



NSAI
Standards

Irish Standard
I.S. EN 61753-381-6:2016

Fibre optic interconnecting devices and passive components - Performance standard
- Part 381-6: Cyclic arrayed waveguide grating
- Category O (uncontrolled environment)

I.S. EN 61753-381-6:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 61753-381-6:2016 is the adopted Irish version of the European Document EN 61753-381-6:2016, Fibre optic interconnecting devices and passive components - Performance standard - Part 381-6: Cyclic arrayed waveguide grating - Category O (uncontrolled environment)

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EUROPEAN STANDARD

EN 61753-381-6

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2016

ICS 33.180.20

English Version

**Fibre optic interconnecting devices and passive components -
Performance standard -
Part 381-6: Cyclic arrayed waveguide grating - Category O
(uncontrolled environment)
(IEC 61753-381-6:2016)**

Dispositifs d'interconnexion et composants passifs à fibres
optiques - Norme de performance -
Partie 381-6: Réseau sélectif planaire cyclique - Catégorie
O (environnement non contrôlé)
(IEC 61753-381-6:2016)

Lichtwellenleiter - Verbindungselemente und passive
Bauteile - Betriebsverhalten -
Teil 381-6: Zyklisches Array-Wellenleitergitter für die
Kategorie O - Unkontrollierte Umgebung
(IEC 61753-381-6:2016)

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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 61753-381-6:2016

European foreword

The text of document 86B/3955/FDIS, future edition 1 of IEC 61753-381-6, 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 approved by CENELEC as EN 61753-381-6:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-11-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-02-09

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | | |
|------------------|------|--------------------------------|
| IEC 61300 Series | NOTE | Harmonized as EN 61300 Series. |
| IEC 61300-2-17 | NOTE | Harmonized as EN 61300-2-17. |
| IEC 61300-2-18 | NOTE | Harmonized as EN 61300-2-18. |
| IEC 61753-081-2 | NOTE | Harmonized as EN 61753-081-2. |
| IEC 61753-1 | NOTE | Harmonized as EN 61753-1. |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|---------------|-------------|
| IEC 61300-2-1 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-1: Tests - Vibration (sinusoidal) | EN 61300-2-1 | - |
| IEC 61300-2-4 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention | - | - |
| IEC 61300-2-5 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-5: Tests - Torsion | EN 61300-2-5 | - |
| IEC 61300-2-9 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock | EN 61300-2-9 | - |
| IEC 61300-2-14 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - High optical power | EN 61300-2-14 | - |
| IEC 61300-2-19 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-19: Tests - Damp heat (steady state) | EN 61300-2-19 | - |
| IEC 61300-2-22 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature | EN 61300-2-22 | - |
| IEC 61300-2-42 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for strain relief | EN 61300-2-42 | - |

EN 61753-381-6:2016

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|----------------|-------------|
| IEC 61300-2-44 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-44: Tests - Flexing of the strain relief of fibre optic devices | EN 61300-2-44 | - |
| IEC 61300-2-48 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-48: Tests - Temperature-humidity cycling | EN 61300-2-48 | - |
| IEC 61300-3-2 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-2: Examination and measurements - Polarization dependent loss in a single-mode fibre optic device | EN 61300-3-2 | - |
| IEC 61300-3-6 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss | EN 61300-3-6 | - |
| IEC 61300-3-20 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-20: Examinations and measurements - Directivity of fibre optic branching devices | EN 61300-3-20 | - |
| IEC 61300-3-29 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-29: Examinations and measurements - Spectral transfer characteristics of DWDM devices | EN 61300-3-29 | - |
| IEC 61300-3-32 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-32: Examinations and measurements - Polarisation mode dispersion measurement for passive optical components | EN 61300-3-32 | - |
| IEC 61300-3-38 | - | Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-38: Examinations and measurements - Group delay, chromatic dispersion and phase ripple | EN 61300-3-38 | - |
| IEC 61753-021-6 | - | Fibre optic interconnecting devices and passive components performance standard - Part 021-6: Grade B/2 single-mode fibre optic connectors for category O - Uncontrolled environment | EN 61753-021-6 | - |

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|------------------------------------|-------------|---|--------------|-------------|
| IEC 62074-1 | - | Fibre optic interconnecting devices and passive components - Fibre optic WDM devices - Part 1: Generic specification | EN 62074-1 | - |
| ITU-T Recommendation G.692 | - | Optical interfaces for multichannel systems - with optical amplifiers | | - |
| ITU-T Recommendation G.694.1 | - | Spectral grids for WDM applications: DWDM frequency grid | - | - |
| ITU-T Recommendation G.698.3 | - | Multichannel seeded DWDM applications with single-channel optical interfaces | - | - |

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IEC 61753-381-6

Edition 1.0 2016-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Performance standard –
Part 381-6: Cyclic arrayed waveguide grating – Category O (uncontrolled environment)**

**Dispositifs d'interconnexion et composants passifs à fibres optiques – Norme de performance –
Partie 381-6: Réseau sélectif planaire cyclique – Catégorie O (environnement non contrôlé)**





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IEC 61753-381-6

Edition 1.0 2016-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Performance standard –
Part 381-6: Cyclic arrayed waveguide grating – Category O (uncontrolled environment)**

**Dispositifs d'interconnexion et composants passifs à fibres optiques – Norme de performance –
Partie 381-6: Réseau sélectif planaire cyclique – Catégorie O (environnement non contrôlé)**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
PERFORMANCE STANDARD –**
**Part 381-6: Cyclic arrayed waveguide grating –
Category O (uncontrolled environment)**

FOREWORD

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International Standard IEC 61753-381-6 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/3955/FDIS | 86B/3970/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.

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A list of all parts in the IEC 61753 series, published under the general title *Fibre optic interconnecting devices and passive components – Performance standard*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 381-6: Cyclic arrayed waveguide grating – Category O (uncontrolled environment)

1 Scope

This part of IEC 61753 contains the minimum initial test and measurement requirements and severities which a Gaussian-passband-profile cyclic arrayed waveguide grating (AWG) for single bidirectional transmission systems satisfies in order to be categorised as meeting the requirements of IEC 61753-1 for category O (uncontrolled environment). This standard pertains to wavelength division multiplexing (WDM) network with multiple spectral-band usage. This standard covers the requirements of cyclic AWG devices with free spectral range (FSR) characteristics to ensure multiple spectral bands transmission performance. The requirement covers devices with single-mode non-connectorized pigtails and no electric circuit board.

2 Normative references

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

IEC 61300-2-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-1: Tests – Vibration (sinusoidal)*

IEC 61300-2-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-4: Tests – Fibre/cable retention*

IEC 61300-2-5, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-5: Tests – Torsion*

IEC 61300-2-9, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-9: Tests – Shock*

IEC 61300-2-14, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-14: Tests – High optical power*

IEC 61300-2-19, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-19: Tests – Damp heat (steady state)*

IEC 61300-2-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-22: Tests – Change of temperature*

IEC 61300-2-42, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-42: Tests – Static side load for strain relief*

IEC 61300-2-44, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-44: Tests – Flexing of the strain relief of fibre optic devices*

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