

# **Fibre optic interconnecting devices and passive components — Basic test and measurement procedures —**

## **Part 3-37: Examinations and measurements — Endface angle of angle-polished optical fibres**

The European Standard EN 61300-3-37:2005 has the status of a British Standard

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# National foreword

This British Standard is the official English language version of EN 61300-3-37:2005. It is identical with IEC 61300-3-37:2005.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Fibre optic interconnecting devices and passive components, which has the responsibility to:

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## Summary of pages

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**Fibre optic interconnecting devices and passive components –  
Basic test and measurement procedures  
Part 3-37: Examinations and measurements –  
Endface angle of angle-polished optical fibres  
(IEC 61300-3-37:2005)**

Dispositifs d'interconnexion et  
composants passifs à fibres optiques -  
Méthodes fondamentales d'essais  
et de mesures  
Partie 3-37: Examens et mesures –  
Angle d'extrémité des fibres optiques  
à polissage d'angle  
(CEI 61300-3-37:2005)

Lichtwellenleiter - Verbindungselemente  
und passive Bauteile –  
Grundlegende Prüf- und Messverfahren  
Teil 3-37: Untersuchungen und  
Messungen –  
Endflächenwinkel schräg polierter  
optischer Fasern  
(IEC 61300-3-37:2005)

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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/2106/FDIS, future edition 1 of IEC 61300-3-37, 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 61300-3-37 on 2005-06-01.

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) | 2006-04-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn                                               | (dow) | 2008-06-01 |

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61300-3-37:2005 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

|             |      |                                               |
|-------------|------|-----------------------------------------------|
| IEC 61300-1 | NOTE | Harmonized as EN 61300-1:2003 (not modified). |
|-------------|------|-----------------------------------------------|

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

### Part 3-37: Examinations and measurements – Endface angle of angle-polished optical fibres

#### 1 Scope

This part of IEC 61300 describes methods to measure the endface angle of flat or convex angle-polished optical fibres. The primary attributes addressed include endface angle, key angle and radius of curvature.

#### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61300-3-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-17: Examination and measurements – Endface angle of angle-polished ferrules*

IEC 61754-19, *Fibre optic connector interfaces – Part 19: Type SG connector family*

ISO 2538, *Geometrical Product Specifications (GPS) – Series of angles and slopes on prisms*

#### 3 General description

Optical fibres are frequently cleaved and polished to achieve a suitable endface surface topography for interfacing to other fibres, optical components, transmitters or receivers. Such interfaces may occur in free space or by physical contact. Often, particularly in the case of ferrule-less fibre optic connectors, radiused or angled radiused endfaces optimise the fibre-to-fibre physical contact characteristics.

The optical fibre endface angle ( $\theta$ ) for flat endface angle-polished fibres is defined as the angle between the plane perpendicular to the axis of the fibre and the plane of the flat endface. The endface angle ( $\theta$ ) for spherically polished angled endface fibres is the angle between the plane perpendicular to the axis of the fibre and the straight-line tangent to the polished surface at the fibre core and going to the nominal angle direction. See Figure 1.