SLOVENSKI STANDARD
SIST EN 61300-3-26:1997

01-december-1997

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-26: Examinations and measurements - Measurement of the angular misalignment between fibre and ferrules axes (IEC 61300-3-26:1997)

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 3-26: Examinations and measurements - Measurement of the angular misalignment between fibre and ferrules axes

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren -- Teil 3-26: Untersuchungen und Messungen - Messung des Winkelversatzes zwischen Faser- und Stiftachse

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures -- Partie 3-26: Examens et mesures - Mesure de l'erreur d'alignement angulaire des embouts avec fibre

Ta slovenski standard je istoveten z: **EN 61300-3-26:1997**

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33.180.20	Povezovalne naprave za optiļ na vlakna	Fibre optic interconnecting devices

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EUROPEAN STANDARD

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Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren Teil 3-26: Untersuchungen und Messungen - Messung des Fehlwinkels in der optischen Achse zwischen Faser und Ferrule (IEC 61300-3-26:1997)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 86B/848/FDIS, future edition 1 of IEC 61300-3-26, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61300-3-26 on 1997-03-11.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-12-01

Endorsement notice

The text of the International Standard IEC 61300-3-26:1997 was approved by CENELEC as a European Standard without any modification.

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Partie 3-26:
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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-26: Examinations and measurements – Measurement of the angular misalignment between fibre and ferrules axes

FOREWORD

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International Standard IEC 61300-3-26 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

The text of this standard is based on the following documents:

FDIS	Report on voting
86B/848/FDIS	86B/949/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

IEC 1300 consists of the following parts, under the general title *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*:

- Part 1: General and guidance
- Part 2: Tests
- Part 3: Examinations and measurements

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-26: Examinations and measurements – Measurement of the angular misalignment between fibre and ferrules axes

1 General

1.1 *Scope and object*

This part of IEC 1300 describes the procedure to determine the angular misalignments of ferrule with fibre installed.

1.2 *Normative reference*

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of IEC 1300. At the time of publication, the edition indicated was valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1300 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2538: 1974, *Limits and fits – Series of angles and slopes on wedges and prisms*

2 General description

This procedure describes the measurement of the angular misalignment of ferrules with assembled fibres. Angular misalignment is defined as the angle between the axis of the ferrule and the axis of the installed fibre (see figure 1). This procedure measures angular misalignment by measuring the deviation in the far field pattern from the core as the ferrule is rotated around the axis. This method assumes that ferrule end face tilt and fibre axis tilt are both included in θ (figure 1).

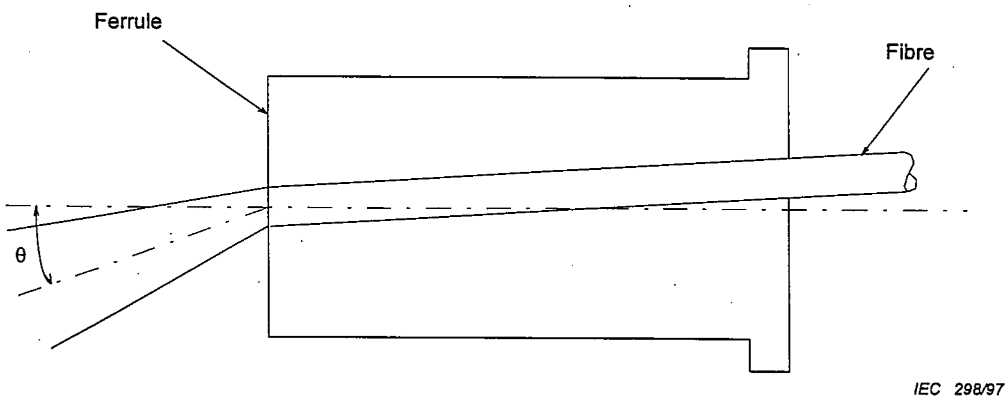

Figure 1 – Definition of angular misalignment

3 Apparatus

The apparatus consists of the following elements.

3.1 *V-groove or centring mechanism*

According to ISO 2538 the preferred angle for a V-groove is 108°.

3.2 *Screen*

The screen shall be perpendicular to axis of the V-groove or the centring mechanism.

3.3 *Light source*

White light.

4 Procedure

4.1 Light is launched into the fibre and the light from the end face of the fibre, contained in the ferrule, is displayed on the screen as shown in figure 2.

4.2 Rotate the ferrule through 360°, in the V-groove or centring mechanism. The far field pattern traces concentrically along a target circle drawn on the screen.

4.3 Find the radius of the circular locus r of the far field pattern.

4.4 Angular misalignment θ is calculated from the radius *R* and distance between the ferrule end face and the screen *L*. Angular misalignment θ is calculated by the following equation (see note). Measurement error will be ±0,06°.

$$\theta = \tan^{-1} R/L$$

NOTE – This formula does not take into account the dome offset influence.

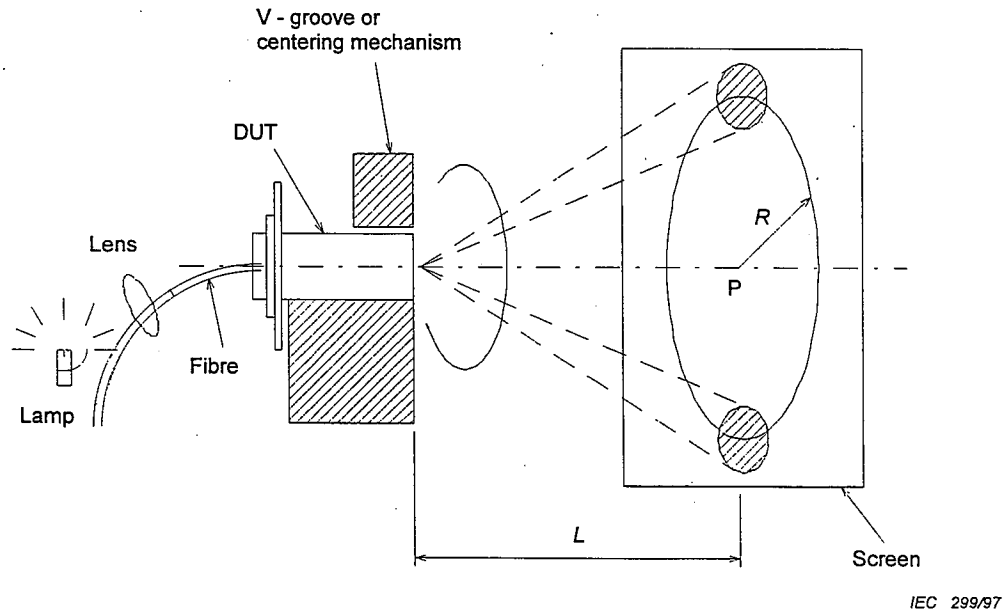

Figure 2 – Example of set-up for angular misalignment measuring