SLOVENSKI STANDARD
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Aerospace series - Elements of electrical and optical connection - Test methods - Part 401: Acceleration, steady state

Aerospace series - Elements of electrical and optical connection - Test methods - Part 401: Acceleration, steady state

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 401: Konstante Beschleunigung

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 401: Accélération constante

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English version

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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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-D1 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of an identical text or by endorsement, at the latest by August 1996, and conflicting national standards shall be withdrawn at the latest by August 1996.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 to determine the ability of an element of connection to withstand steady-state accelerations. 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 2591-204	Aerospace series - Elements of electrical and optical connection - Test methods - Part 204 : Discontinuity of contacts in the microsecond range
EN 2591-408	Aerospace series - Elements of electrical and optical connection - Test methods - Part 408 : Mating and unmating forces [1)]

3 Preparation of the specimens

3.1 They shall be fitted with their standard accessories, mounted so that all mechanical features (fixing, locking device ...) are fully used, and wired.

The test shall be carried out on mated specimens.

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

- method of mounting and wiring of the specimen;
- initial measurements and requirements;
- acceleration level;
- requirements for final measurements;
- number of directions.

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

4 Apparatus

The test shall be carried out in a centrifugal machine capable of producing the acceleration values specified. The acceleration gradient in the specimen shall not exceed 10 % of the steady-state specified value.

If the dimensions of the specimen are smaller than 100 mm, the acceleration applied at any point on the specimen shall not deviate by ± 10 % of the steady-state specified value; otherwise the acceleration is applied to the specimen mounting plane within the ± 10 % of the steady-state specified value limits.

5 Method

5.1 Initial measurements (if applicable)

Initial measurements shall be carried out in accordance with the technical specification.

5.2 Acceleration level

See table 1

Table 1

m/s²	*g* (approx.)
200	20
500	50
1 000	100
2 500	250
5 000	500

5.3 Procedure

The specimen shall be submitted to the acceleration for 5 min in each of both directions of the three tri-rectangular axes so that the total duration of the test is 30 min.

During the test, a check of the electrical discontinuity of the contacts in the microsecond range (test EN 2591-204) shall be carried out. The duration of discontinuity shall not exceed the value specified.

The specimen shall reach the acceleration value within a period of time greater than 1 min.

5.4 Final measurements (if applicable)

The specimen shall be submitted to the following tests :

- EN 2591-101 - Visual examination;
- EN 2591-408 - Mating and unmating forces;
- EN 2591-201 or 202 - Contact resistance - Low level or at rated current.