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

**GB/T 18310.23-2025**

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**Fibre optic interconnecting devices and passive components -  
Basic test and measurement procedures - Part 2-23: Tests -  
Sealing for non-pressurized closures of fibre optic devices**

纤维光学互连器件和无源器件 基本试验和测量程序 第2-23部分：试验 非加压式  
接头盒的密封

**(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.

GB/T 18310 "Basic Test and Measurement Procedures for Fiber Optic Interconnects and Passive Devices - Part 2: Tests", GB/T 18309 "Basic Test and Measurement Procedures for Fiber Optic Interconnects and Passive Devices Part 1: General Principles and Guidelines" and GB/T 18311 "Fiber Optic Interconnects and Passive Devices" "Basic Test and Measurement Procedures for Optical Interconnect Devices and Passive Devices, Part 3: Inspection and Measurement" together constitute fiber optic interconnect devices.

National standard system for testing methods of passive devices.

This document is based on GB/T 18310 "Basic Test and Measurement Procedures for Fiber Optic Interconnects and Passive Devices - Part 2: Tests".

Part 23: GB/T 18310 has published the following parts.

- Part 2-1. Test Vibrations (Sinusoidal);
- Part 2-2. Testing the durability of mating;
- Parts 2-4. Testing the holding power of optical fibers/cables;
- Parts 2-5. Testing Torsion/Twisting;
- Parts 2-6. Testing the tensile strength of the locking mechanism;
- Parts 2-9. Test Impact;
- Part 2-12. Test Impacts;

- Part 2-14.Experiments with high light power;
- Part 2-17.Testing at Low Temperatures;
- Part 2-18.Testing Dry Heat-High Temperature Durability;
- Part 2-19.Constant Temperature and Humidity Tests;
- Part 2-21.Temperature-Humidity Combined Cyclic Test;
- Part 2-22.Test Temperature Variation;
- Part 2-23.Testing the seal of non-pressurized junction boxes;
- Part 2-26.Test Salt Spray;
- Part 2-39.Experimental Sensitivity to External Magnetic Fields;
- Part 2-42.Testing the static end load of the connector;
- Part 2-45.Testing for water immersion durability;
- Part 2-48.Test temperature and humidity cycles.

This document is equivalent to IEC 61300-2-23:2010 "Fundamental Test and Measurement Procedures for Fiber Optic Interconnects and Passive Components".

Preface Parts 2-23.Testing the sealing of non-pressurized junction boxes.

This document includes a new chapter on "Terms and Definitions".

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

Fiber optic interconnects and passive devices play a crucial role in fiber optic products and applications. With the advancement of optical communication technology and products...

With the continuous emergence of new technologies, testing and measurement techniques for fiber optic interconnects and passive devices have also developed rapidly. To ensure that product testing and measurement procedures are conducted in a timely manner...

To promote international coordination and trade, the IEC has developed and published the IEC 61300 series of test and measurement procedures standards, covering...

It covers the measurement and testing of optical performance, mechanical properties, and environmental adaptability of fiber optic interconnects and passive devices, and is a leading international standard.

The basic standards for supporting product inspection and acceptance.

my country has established a standardized system of testing and measurement procedures for fiber optic interconnect devices and passive devices in accordance with the IEC 61300 series standards.

The system includes GB/T 18309 "Basic Test and Measurement Procedures for Fiber Optic Interconnects and Passive Devices - Part 1: General Principles and Guidelines", GB/T 18310 "Basic Test and Measurement Procedures for Fiber Optic Interconnects and Passive Devices - Part 2: Tests" and GB/T 18311 "Basic Test and Measurement Procedures for Fiber Optic Interconnects and Passive Devices, Part 3: Inspection and Measurement" aims to establish product specifications.

It provides a complete and unified set of methodologies and standards for product testing and verification.

GB/T 18310 is proposed to consist of the following parts.

---Part 2-1.Test Vibrations (Sine). The purpose is to determine the test procedure for vibrations (sine).

---Part 2-2.Testing the durability of the mating joint. The purpose is to determine the test procedures for mating joint durability.

---Parts 2-4.Testing the Holding Force of Optical Fibers/Cables. The purpose is to determine the testing procedures for the holding force of optical fibers/cables.

---Parts 2-5.Torsion Testing. The aim is to determine the testing procedure for torsion.

---Parts 2-6.Testing the tensile strength of the locking mechanism. The purpose is to determine the test procedure for the tensile strength of the locking mechanism.

---Parts 2-7.Test Bending Moment. The purpose is to determine the test procedure for bending moment.

---Parts 2-9.Impact Testing. The purpose is to determine the impact testing procedure.

---Part 2-10.Testing for resistance to compression and load. The purpose is to determine the testing procedures for resistance to compression and load.

---Part 2-11.Testing Axial Compression. The purpose is to determine the testing procedure for axial compression.

---Part 2-12.Impact Testing. The purpose is to determine the impact testing procedure.

---Part 2-14.Testing High Optical Power. The purpose is to determine the testing procedure for high optical power.

---Part 2-15.Testing the Torsional Strength of the Locking Mechanism. The purpose is to determine the test procedure for the torsional strength of the locking mechanism.

---Part 2-17. Testing at Low Temperatures. The aim is to determine the testing procedures for low temperatures.

---Part 2-18. Dry Heat Test. The purpose is to determine the test procedure for dry heat.

---Part 2-19. Testing under constant humidity and heat. The aim is to determine the testing procedure for constant humidity and heat.

---Part 2-21. Test Temperature-Humidity Combination Cycle. The purpose is to determine the test procedure for the temperature-humidity combination cycle.

---Part 2-22. Test Temperature Variation. The purpose is to determine the test procedure for temperature variation.

---Part 2-23. Testing the seal of non-pressurized junction boxes. The purpose is to determine the sealing performance of non-pressurized junction boxes.

program.

---Part 2-24. Screening Tests of Open-Type Ceramic Centering Sleeves by Applying Stress. The aim is to determine the appropriate stress.

Test procedure for screening open-type ceramic centering sleeves.

---Part 2-26. Salt Spray Tests. The purpose is to determine the salt spray test procedures.

---Part 2-27. Test Dust (Laminar Flow). The purpose is to determine the test procedures for dust (laminar flow).

---Part 2-28. Testing Corrosive Atmospheres (Sulfur Dioxide). The purpose is to determine the testing methods for corrosive atmospheres (sulfur dioxide).

program.

---Part 2-29. Testing Low Pressure. The purpose is to determine the testing procedure for low pressure.

---Parts 2-33. Assembly and disassembly of experimental mechanical connectors, fiber optic management systems, and protective enclosures. The purpose is to determine the appropriate...

Test procedures for product assembly and disassembly.

---Part 2-34. Testing for resistance to solvents and contaminated liquids. The purpose is to determine the testing procedures for resistance to solvents and contaminated liquids.

---Part 2-35. Testing Optical Cable Nullification. The purpose is to determine the testing procedure for optical cable nutation.

---Part 2-37. Testing fiber optic cable bending in protective enclosures and rugged connectors. The purpose is to determine the suitability of the protective enclosure and