



SLOVENSKI STANDARD
SIST EN 2591-320:2001
01-januar-2001

Aerospace series - Elements of electrical and optical connection - Test methods - Part 320: Simulated solar radiation at ground level

Aerospace series - Elements of electrical and optical connection - Test methods - Part 320: Simulated solar radiation at ground level

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 320: Künstliche Sonnenbestrahlung am Boden

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 320: Rayonnement solaire artificiel au niveau du sol

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Ta slovenski standard je istoveten z: EN 2591-320:1997

ICS:

49.060 Štejni in optični elementi za povezavo električnih in optičnih sistemov v letalski in vesoljski opremi in sistemih
Aerospace electric equipment and systems

SIST EN 2591-320:2001

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EUROPEAN STANDARD
 NORME EUROPÉENNE
 EUROPÄISCHE NORM

EN 2591-320

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Descriptors: aircraft industry, aircraft equipment, connecting equipment, test

English version

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 - Test methods - Part 320: Simulated solar radiation at ground
 level

Série aérospatiale - Organes de connexion électrique et
 optique - Méthodes d'essais - Partie 320: Rayonnement
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Luft- und Raumfahrt - Elektrische und optische
 Verbindungselemente - Prüfverfahren - Teil 320: Künstliche
 Sonnenbestrahlung am Boden

This European Standard was approved by CEN on 22 June 1997.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries 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 AECMA, prior to its presentation to CEN.

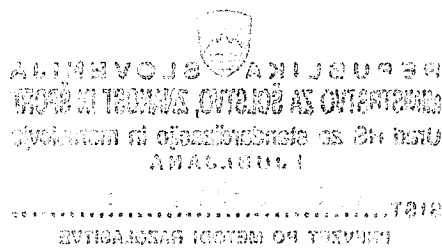
This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This standard specifies a method of determining the effects of simulated solar radiation on elements of connection at ground level.

It shall be used together with EN 2591.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 2591	Aerospace series - Elements of electrical and optical connection - Test methods - General
EN 2591-101	Aerospace series - Elements of electrical and optical connection - Test methods - Part 101: Visual examination
EN 2591-206	Aerospace series - Elements of electrical and optical connection - Test methods - Part 206: Measurement of insulation resistance
EN 2591-207	Aerospace series - Elements of electrical and optical connection - Test methods - Part 207: Voltage proof test

3 Preparation of specimens

[SIST EN 2591-320:2001](https://standards.iteh.ai/catalog/standards/sist/017f3061-64c7-4e08-9015-7826e30b4e5c/sist-en-2591-320-2001)

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3.1 Specimens shall be prepared according to the technical specification. The test shall be carried out on unmated specimens.

3.2 Unless specified in the technical specification, the following details shall be stated:

- mounting method, type of cable and definition of specimen wiring;
- orientation of specimens with respect to the radiation source;
- air flow rate;
- humidity rate;
- initial measurements and requirements (if applicable);
- method according to EN 2591-206 and insulation resistance value;
- method according to EN 2591-207 and voltage value;
- final measurement.

4 Apparatus

Suitable precautions shall be taken for personnel protection throughout the test.

4.1 Test chamber

It shall be capable of producing an irradiance of $(1,12 \pm 0,10)$ kW/m².

The surface of the radiating source shall be a minimum of 125 % of the specimens projected surface to ensure irradiation of the entire exposed surface of the specimen.

The irradiance value shall include any radiation reflected from the test chamber and received by the specimens. It shall not include infrared radiation with a wavelength greater than 3 μ m emitted by the test chamber.

The test chamber shall be capable of maintaining the specified conditions of temperature, air flow and humidity.

The temperature within the test chamber shall be measured (with adequate shielding from radiated heat) at a point or points in a horizontal plane 0 mm to 50 mm below the prescribed irradiation measurement plane.

This measurement shall be carried out at half the distance between the specimen and the chamber walls or at 1 m from the specimen, when this distance is smaller.

4.2 Irradiance

The irradiance shall have the spectral energy distribution shown in the table 1.

Table 1

Spectral region	Ultraviolet B	Ultraviolet A	Visible		Infrared	
Bandwidth	0,28 μ m to 0,32 μ m	0,32 μ m to 0,40 μ m	0,40 μ m to 0,52 μ m	0,52 μ m to 0,64 μ m	0,64 μ m to 0,78 μ m	0,78 μ m to 3,00 μ m
Irradiance	5 W/m ² \pm 35 %	63 W/m ² \pm 25 %	200 W/m ² \pm 10 %	186 W/m ² \pm 10 %	174 W/m ² \pm 10 %	492 W/m ² \pm 20 %

The spectral distribution shall be checked before and after each test.

4.3 Test setup

The specimens shall be installed in a test setup of known thermal conductivity.

They shall be spaced from other specimens to avoid shielding effects and shall be orientated as specified.

5 Method

5.1 Initial measurements and requirements (if applicable)

They shall be carried out as specified.

5.2 Procedure

The specimens shall be exposed for 16 d to the irradiation.

The temperature within the test chamber shall be maintained at (55 ± 2) °C.

On completion of exposure, the specimens shall be mated and submitted to tests EN 2591-206 and EN 2591-207, the temperature being maintained at (55 ± 2) °C.

5.3 Final measurement

At the end of the test, the specimens shall be tested to EN 2591-101.