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

GB/T 18311.30-2007

Fibre optic interconnecting devices and passive components -- Basic test and measurement procedures -- Part 3-30: Examinations and measurements -- Polish angle and fibre position on single ferrule multi-fibre connectors

纤维光学互连器件和无源器件 基本试验和测量程序 第3-30部分：检查和测量 单套管多芯光纤连接器抛光角度和光纤位置

(English Translation)

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Foreword

This part is part 30 of GB/T 18311 and is part of GB/T 18309.1-2001 "Fiber Optics Interconnects and Passives" Basic Test and Measurement Procedures Part 1. General and Guidelines.

This part is equivalent to the IEC 61300-3-30:2003 "Fiber Optics Interconnect Devices and Passive Devices Basic Test and Measurement Procedures Sections 3-30. Inspection and Measurement of Single-Casing Multi-Core Fiber Connector Polishing Angle and Fiber Position (English).

For ease of use, the following editorial changes have been made to IEC 61300-3-30:2003.

- a) the word "this standard" is replaced by the words "this part";
- b) Remove the preface and references of IEC 61300-3-30:2003.

"Basic Testing and Measurement Procedures for Fiber Optic Interconnect Devices and Passive Devices" is a series of national standards, listed below.

Quasi-predicted structure and its corresponding IEC standards.

- a) GB/T 18309.1-2001 "Basic testing and measurement procedures for fibre optic interconnecting devices and passive components - Part 1. General and Guides (idt IEC 61300-1:1995).
- b) GB/T 18310 "Basic testing and measurement procedures for fibre optic interconnecting devices and passive components - Part 2. Tests"
 - GB/T 18310.1-2002 "Fiber optical interconnect devices and passive components - Basic test and measurement procedures - Part 2-1.
 - Test vibration (sinusoidal)" (IEC 61300-2-1.:1995, IDT);
 - GB/T 18310.2-2001 "Fiber optical interconnect devices and passive devices - Basic test

and measurement procedures - Part 2-2.

Test Mating Durability (idt IEC 61300-2-2:1995);

--- GB/T 18310.3-2001 "Fiber optical interconnect devices and passive components - Basic test and measurement procedures - Part 2-3.

Test static shear force" (idt IEC 61300-2-3.:1995);

--- GB/T 18310.4-2001 "Fiber optical interconnect devices and passive devices - Basic test and measurement procedures - Part 2-4.

Test fiber/cable retention (idt IEC 61300-2-4:1995);

c) GB/T 18311 "Basic testing and measurement procedures for fibre optic interconnecting devices and passive components - Part 3. Examination and measurement"

--- GB/T 18311.1-2003 "Fiber optical interconnect devices and passive devices - Basic test and measurement procedures - Part 3-1.

Inspection and Measurement Visual Inspection (IEC 61300-3-1.:1995, IDT);

--- GB/T 18311.2-2001 "Fiber optical interconnect devices and passive components - Basic test and measurement procedures - Part 3-2.

Inspection and measurement of polarization dependence of single-mode fiber optics (idt IEC 61300-3-2:1995);

--- GB/T 18311.3-2001 "Fiber optical interconnect devices and passive components - Basic test and measurement procedures - Part 3-3.

Check and measure the monitoring attenuation and return loss variation (multiplex) (idt IEC 61300-3-3:1997);

--- GB/T 18311.4-2003 "Fiber optical interconnect devices and passive components - Basic test and measurement procedures - Part 3-4.

Inspection and Measurement Attenuation (IEC 61300-3-4:2001, IDT);

---GB/T 18311.30-2007 "Basic testing and measurement procedures for fiber optic interconnect devices and passive components - Part 3-30 Points. Inspection and measurement of single-sleeve multi-core fiber optic connector polishing angle and fiber position" (IEC 61300-3-30:2003, IDT);

Appendix A of this section is an informative annex, and Appendix B and Appendix C are normative appendices.

This part is proposed by the Ministry of Information Industry of the People's Republic of China this part is under the jurisdiction of China Electronics Standardization Institute (CESI).

1 Scope

This section specifies procedures for assessing the geometry of the end face of a guide pin type multi-core bushing and connector. The basic characteristics are. relative to the end face the position of the fiber (whether recessed or convex), the angle of the end face relative to the pin hole, and the core sink of the multimode fiber.

2 Normative references

The terms in the following documents become the provisions of this part by reference to this part of GB/T 18311. Quotations with dated and all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouragement is achieved in accordance with this section.

The parties to the agreement study whether the latest versions of these documents can be used. For undated references, the latest edition applies to this section.

There are no articles in this chapter.

3 Overview

The guide pin type multi-core connector generally has a rectangular end face with a long axis and a short axis. In theory, the end face is required to be planar polished to make light the fibers are slightly convex and are all in the same plane to ensure the physical contact of the core when the two connectors are mated with each other. In fact, the end faces are long.

The shaft and the minor axis generally have two different curvatures through the surface. Since the mating sleeve is aligned by the pins in the guide holes, the sleeve end faces Correct positioning (X and Y angles) must be made according to the pilot holes for reliable contact. Based on its most within a specific study area Find the best fit plane by the ratio of the high points to measure the end face angle of the X axis and the end face angle of the Y axis. View from interferometry in the point of view, these highest points generally show the largest amplitude modulation, which is a more stable measurement between the two different interferometers and a larger weight.

Reconciliation creates conditions.

The angle of the best fit plane is calculated by comparing the best fit plane to a reference plane that is perpendicular to the axes of the guide holes. Fiber convex the (+rho) or recessed (-rho) is a plane height defined as the distance between the end face of the fiber and the best fit plane described above. Core sag it is unique to multimode fiber because the large core is softer and polished faster than the edge of the fiber. Passing a ring near the edge of the fiber the average height of the face is subtracted from the average height of the

core face to calculate the core sink.

This procedure specifies a method of analyzing end faces using a three-dimensional interference surface analyzer.

4 Device

Three-dimensional surface analysis is performed by an interferometer system.

The device, shown in Figure 1, contains a suitable casing seat, a positioning table and a three-dimensional analysis of rough surfaces and step heights.

Interference analyzer.

4.1 Casing seat

This is a combination of clamping the casing in a fixed position (either vertical or horizontal) or inclined (for inclined casing) Suitable device. There must be some way to position the axis and average vertical angle of each pilot hole, which should be considered the ideal end.

GB/T 18311.30-2007/IEC 61300-3-30:2003