

ICS 33.180.20
CCS M 42



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

GB/T 16529-1996

Replacing GB/T 16529.2-1997

**Optical cable closures - Part 1: Generic specification
(English Translation)**

Issued on: December 2, 2025

Implemented on: April 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative References	
3 Terms and Definitions	
4 Requirements	
4.1 Classification	
4.2 Design Requirements	
4.3 Materials	
4.4 Design and Structure	
4.5 Performance	
5 Test Methods	
5.1 Visual inspection	
5.2 Additional losses	
5.3 Sealing performance and repeatability of encapsulation	
5.4 Water immersion performance	
5.5 Mechanical properties	
5.6 Environmental Performance	
5.7 Electrical performance	
5.8 Environmental performance	
6 Inspection Rule	
6.1 General Rules	
6.2 Test Sample	
6.3 Factory Inspection	
6.4 Type Testing	
7 Identification and Marking	
7.1 General Rule	
7.2 Specification Identification Code	
7.3 Device Marking	
7.4 Packaging Markings	
7.5 Storage Conditions	
8 Safety	

References

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 Part 1 of GB/T 16529 "Optical Cable Junction Boxes". GB/T 16529 has already published the following parts.

---Part 1: General Specifications.

This document partially replaces GB/T 16529.2-1997 "Fiber Optic Cable Joints - Part 2: Specifications for Fiber Optic Cable Joints and Connectors".

Compared with GB/T 16529.2-1997, the main technical changes in "Fiber Discs" are as follows, except for structural adjustments and editorial modifications.

a) Added the terms "optical cable connector", "fiber optic connector", "connector box outer sheath", "fiber optic installation device", "hybrid connector box", and "compression connector".

"Jack box", "Non-pressurized junction box", "Cabinet", "Base", "Patch panel/board", "Single link", "Single unit", "Multiple units", "Single strip" the terms "multi-band" and "communication port" (see 3.1, 3.2, 3.4~3.17) have been removed, along with the terms "connector fastener" and "connector fiber optic tray" (see 1997 edition).

(1.4.1, 1.4.2)

b) Added classification requirements for optical cable splice closures (see 4.1);

c) Added material requirements for optical cable splice boxes (see 4.3);

d) Increased structural requirements for fiber optic splice closures (see 4.4);

e) Increased requirements for the electrical and environmental performance of junction boxes (see 5.7 and 5.8);

f) The grouping and inspection items for junction box type testing and factory inspection have been changed, and additional losses, insulation resistance, and withstand voltage have been added.

Temperature, impact, drop, temperature cycling, low-temperature impact, solar radiation, and chemical corrosion tests were tested; insertion loss, impact, and climate compliance tests were removed.

Preliminary tests, condensation, rapid temperature change, water vapor permeation, solvent resistance, and resistance to contaminated liquids (see Table 2, Tables 1.2 and 2.2 of the 1997 edition).

Table 3.2);

g) The detailed specifications for blank junction boxes have been removed (see Chapter 4 of the 1997 edition).

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 and is under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China.

Introduction

The function of a fiber optic junction box is to protect, house, and store fiber optic interconnect devices and passive devices (such as connectors or splices, optical splitters).

(etc.), typically installed in specific indoor or outdoor locations and connected to one or more cabled optical fibers in the optical path. Its structure can be a specific set...

The functional form, or the grouping combination that allows compatibility with independent subunits, varies in specific classification requirements. With the development of optical cable splice closure technology...

With the development of technology, its application fields are becoming increasingly wide, product performance is constantly improving, and it has been mass-produced and commercialized, developing into a high-tech industry.

my country currently lacks a standardized system for optical fiber splice closures. This document serves as a general specification for optical fiber splice closures, aiming to standardize related products and technologies in China.

This provides top-level guidance and standard basis for the development of testing methods and other standards, and provides necessary support for the design, production, inspection and acceptance of optical cable junction boxes.

The support for the optical fiber splice closure is proposed to consist of five parts, as specified in GB/T 16529 "Optical Fiber Junction Box".

---Part 1: General Specifications. The purpose is to standardize the design, production, inspection, and acceptance of fiber optic splice closures.

---Part 2: Standardization of Outdoor Fiber Optic Cable Junction Boxes. The purpose is to standardize the design, production, and inspection of outdoor fiber optic cable junction boxes.

and acceptance.

---Part 3: Standardization of Indoor Fiber Optic Cable Junction Boxes. The purpose is to standardize the design, production, and inspection of indoor fiber optic cable junction boxes.

and acceptance.

---Part 4: Standardization of Pressurized Fiber Optic Junction Boxes. The purpose is to standardize the design and production of pressurized fiber optic junction boxes.

Inspection and acceptance.

---Part 5: Standardization of Non-Pressurized Fiber Optic Junction Boxes. The purpose is to standardize the design and production of non-pressurized fiber optic junction boxes.

Production, inspection and acceptance.

Optical Cable Junction Box Part 1: General Specification

1 Scope

This document specifies the classification and requirements of optical cable junction boxes, inspection rules, and describes the corresponding test methods.

This document applies to fiber optic junction boxes in terrestrial fiber optic transmission systems.

This document does not apply to submarine fiber optic cable junction boxes.

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 1182 Product Geometric Specification (GPS) - Geometric Tolerances. Shape, Orientation, Position and Runout Tolerances GB/T 1800.1 Product Geometric Specification (GPS) - Linear Dimensional Tolerances - ISO Notation System - Part 1: Tolerances, Deviations and the basis of cooperation GB/T 2423.10 Environmental testing - Part 2: Test methods - Test Fc. Vibration (sine wave) GB/T 2423.16 Environmental Testing - Part 2: Test Methods - Test J and Guidelines. Mold Growth GB/T 2423.24-2022 Environmental Testing - Part 2: Test Methods - Test S. Simulated Solar Radiation and Solar Radiance on the Ground Guidelines for radiation testing and climate aging testing GB/T 4728 (all parts) Graphical