

<b>STN</b>	<b>Súpravy konektorov a komponenty prepojenia používané v komunikačných systémoch z optických vlákien Špecifikácie výrobku</b> <b>Časť 14-1: Simplexné a duplexné káble vyrobené so simplex vidlicami s cylindrovými ferulami podľa EN 60793-2-50 s použitím jednovidového vlákna B-652 alebo B-657 pre kategóriu C podľa EN 61753-1</b>	<b>STN EN 50377-14-1</b>  35 9242
------------	---	---

Connector sets and interconnect components to be used in optical fibre communication systems - Product specifications Part 14-1: Simplex and duplex cords made from simplex plugs with cylindrical ferrules, using EN 60793-2-50 single-mode B-652 or B-657 fibre for Category C according to EN 61753-1

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/21

Obsahuje: EN 50377-14-1:2021

Oznámením tejto normy sa od 09.08.2022 ruší  
STN EN 50377-14-1 (35 9242) z januára 2019

EUROPEAN STANDARD

**EN 50377-14-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2021

ICS 33.180.20

Supersedes EN 50377-14-1:2018 and all of its amendments and corrigenda (if any)

English Version

**Connector sets and interconnect components to be used in optical fibre communication systems - Product specifications  
Part 14-1: Simplex and duplex cords made from simplex plugs with cylindrical ferrules, using EN 60793-2-50 single-mode B-652 ou B-657 fibre for Category C according to EN 61753-1**

Jeux de connecteurs et composants d'interconnexion à utiliser dans les systèmes de communication par fibres optiques - Spécifications de produit - Partie 14-1: Cordons simplex et duplex constitués de fiches simplex avec férules cylindriques, utilisant les fibres unimodales B-652 ou B-657 de l'EN 60793-2-50 pour la catégorie C conformément à l'EN 61753-1

Steckverbindersätze und Verbindungsbaulemente für Lichtwellenleiter-Datenübertragungssysteme - Produktnormen - Teil 14-1: Simplex- und Duplex-Kabel mit Simplex-Steckverbindern mit zylindrischen Ferrulen mit Einmodenfasern der Kategorie B1 oder B6 nach EN 60793-2-50 für Kategorie C nach EN 61753-1

This European Standard was approved by CENELEC on 2021-08-09. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN 50377-14-1:2021 (E)**

<b>Contents</b>		<b>Page</b>
<b>European foreword</b> .....		<b>3</b>
<b>1</b>	<b>Scope</b> .....	<b>5</b>
<b>1.1</b>	<b>Product definition</b> .....	<b>5</b>
<b>1.2</b>	<b>Intermateability of the plugs</b> .....	<b>5</b>
<b>1.3</b>	<b>Operating environment</b> .....	<b>5</b>
<b>1.4</b>	<b>Reliability</b> .....	<b>5</b>
<b>1.5</b>	<b>Quality assurance</b> .....	<b>5</b>
<b>2</b>	<b>Normative references</b> .....	<b>5</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>6</b>
<b>4</b>	<b>Description</b> .....	<b>7</b>
<b>4.1</b>	<b>General</b> .....	<b>7</b>
<b>4.2</b>	<b>Plug</b> .....	<b>7</b>
<b>4.3</b>	<b>Fibre</b> .....	<b>7</b>
<b>4.4</b>	<b>Cable</b> .....	<b>7</b>
<b>4.5</b>	<b>Materials</b> .....	<b>7</b>
<b>4.6</b>	<b>Marking</b> .....	<b>7</b>
<b>5</b>	<b>Variants</b> .....	<b>7</b>
<b>6</b>	<b>Dimensional requirements - Outline dimensions</b> .....	<b>9</b>
<b>7</b>	<b>Tests</b> .....	<b>9</b>
<b>7.1</b>	<b>Sample size</b> .....	<b>9</b>
<b>7.2</b>	<b>Test and measurement methods</b> .....	<b>9</b>
<b>7.3</b>	<b>Test sequence</b> .....	<b>9</b>
<b>7.4</b>	<b>Pass/fail criteria</b> .....	<b>10</b>
<b>8</b>	<b>Test report</b> .....	<b>10</b>
<b>9</b>	<b>Product qualification requirements</b> .....	<b>10</b>
<b>9.1</b>	<b>Dimensional and marking requirements</b> .....	<b>10</b>
<b>9.2</b>	<b>Optical performance requirements</b> .....	<b>10</b>
<b>9.3</b>	<b>Fibre optic connector end face</b> .....	<b>11</b>
<b>9.4</b>	<b>Mechanical performance requirements</b> .....	<b>12</b>
<b>9.5</b>	<b>Environmental performance requirements</b> .....	<b>14</b>
<b>Annex A (normative) Tests, sample size and product sourcing requirements</b> .....		<b>15</b>
<b>Bibliography</b> .....		<b>16</b>

## European foreword

This document (EN 50377-14-1:2021) has been prepared by CLC/TC 86BXA “*Fibre optic interconnect, passive and connectorised components*”.

