



SLOVENSKI STANDARD
SIST EN 2591-304:2001

01-januar-2001

Aerospace series - Elements of electrical and optical connection - Test methods - Part 304: Damp heat steady state

Aerospace series - Elements of electrical and optical connection - Test methods - Part 304: Damp heat steady state

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 304: Dauerprüfung bei feuchter Wärme

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 304: Essai continu de chaleur humide

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Ta slovenski standard je istoveten z: EN 2591-304:1997

ICS:

49.060 Štejni sistemi in oprema za letalstvo in zrakoplovstvo
Aerospace electric equipment and systems

SIST EN 2591-304:2001

en

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EUROPEAN STANDARD

EN 2591-304

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 1997

ICS 49.060

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

English version

Aerospace series - Elements of electrical and optical connection - Test methods - Part 304: Damp heat steady state

Série aérospatiale - Organes de connexion électrique et
optique - Méthodes d'essais - Partie 304: Essai continu de
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Verbindungselemente - Prüfverfahren - Teil 304:
Dauerprüfung bei feuchter Wärme

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.

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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.

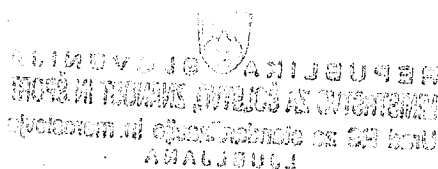
This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

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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.....VOIC
BY THE NATIONAL ASSOCIATION OF MANUFACTURERS



1 Scope

This standard specifies a method of assessing the ability of elements of connection to be stored and to function under conditions of steady state damp heat.

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 2591-201	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 2591-206	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
EN 2591-408	Aerospace series - Elements of electrical and optical connection - Test methods - Part 408: Mating and unmating forces 1)

3 Preparation of specimens

3.1 Specimens shall be prepared according to the technical specification.

1) Published as AECMA Prestandard at the date of publication of this standard

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

- specimens mated or unmated (if applicable);
- mounting method and definition of specimen wiring;
- type of cable (if applicable);
- number of mating and unmating operations prior to testing (if applicable);
- type of preconditioning;
- severity (see 5.3.2);
- value of polarization voltage (if applicable);
- initial measurements (if applicable);
- measurements during the test (if applicable);
- final measurements and requirements (if applicable).

4 Apparatus

4.1 The test chamber shall be so designed that:

- the temperature and humidity of the chamber are controlled by sensing devices located where the specimens are installed;
- the temperature may be maintained at $(40 \pm 2) ^\circ\text{C}$, and the relative humidity at $(93 \begin{smallmatrix} +2 \\ -3 \end{smallmatrix}) \%$ where the specimens are installed;
- condensed water is continuously drained from the chamber and not reused until it has been purified.

When an injection-type chamber is used, the water shall have resistivity greater than 500 Ωm .

4.2 Precautions shall be taken to ensure that:

- the conditions prevailing in the locations where the specimens are installed are uniform and as similar as possible to those prevailing in the immediate vicinity of the sensing devices;
- the properties or loading of specimens do not appreciably influence conditions within the chamber;
- no condensed water from the chamber walls and roof can fall on the specimens.

5 Method

5.1 Climatic preconditioning

It shall not be less than 1 h unless otherwise specified.

5.2 Initial measurements (if applicable)

They shall be carried out as specified.

5.3 Procedure

5.3.1 The specimens shall be introduced into the test chamber in the specified condition. Care shall be taken to avoid formation of water droplets on the specimens; this may be done by pre-heating the specimens to the temperature specified for the chamber.

5.3.2 The specimens shall be subjected to one of the following severities:

- 21 d or
- 56 d.

unless otherwise specified.

5.3.3 Polarization voltage

A polarization voltage shall be continuously applied to two of the specimens during testing. Alternate contacts shall be connected together to form two groups, one including all even numbered contacts, the second all odd numbered contacts.

The test voltage shall be applied:

- on specimen No. 1: between the first group of contacts and the second group connected to the housing and/or the mounting plate;
- on specimen No. 2: between the second group of contacts and the first group connected to the housing and/or to the mounting plate.

In the case of contacts arranged in two or more rows, it may be necessary to form a second arrangement of two groups in order to apply the voltage between all adjacent contacts.

5.4 Recovery

The specimens shall be allowed to recover to initial conditions.

5.5 Final measurements and requirements (if applicable)

The specimens shall be subjected to the following test sequence immediately after recovery:

- EN 2591-206;
- EN 2591-207;
- EN 2591-201 or EN 2591-202;
- EN 2591-408;
- EN 2591-101.

When specified, a test according to EN 2591-206 shall be carried out while the specimens are still in the test chamber.

The specimens, if mated, shall not be unmated prior to the contact resistance test (EN 2591-201 or EN 2591-202).