



SLOVENSKI STANDARD SIST EN 2591-420:2004

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Aerospace series - Elements of electrical and optical connection - Test methods - Part 420: Mechanical strength of rear accessories

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Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 420: Mechanische Festigkeit der rückseitigen Zubehörteile

Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 420 : Tenue mécanique des accessoires arriere

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Ta slovenski standard je istoveten z: EN 2591-420:2001

ICS:

49.060 Številni sistemi za povezavo električnih in optičnih elementov v letalski opremi in sistemih
Aerospace electric equipment and systems

SIST EN 2591-420:2004

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 2591-420

November 2001

ICS 49.060

English version

**Aerospace series - Elements of electrical and optical connection
- Test methods - Part 420: Mechanical strength of rear
accessories**

Série aérospatiale - Organes de connexion électrique et
optique - Méthodes d'essais - Partie 420: Tenue mécanique
des accessoires arrière

Luft- und Raumfahrt - Elektrische und optische
Verbindungselemente - Prüfverfahren - Teil 420:
Mechanische Festigkeit der rückseitigen Zubehörteile

This European Standard was approved by CEN on 4 June 2001.

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 Management Centre 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 Management Centre 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.

<https://standards.iteh.ai/catalog/standards/sist/d86bfaf2-012d-4ff6-8a0b-21a2ab80ffd/c/sist-en-2591-420-2004>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: 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 May 2002, and conflicting national standards shall be withdrawn at the latest by May 2002.

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.

1 Scope

This standard specifies a method of determining the mechanical strength of rear accessories used on elements of electrical and optical connection subjected to bending, tensile and torsional forces.

It shall be used together with EN 2591-100.

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 2591-100	Aerospace series – Elements of electrical and optical connection – Test methods – Part 100: General ¹⁾
EN 2591-101	Aerospace series – Elements of electrical and optical connection – Test methods – Part 101: Visual examination

3 Preparation of specimens

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

- mounting and locking of specimens;
- for phase A, bending moment; [SIST EN 2591-420:2004](https://standards.iteh.ai/catalog/standards/sist/d86bfa2-012d-4ff6-8a0b-21a2ab80ffd6/sist-en-2591-420-2004)
- for phase B, tensile force;
- for phase C, torsional moment;
- for phase D, tightening torque;
- requirements.

4 Apparatus

- Equipment for applying and measuring the bending, tensile, torsional forces and torques
- Fixture simulating the rear part of a connector

5 Method

5.1 Procedure

The mounted specimens shall be subjected to the following test sequence:

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

5.1.1 Phase A: bending test

With the specimens placed horizontally in the test fixture, bending moments shall be applied successively to the end of the accessory, see figure 1 or figure 2.

The forces F_1 and F_2 shall be increased at a rate not exceeding 20 N/s until the specified value is reached and maintained for 1 min.

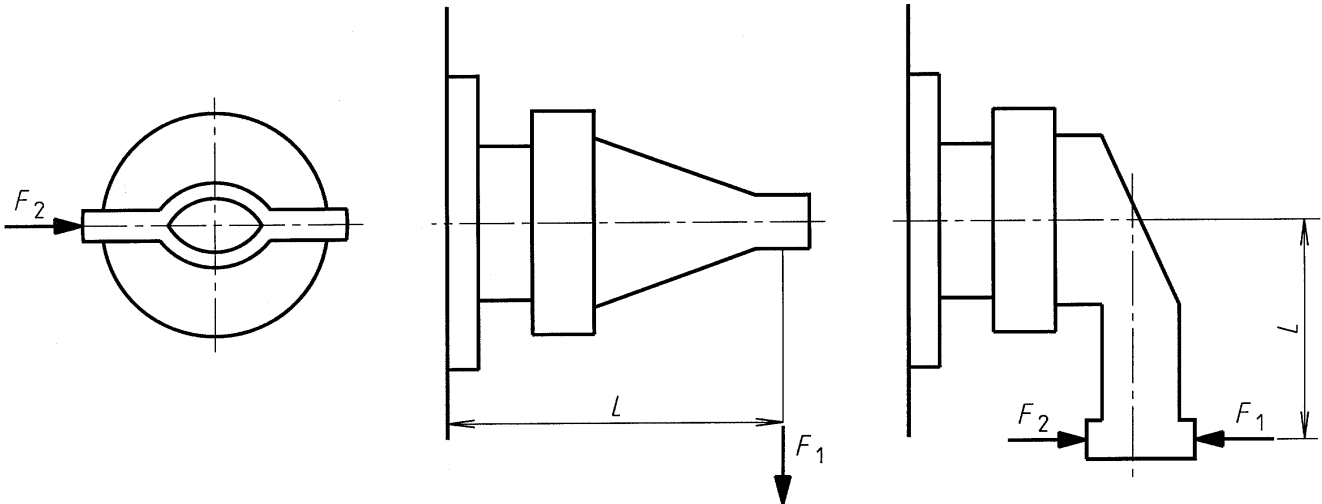


Figure 1 – Bending moment
(straight accessory)

