

STN	Letectvo a kozmonautika Prvky elektrických a optických spojení Skúšobné metódy Časť 403: Sínusové a náhodné vibrácie	STN EN 2591-403 31 1810
------------	---	---

Aerospace series - Elements of electrical and optical connection - Test methods - Part 403: Sinusoidal and random vibration

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. 07/25

Obsahuje: EN 2591-403:2025

Oznámením tejto normy sa ruší
STN EN 2591-403 (31 1810) z mája 2019

140762

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii
v znení neskorších predpisov.

EUROPEAN STANDARD

EN 2591-403

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2025

ICS 49.060

Supersedes EN 2591-403:2018

English Version

Aerospace series - Elements of electrical and optical connection - Test methods - Part 403: Sinusoidal and random vibration

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 403 : Vibrations sinusoïdales et aléatoires

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 403: Sinus- und rauschförmige Schwingungen

This European Standard was approved by CEN on 2 September 2024.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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

EN 2591-403:2025 (E)

Contents	Page
European foreword	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Preparation of specimens	6
4.1 Preparation	6
4.2 Technical details – Technical specification	6
5 Method A – Sinusoidal vibration EN 60068-2-6	6
5.1 General	6
5.2 Apparatus	6
5.3 Initial measurements	6
5.4 Procedure	7
5.4.1 Endurance	7
5.4.2 Test duration	7
5.5 Preferred vibration levels	7
5.5.1 General	7
5.5.2 Level 1	7
5.5.3 Level 2	7
5.5.4 Level 3	7
6 Method B – Random vibration EN 60068-2-64	8
6.1 General	8
6.2 Apparatus	8
6.3 Initial measurements	8
6.4 Procedure	9
6.5 Preferred vibration levels	9
6.5.1 Vibration monitoring	9
6.5.2 Random vibration severity	9
6.5.3 Spectral shape and density	9
6.5.4 Test duration	12
6.6 Final measurements (if applicable)	12
7 Method C – High vibration endurance	12
7.1 Test methods	12
7.2 Test specification	13

7.3 Performance requirements	13
Bibliography	14

EN 2591-403:2025 (E)**European foreword**

This document (EN 2591-403:2025) has been prepared by ASD-STAN.

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, 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 November 2025, and conflicting national standards shall be withdrawn at the latest by November 2025.

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 2591-403:2018.

This document includes the following significant technical changes with respect to EN 2591-403:2018:

- normative references updated;
- scope: dated reference in Clause 5.4.1 and Clause 6.4 updated.

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

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies a method of determining the ability of elements of connection to withstand sinusoidal or random vibrations of specified severities.

It is used together with EN 2591-100.

This test is based on EN 60068-2-6 and EN 60068-2-64.

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 2591-101, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 101: Visual examination*

EN 2591-201, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 201: Contact resistance, low level*

EN 2591-202, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 202: Contact resistance at rated current*

EN 2591-204, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 204: Discontinuity of contacts in the microsecond range*

EN 2591-408, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 408: Mating and unmating forces*

EN 60068-2-6:2008, *Environmental testing — Part 2-6: Tests — Test Fc: Vibration (sinusoidal) (IEC 60068-2-6:2007)*

EN 60068-2-64:2008,¹ *Environmental testing — Part 2-64: Tests — Test Fh: Vibration, broadband random and guidance (IEC 60068-2-64:2008)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

¹ As impacted by EN 60068-2-64:2008/A1:2019.