



**SLOVENSKI STANDARD**  
**SIST EN 2591-305:2001**  
**01-januar-2001**

**Aerospace series - Elements of electrical and optical connection - Test methods - Part 305: Rapid change of temperature**

Aerospace series - Elements of electrical and optical connection - Test methods - Part 305: Rapid change of temperature

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 305: Schnelle Temperaturwechsel

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 305: Variations rapides de température

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**Ta slovenski standard je istoveten z: EN 2591-305:1997**

**ICS:**

49.060 Štejni in optični elementi za povezavo električne in optične opreme in sistemov v letalstvu

**SIST EN 2591-305:2001 en**

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EUROPEAN STANDARD

EN 2591-305

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 305: Rapid change of temperature

Série aérospatiale - Organes de connexion électrique et  
optique - Méthodes d'essais - Partie 305: Variations rapides  
de température

Luft- und Raumfahrt - Elektrische und optische  
Verbindungselemente - Prüfverfahren - Teil 305: Schnelle  
Temperaturwechsel

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.

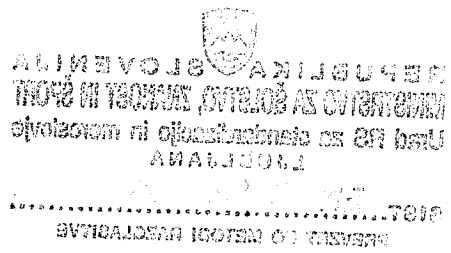
This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

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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## 1 Scope

This standard specifies a method of assessing the ability of elements of connection to withstand rapid changes of temperature.

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
EN 2591-408	Aerospace series - Elements of electrical and optical connection - Test methods - Part 408: Mating and unmating forces <sup>1)</sup>

## 3 Preparation of specimens

**3.1** Specimens shall be prepared according to the technical specification.

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

- number of mating and unmating operations prior to testing (if applicable);
- specimens mated or unmated (if applicable);
- mounting method and definition of specimen wiring;
- type of cable (if applicable);
- initial measurements (if applicable);
- severity (see 5.2.4);
- final measurements and requirements (if applicable).

## 4 Apparatus

Two chambers, one for low temperature and one for high temperature shall be provided.

The location of the chambers shall be such that the time of transfer ( $t_2$ ) of specimens from one chamber to the other is less than 1 min.

<sup>1)</sup> Published as AECMA Prestandard at the date of publication of this standard

The chambers shall be capable of maintaining the specified temperatures to  $\pm 3\%$  at those locations where the specimens are installed.

The volume of chambers shall be such that, after insertion of the specimens, the temperature shall be within the specified tolerances after a time of not more than 5 min or 10 % of the exposure time, whichever is the smaller.

Unless otherwise specified, the thermal conduction of the mounting shall be sufficiently low, so that the specimens may be considered thermally isolated.

## 5 Method

### 5.1 Initial measurements (if applicable)

They shall be carried out as specified.

### 5.2 Procedure

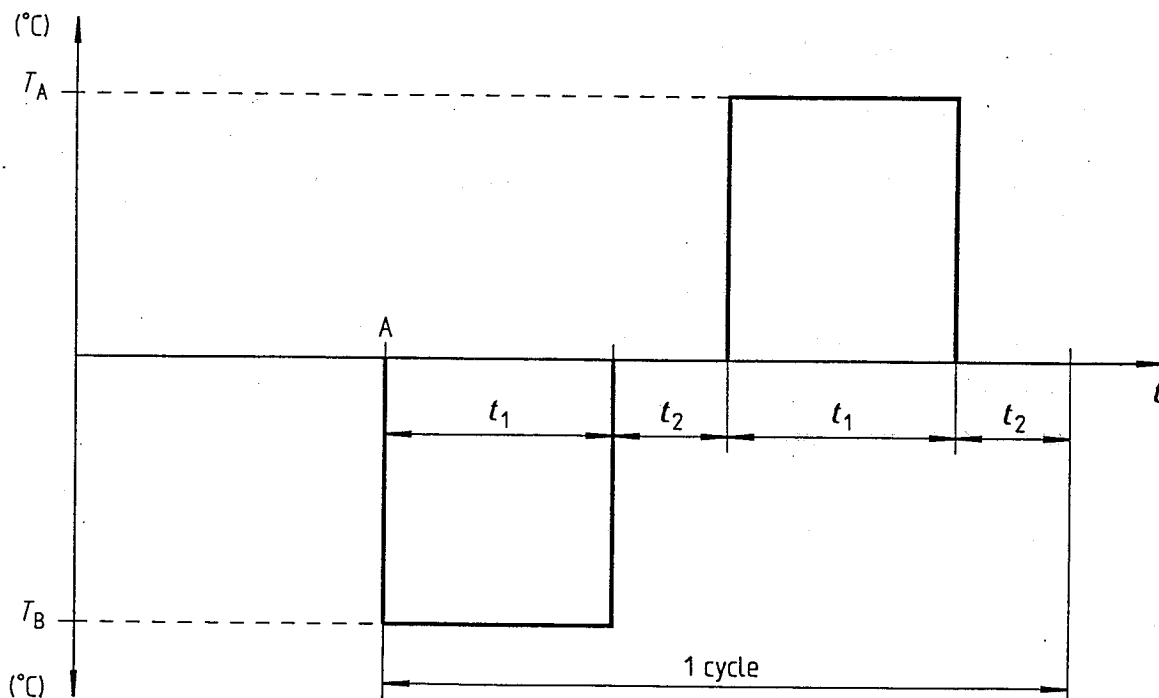
5.2.1 The severity of the test (high temperature  $T_A$ , low temperature  $T_B$ , duration  $t_1$ ) and the number of cycles shall be as specified.

5.2.2 The number of cycles shall be 10, with a possible interruption (not exceeding 24 h) after the fifth cycle, unless otherwise specified.

5.2.3 Exposure to each of the two temperatures shall be 30 min, unless otherwise specified.

5.2.4 The specimens at ambient temperature shall be subjected to the test cycle as defined in figure 1.

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A = start of first cycle

Figure 1 - Test cycle

### 5.3 Recovery

The specimens shall be allowed to recover to initial conditions.

### 5.4 Final measurements and requirements (if applicable)

The specimens shall be subjected to the following test sequence:

- EN 2591-207;
- EN 2591-206;
- EN 2591-101;
- EN 2591-408.

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