB/T 14733.12-2008, IEC 60050(731).1991, IDT] GB/T 15972 (all parts) Specification for Test Methods of Optical Fibers YD/T 769 Outdoor optical fiber cable with central tube filling for communication YD/T 901 Outdoor optical fiber cable with stranded filling for communication YD/T 979 Technical Requirements and Test Methods for Fiber Optic Ribbons flashes)

3 Terms and Definitions

The terms and definitions defined in GB/T 14733.12 and the following terms and definitions apply to this document.

The installation method is to lay the optical cable directly on the ground.