



# SLOVENSKI STANDARD

## SIST EN 50551-1:2019

01-junij-2019

Nadomešča:  
SIST EN 50551-1:2011

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### Simpleksni in dupleksni kabli za zaključene kableske sestave - 1. del: Okvirna podrobna specifikacija in minimalne zahteve

Simplex and duplex cables for use in terminated cable assemblies - Part 1: Blank Detail Specification and minimum requirements

Simplex- und Duplex-Kabel, die in konfektionierten Leitungen benutzt werden – Teil 1: Vordruck für Bauartspezifikation und Mindestanforderungen

Câbles simplex et duplex utilisés dans des ensembles de câbles équipés - Partie 1: Spécification particulière cadre et exigences minimales

Ta slovenski standard je istoveten z: EN 50551-1:2019

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#### **ICS:**

33.180.10 (Optična) vlakna in kabli Fibres and cables

**SIST EN 50551-1:2019** en

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EUROPEAN STANDARD

**EN 50551-1**

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English Version

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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 50551-1:2019 (E)

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## European foreword

This document (EN 50551-1:2019) has been prepared by CLC/TC 86A "Optical fibres and optical fibre cables".

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) 2020-02-18
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2022-02-18

This document supersedes EN 50551-1:2011.

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EN 50551-1:2019 (E)

## 1 Scope

This document describes parameters that can be considered for simplex and duplex optical fibre cables for use in terminated cable assemblies or for termination with optical fibre passive components.

Product specifications may be prepared based on this blank detail specification following in particular requirements of Clauses 3 to 6.

## 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 60793-1-20, *Optical fibres - Part 1-20: Measurement methods and test procedures - Fibre geometry* (IEC 60793-1-20)

EN 60793-1-21, *Optical fibres - Part 1-21: Measurement methods and test procedures - Coating geometry* (IEC 60793-1-21)

EN 60793-1-40, *Optical fibres - Part 1-40: Measurement methods and test procedures - Attenuation* (IEC 60793-1-40)

EN 60793-1-41, *Optical fibres - Part 1-41: Measurement methods and test procedures - Bandwidth* (IEC 60793-1-41)

EN 60793-1-43, *Optical fibres - Part 1-43: Measurement methods and test procedures - Numerical aperture measurement* (IEC 60793-1-43)

EN 60793-1-44, *Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength* (IEC 60793-1-44)

EN 60793-1-45, *Optical fibres – Part 1-45: Measurement methods and test procedures – Mode field diameter* (IEC 60793-1-45)

EN 60793-1-47, *Optical fibres - Part 1-47: Measurement methods and test procedures - Macrobending loss* (IEC 60793-1-47)

EN 60793-2-10, *Optical fibres – Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres* (IEC 60793-2-10)

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

EN 60794-1-1, *Optical fibre cables – Part 1-1: Generic specification – General* (IEC 60794-1-1)

EN 60794-1-20, *Optical fibre cables – Part 1-20: Generic specification – Basic optical cable test procedures - General and Definitions* (IEC 60794-1-20)

EN 60794-1-21, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical test methods* (IEC 60794-1-21)

EN 60794-1-22, *Optical fibre cables - Part 1-22: Generic specification - Basic optical cable test procedures - Environmental test methods* (IEC 60794-1-22)

EN 60794-1-23, *Optical fibre cables - Part 1-23: Generic specification - Basic optical cable test procedures – Cable element test methods* (IEC 60794-1-23)

EN 60794-2, *Optical fibre cables – Part 2: Indoor cables – Sectional specification ((IEC 60794-2)*

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 60811-1-1, *Insulating and sheathing materials of electric and optical cables – Common test methods – Part 1-1: General application – Measurement of thickness and overall dimensions – Tests for determining the mechanical properties (IEC 60811-1-1)*

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)*

### 3 Cable Description

(1) Prepared by:		(2) Document No: Issue: Date :
(3) Available from:	(4) Generic Specification Sectional Specification Family Specification Product Specification	: EN 60794-1-1 and EN 60794-1-20, 21, 22, 23, 24 : EN 60794-2 EN 60794-2-50 EN 60794-2-51
(5) Additional references:		
(6) Cable description: <a href="https://standards.iteh.ai/catalog/standards/sist/fd1713847-5546-483c-9328-c312be2ee28b/sist-en-50551-1-2019">SIST EN 50551-1:2019 https://standards.iteh.ai/catalog/standards/sist/fd1713847-5546-483c-9328-c312be2ee28b/sist-en-50551-1-2019</a>		
(7) Cable construction: <a href="https://standards.iteh.ai/catalog/standards/sist/fd1713847-5546-483c-9328-c312be2ee28b/sist-en-50551-1-2019">SIST EN 50551-1:2019 https://standards.iteh.ai/catalog/standards/sist/fd1713847-5546-483c-9328-c312be2ee28b/sist-en-50551-1-2019</a>		
<u>Optical fibres</u>		
<u>Fibre count</u>		
<u>Construction</u>		
<ul style="list-style-type: none"> <li>- Tight, semi-tight or loose secondary coating</li> <li>- Strength elements – non metallic</li> <li>- Strength elements – metallic</li> </ul>		
<u>Lay-up</u>		
Buffer		
<ul style="list-style-type: none"> <li>- Material</li> <li>- Nominal outer diameter</li> </ul>		
Sheath		
<ul style="list-style-type: none"> <li>- Material</li> <li>- Maximum diameter</li> <li>- Nominal thickness</li> <li>- Thickness tolerances</li> <li>- Colour</li> </ul>		
Additional armouring (if required)		
<ul style="list-style-type: none"> <li>- Non-metallic armouring</li> </ul>		

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- Metallic armouring <u>Marking identification</u> - Customer requirement	
(8) Application information:	
Application (work area cord, equipment cord, patchcord, etc.) Maximum tensile load operation	N
Maximum tensile load installation	N
Maximum crush load operation	Cycles
Maximum crush load installation	N
Number of repeated bending Minimum bending radius for operation	N
Minimum bending radius for installation Temperature range:	mm mm
- Transport and storage	°C
- Installation	°C
- Operation Delivery cable length	°C
- Length tolerance	m in %
Fire performance	

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## 4 Optical fibres

### 4.1 Category A1a through A1b multimode optical fibres

(9a) Characteristics	Family specification	Requirements	Test method	Remarks
Uncabled optical fibre	EN 60793-2-10, A1a.1, A1a.2, A1a.3, A1a.4, A1b			
Attenuation coefficient (cabled fibres) - at 850 nm - at 1 300 nm			EN 60793-1-40	
Minimal modal bandwidth (uncabled fibres) - at 850 nm - at 1 300 nm			EN 60793-1-41	
Numerical aperture			EN 60793-1-43	
Macro bending loss			EN 60793-1-47	
Core/cladding concentricity			EN 60793-1-20	
Core non-circularity			EN 60793-1-20	
Cladding non-circularity	<a href="https://standards.iteh.ai/catalog/standards/sist/fd713847-5546-483c-9328-c312be2ee28b/sist-en-50551-1-2019">https://standards.iteh.ai/catalog/standards/sist/fd713847-5546-483c-9328-c312be2ee28b/sist-en-50551-1-2019</a>		EN 60793-1-20	
Core diameter			EN 60793-1-20	
Core diameter tolerance			EN 60793-1-20	
Cladding diameter			EN 60793-1-20	
Cladding diameter tolerance			EN 60793-1-20	