



SLOVENSKI STANDARD SIST EN 2591-201:2001

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Aerospace series - Elements of electrical and optical connection - Test methods - Part 201: Contact resistance - Low level

Aerospace series - Elements of electrical and optical connection - Test methods - Part 201: Contact resistance - Low level

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 201: Kontaktwiderstand im Schwachstrombereich

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 201: Résistance de contact sous faible intensité

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Ta slovenski standard je istoveten z: EN 2591-201:1996

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

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EUROPEAN STANDARD

EN 2591-201

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 1996

ICS 49.060

Supersedes EN 2591-B1:1992

Descriptors: aerospace industry, aircraft equipment, elements of electrical and optical connection, test

English version

**Aerospace series - Elements of electrical and
optical connection - Test methods - Part 201:
Contact resistance - Low level**

Série aérospatiale - Organes de connexion
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intensité

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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.

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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-B1 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.

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1 Scope

This standard specifies a method for measuring the low level electrical resistance 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 the specimens

3.1 They shall be fitted with their wired contacts and mated.

The contacts concerned shall not have been subjected to any prior fatigue tests or heating at rated current.

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3.2 Unless indicated in the technical specification or EN 2591, the following details shall be specified:

- measuring points;
- type of cable;
- test temperature;
- 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 :

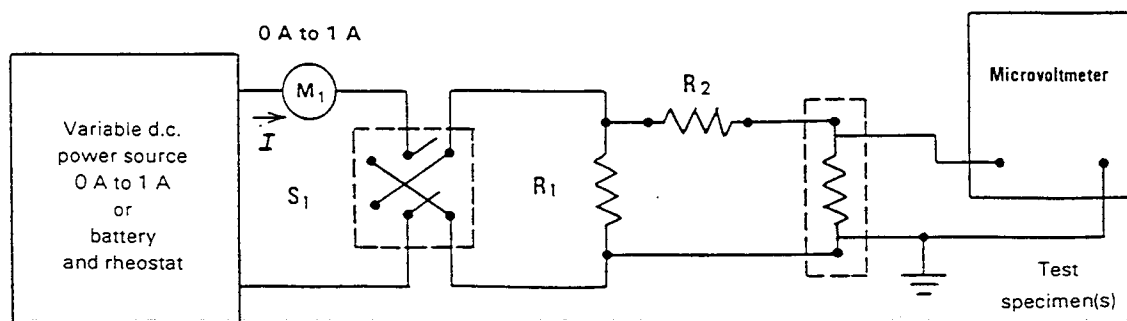


Figure 1

- I = Test direct current
- M_1 = d.c. ammeter (optional) for adjusting current to 1 A when the measuring circuit is open.
- R_1 = 0,020 W. resistor. The use of an ammeter shunt providing a 20 mV potential drop at terminals under 1 A is suggested.
- R_2 = 0,2 W min. resistor. This resistor may be used for limiting and measuring current. It may be replaced by a d.c. centre zero, 100 mA full scale, 1 % precision milliammeter. If this apparatus has a shunt resistance below 0,2 W, add an additional resistor to reach a total of min. 0,2 W.
- S_1 = Reversing switch, central position, open.

To prevent rupturing of the insulating films on the contacts, the measuring circuit e.m.f. in open circuit, shall not exceed 20 mV d.c..

The test current shall not exceed 10 mA d.c..

5 Method

5.1 Measurements shall be carried out with d.c. current in both directions.

5.2 Number of contacts to be measured per size

See table 1

Table 1
<https://standards.iteh.ai/catalog/standards/sist/153680cd-c2c7-401d-bff9-685a4f42db16/sist-en-2591-201-2001>

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 be, if necessary, raised to the next full number.

5.3 Procedure

The contact resistance shall be measured as shown in figure 2.

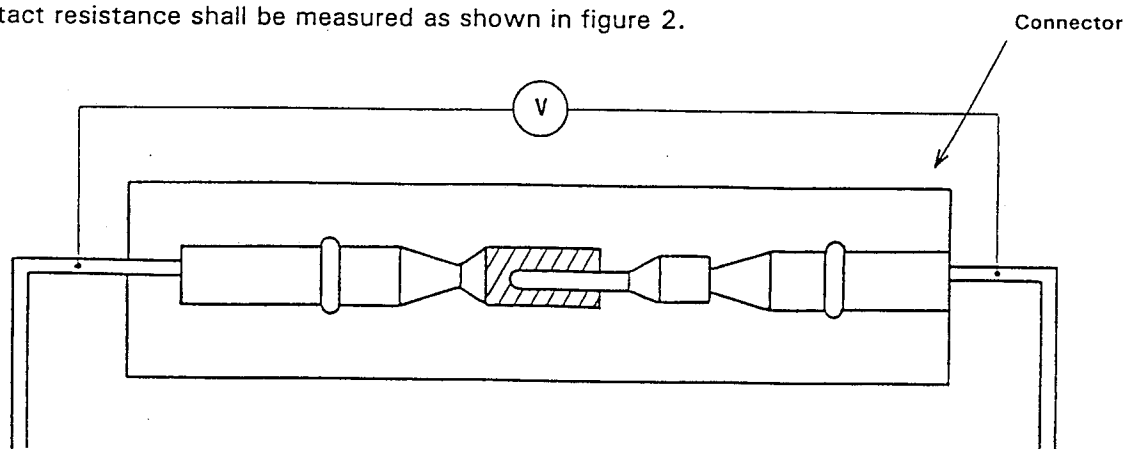


Figure 2

The specimen shall not be unmated while the measuring voltage is applied.

During the measurements, care shall be taken to avoid movement of the test cables in order to eliminate stresses on the contacts. The resistance of the cable or wire used shall be subtracted from the measured value. The corrected value shall be recorded.

The measurement shall be made three times in each direction of current.

The value retained is the average of the three cycles (i.e. six measurements).

5.4 Requirement

The mean value and the value of each measurement shall not exceed the specified value.

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