Figure 2 – Bending moment
(90° accessory)

5.1.2 Phase B: tensile test

With the specimens placed horizontally in the test fixture, tensile force F shall be applied to the end of the accessory, see figure 3 or figure 4.

It shall be increased at a rate not exceeding 20 N/s until the specified value is reached and maintained for 1 min.

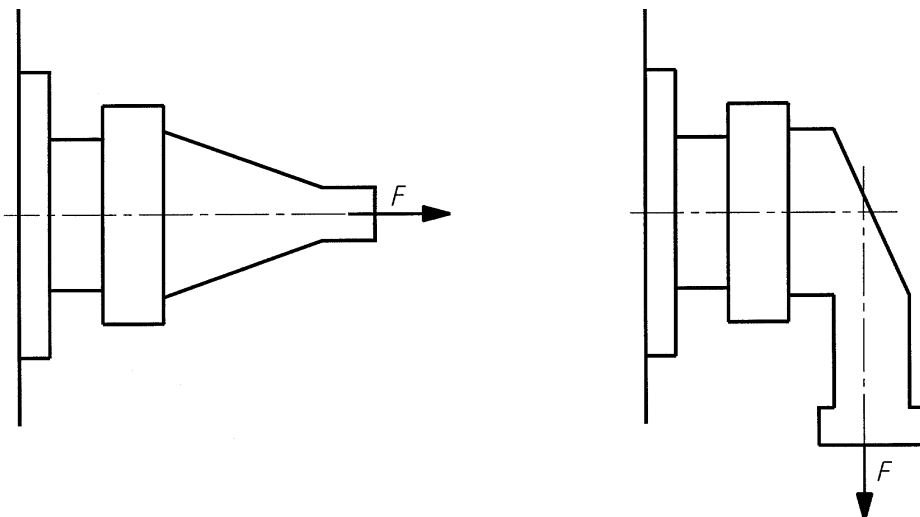


Figure 3 – Tensile force
(straight accessory)

Figure 4 – Tensile force
(90° accessory)

5.1.3 Phase C: torsion test

With the specimens placed horizontally in the test fixture, the torsional moment C shall be applied to the end of the accessory, see figure 5 or figure 6.

This force shall be increased at a rate not exceeding 20 N/s until the specified value is reached and maintained for one minute.

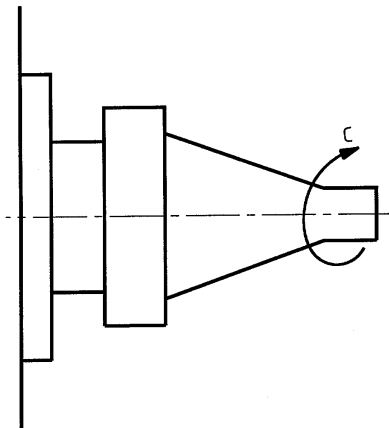


Figure 5 – Torsional moment
(straight accessory)

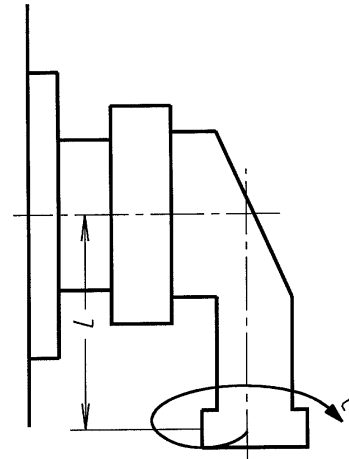


Figure 6 – Torsional moment
(90° accessory)

5.1.4 Phase D: torsion test on the mating thread

With the specimens placed in the test fixture, a torque shall be applied at a rate of $(1 \pm 0,1)$ Nm/s until the specified value is reached and maintained for one minute.

5.2 Requirements

At the end of phase D, prior to removal, there shall be no play between the accessory and the test fixture.

The untightening torque shall comply with the specified value.

After removal, the specimens shall be examined visually according to EN 2591-101. No deformation shall be observed.