

This document is a preview generated by EVS

Aerospace series - Elements of electrical and optical connection - Test methods - Part 100: General

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 2591-100:2018 sisaldab Euroopa standardi EN 2591-100:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 2591-100:2018 consists of the English text of the European standard EN 2591-100:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.08.2018.	Date of Availability of the European standard is 15.08.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 49.060, 49.090

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 2591-100

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2018

ICS 49.060; 49.090

Supersedes EN 2591-100:2005

English Version

Aerospace series - Elements of electrical and optical connection - Test methods - Part 100: General

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 100 : Généralités

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 100: Allgemeines

This European Standard was approved by CEN on 24 December 2017.

CEN 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 CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Contents		Page
European foreword		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	5
4	Standard test conditions	8
5	Test main requirements	9
5.1	Fibre end preparation	9
5.2	Light Launch System (LLS)	13
6	List of test methods	20
7	Test report	25

European foreword

This document (EN 2591-100:2018) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2019, and conflicting national standards shall be withdrawn at the latest by February 2019.

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

This document supersedes EN 2591-100:2005.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

1 Scope

This European Standard specifies the general requirements for the methods of testing elements of electrical, optical and data transmission system connections used in aerospace applications.

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 2083, *Aerospace series — Copper or copper alloy conductors for electrical cables — Product standard*

EN 2084, *Aerospace series — Cables, electrical, general purpose, with conductors in copper or copper alloy — Technical specification*

EN 2234, *Aerospace series — Cable, electrical, fire resistant — Technical specification*

EN 2346, *Aerospace series — Fire resistant electrical cables — Dimensions, conductor resistance and mass*¹⁾

EN 2591 (all parts), *Aerospace series — Elements of electrical and optical connection — Test methods*

EN 3745-201, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 201: Visual examination*

EN 4641-100, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 100: Tight structure 62,5/125 µm core GI fibre 1,8 mm outside diameter — Product standard*

EN 60512-1, *Connectors for electronic equipment — Tests and measurements — Part 1: General (IEC 60512-1:2001)*

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

EN 60793-1-45, *Optical fibres — Part 1-45: Measurement methods and test procedures — Mode field diameter*

TR 4257, *Aerospace series — Elements of electrical and optical connection — Relationship between the numbering systems for parts of EN 2591*²⁾

IEC 60050-581, *International Electrotechnical Vocabulary — Part 581: Electromechanical components for electronic equipment*³⁾

1) Published as ASD-STAN Prestandard at the date of publication of this standard. (<http://www.asd-stan.org/>)

2) Published as ASD-STAN Technical Report at the date of publication of this standard. (<http://www.asd-stan.org/>)

3) Published by: IEC Commission Electrotechnique Internationale <http://www.iec.ch/>

IEC 61300-3-35, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 3-35: Examinations and measurements — Visual inspection of fibre optic connectors and fibre-stub transceivers*³⁾

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-581 and EN 60512-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

element of electrical or optical connection⁴⁾

component such as connector, module, etc., the purpose of which is to ensure the connection of circuits

3.2

flight cover (or protective cover)

accessory designed to ensure, in flight, mechanical protection and sealing of front face of a non-coupled connector

3.3

connector with built-in protection of contacts

connector with characteristics such that male or female contacts, mounted in a plug or receptacle, cannot come into contact with the front of the connector to which it is coupled (scoop-proof) and in which, in the event of accidental coupling of two parts or the connector equipped with male contacts, no electrical contact can take place

3.4

contact pressure point

point at which a square ended gauge pin of the same basic diameter as the mating contact first engages the female contact spring member

3.5

initial measurement

examination or measurement of characteristics carried out to determine the magnitude of the variations produced by the stress or stresses applied

This examination or measurement is carried out at the end of pre-conditioning and under normal atmospheric conditions for measuring.

3.6

final measurement

examination or measurement of characteristics carried out at the end of the recovery to assess the condition of the specimen after testing and to determine the magnitude of the variations in characteristics in relation to the values recorded at initial measuring

4) In test standards the term "element of connection" shall be used.