SLOVENSKI STANDARD
SIST EN 2591-202:2001

01-januar-2001

Aerospace series - Elements of electrical and optical connection - Test methods - Part 202: Contact resistance at rated current

Aerospace series - Elements of electrical and optical connection - Test methods - Part 202: Contact resistance at rated current

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 202: Kontaktwiderstand bei Nennstrom

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 202: Résistance de contact au courant nominal

Ta slovenski standard je istoveten z: **EN 2591-202:1996**

ICS:

49.060	Letalska in vesoljska elektriļ na oprema in sistemi	Aerospace electric equipment and systems

SIST EN 2591-202:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 2591-202

February 1996

ICS 49.060.00

Supersedes EN 2591-B2:1993

Descriptors: aircraft industry, aircraft equipment, connecting equipment, tests, measurements, electrical resistance, contact resistance, rated current

English version

Aerospace series - Elements of electrical and optical connection - Test methods - Part 202: Contact resistance at rated current

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 202: Résistance de contact au courant nominal

Luft-und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 202: Kontaktwiderstand bei Nennstrom

This European Standard was approved by CEN on 1993-12-16. 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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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).

The alphanumerical designation of the parts of EN 2591 has been abandoned for a numerical designation in line with the Internal Regulations of CEN/CENELEC. This European Standard is the integral reproduction of the European Standard EN 2591-B2 after application of this decision, without any other modification than the change in numbering.

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 August 1996, and conflicting national standards shall be withdrawn at the latest by August 1996.

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

1 Scope

This standard specifies a method for measuring the electrical resistance at rated current across a pair of mated contacts and their terminations.

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.

IEC 50(302) International electrotechnical vocabulary - Chapter 302 : Electrical measuring instruments

EN 2591 Aerospace series - Elements of electrical and optical connection - Test methods - General

3 Preparation of specimens

3.1 They shall be fitted with their wired contacts and mated. Unless otherwise specified by the product standard, the contacts shall not be cleaned.

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

- measuring points;
- type of cable;
- test temperature;
- current intensity;
- permissible limits of contact resistance.

4 Apparatus

The measuring instruments shall be of accuracy class 1,5 for current and 0,5 for voltage (see IEC 50(302)). A schematic diagram of the test apparatus is shown in figure 1.

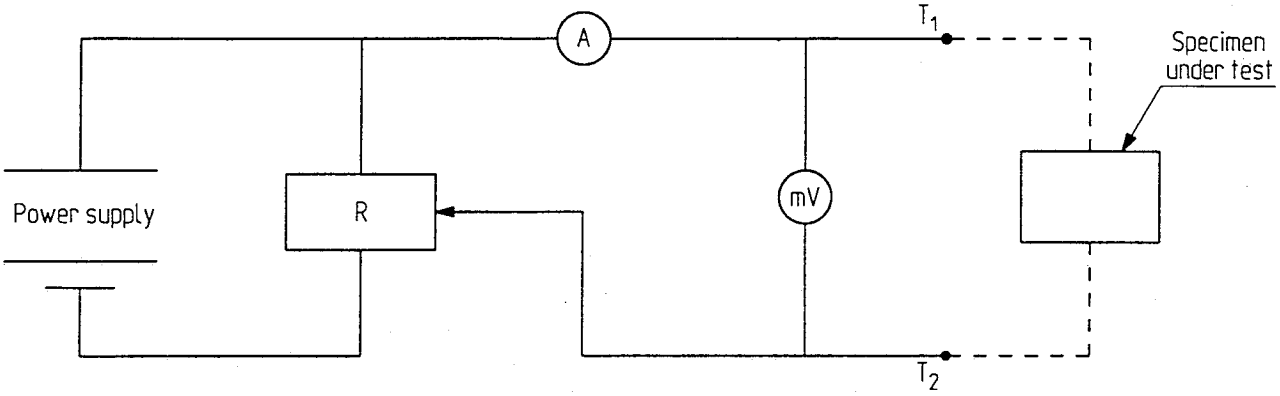

Figure 1

5 Method

5.1 Number of contacts to be measured per size

See table 1.

Table 1

Number of contacts of the same size in an element of connection : N	Minimum percentage to be measured : %
$N \leq 5$	100
$5 < N \leq 60$	50 1)
$60 < N \leq 130$	25 1)
$N > 130$	10 1)
1) The result shall, if necessary, be rounded up to the next full number.	

5.2 Procedure

Measurements shall be carried out with direct or alternating current. For a.c. measurements, the frequency shall not exceed 2 kHz. In the case of dispute, the d.c. measurements shall take precedence.

The source no-load voltage (d.c. or a.c. r.m.s. value) shall be at least 2,5 V and shall not exceed 60 V.

When measurement connection points are not directly accessible, the resistance of the cable or wire used shall be subtracted from the measured value.

The corrected value shall be recorded. In such a case, the voltage drop across the conductors shall be measured as close as possible to the contacts (see figure 2) with the same test devices and with the conductors used for wiring.

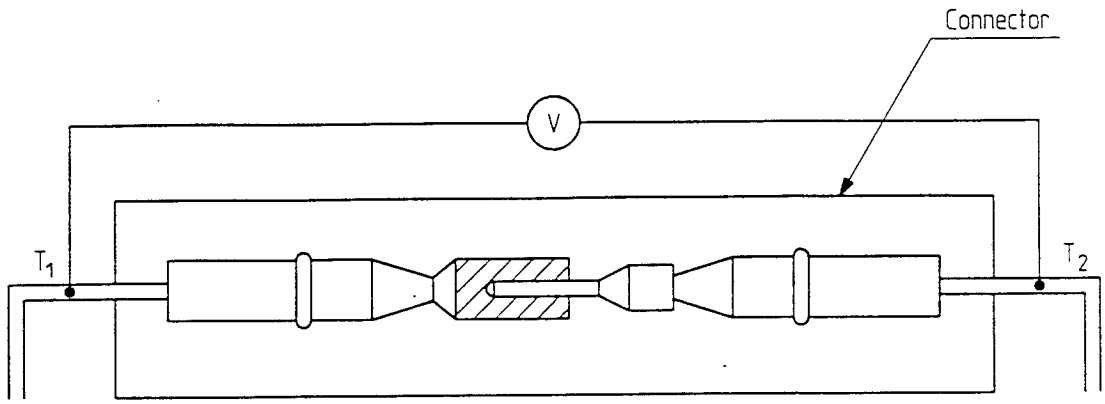

Figure 2

To avoid overheating of contacts, the voltage drop shall be measured within 5 s.

During the measurement period, the connector shall not be unmated while the measuring voltage is applied.

During measurements, care shall be taken to avoid exerting abnormal pressure on the contacts under test and to avoid movement of the test cables.

5.2.1 Measurement with direct current

Measuring cycle :

- application of the voltage;
- measurement with current flowing in one direction;
- measurement with current flowing in the opposite direction;
- voltage source switched off.

5.2.2 Measurement with alternating current

Measuring cycle :

- application of the voltage;
- measurement;
- voltage source switched off.

5.3 Requirement

The measured value shall not be greater than that specified.

For d.c. measurement, the arithmetical mean of the readings obtained in both directions of current shall be considered as the result of one measuring cycle.