The following dates are fixed:

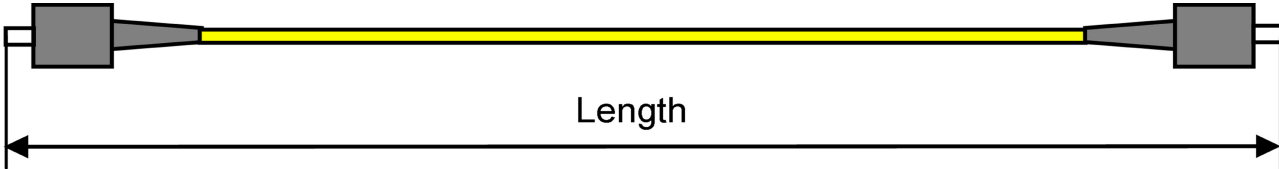
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-08-09
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2022-08-09

This document supersedes EN 50377-14-1:2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

## EN 50377-14-1:2021 (E)

<b>Connector sets and interconnect components to be used in optical fibre communication systems – product specifications</b>			
<b>Part 14–1: Simplex and duplex cords made from simplex plugs with cylindrical ferrules, using EN 60793-2-50 single-mode B-652 or B-657 fibre for Category C according to EN IEC 61753-1</b>			
<b>Description</b>		<b>Performance</b>	
<b>Fibre category:</b>	EN 60793-2-50 Types B-652 and B-657	<b>Application:</b>	For use indoors (EN Category C: controlled environment)
<b>Cable type:</b>	EN 60794-2-50 EN 60794-2-51	<b>Attenuation grades: (random mate)</b>	B: $\leq 0,12$ dB mean $\leq 0,25$ dB for $\geq 97$ % of measurements C: $\leq 0,25$ dB mean $\leq 0,50$ dB for $\geq 97$ % of measurements
		<b>Return loss grade: (random mate)</b>	1: $\geq 60$ dB 2: $\geq 45$ dB
<b>Related documents:</b>			
EN 50377 series	Connector sets and interconnect components to be used in optical fibre communication systems – Product specifications		
EN 60793-2-50	Optical fibres – Part 2–50: Product specifications – Sectional specification for category B single-mode fibres (IEC 60793-2-50)		
EN 60794-2-50	Optical fibre cables – Part 2–50: Indoor cables – Family specification for simplex and duplex cables for use in terminated cable assemblies (IEC 60794-2-50)		
EN 60794-2-51	Optical fibre cables – Part 2–51: Indoor cables - Detail specification for simplex and duplex cables for use in cords for controlled environment		
EN 61300 series	Fibre optic interconnecting devices and passive components – Basic test and measurement procedures (IEC 61300 series)		
EN IEC 61753-1	Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards (IEC 61753-1)		
<b>Outline and maximum dimensions:</b>			
			

## 1 Scope

### 1.1 Product definition

This document contains the initial, start of life, dimensional, optical, mechanical and environmental performance requirements that an assembled single mode cord with cylindrical ferruled connectors will meet in order for it to be categorized as an EN standard product.

Since different variants and grades of performance are permitted, product marking details are given in 4.5 and Clause 5.

### 1.2 Intermateability of the plugs

Where the products conforming to the requirements of this document are intermateable, the resulting level of random attenuation performance will be in accordance with Table 1. The intention is that this will be true irrespective of the manufacturing source(s) of the product.

When intermating plug variants having different attenuation grades (as specified in EN 61755-1) the resulting level of attenuation cannot be any better than the worst attenuation grade of the individual plugs.

Intermating a grade C plug with a grade B plug will result in a grade C level of random attenuation performance.

**Table 1 — Attenuation grade matrix**

Plug 1 grade	Plug 2 grade	Ensured attenuation grade
B	B	B
C	C	C
B	C	C
C	B	C

### 1.3 Operating environment

The tests selected, combined with the severities and durations, are representative of an EN IEC 61753-1 Category C environment.

### 1.4 Reliability

Whilst the anticipated service life expectancy of the product in this environment is 20 years, compliance with this standard does not guarantee the reliability of the product. This is predicted using a recognized reliability assessment program.

### 1.5 Quality assurance

Compliance with this standard does not guarantee the manufacturing consistency of the product. This is expected to be maintained using a recognized quality assurance program.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 50377 (series), *Connector sets and interconnect components to be used in optical fibre communication systems – Product specifications*

EN 60793-2-50, *Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres (IEC 60793-2-50)*

EN 60794-2-50, *Optical fibre cables - Part 2-50: Indoor cables - Family specification for simplex and duplex cables for use in terminated cable assemblies (IEC 60794-2-50)*

**EN 50377-14-1:2021 (E)**

EN 60794-2-51, *Optical fibre cables - Part 2-51: Indoor cables - Detail specification for simplex and duplex cables for use in cords for controlled environment (IEC 60794-2-51)*

EN IEC 61300-2-4, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre or cable retention (IEC 61300-2-4)*

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

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

EN 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 61300-2-42)*

EN 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 (IEC 61300-2-44)*

EN 61300-3-3, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-3: Examinations and measurements - Active monitoring of changes in attenuation and return loss (IEC 61300-3-3)*

EN 61300-3-4, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-4: Examinations and measurements – Attenuation (IEC 61300-3-4)*

EN 61300-3-6, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss (IEC 61300-3-6)*

EN 61300-3-22, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-22: Examinations and measurements - Ferrule compression force (IEC 61300-3-22)*

EN 61300-3-28, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-28: Examinations and measurements - Transient loss (IEC 61300-3-28)*

EN 61300-3-34, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-34: Examinations and measurements - Attenuation of random mated connectors (IEC 61300-3-34)*

EN 61300-3-47, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-47: Examinations and measurements - End face geometry of PC/APC spherically polished ferrules using interferometry (IEC 61300-3-47)*

EN IEC 61753-1, *Fibre optic interconnecting devices and passive components - Performance standard - Part 1: General and guidance (IEC 61753-1)*

EN 61755-1, *Fibre optic connector optical interfaces - Part 1: Optical interfaces for single mode non-dispersion shifted fibres - General and guidance (IEC 61755-1)*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**