



**SLOVENSKI STANDARD**  
**SIST EN 2591-312:2001**  
**01-januar-2001**

**Aerospace series - Elements of electrical and optical connection - Test methods - Part 312: Air leakage**

Aerospace series - Elements of electrical and optical connection - Test methods - Part 312: Air leakage

Luft- und Raumfahrt - Elektrische und optische Verbindungselemente - Prüfverfahren - Teil 312: Luftdichtheit

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Série aérospatiale - Organes de connexion électrique et optique - Méthodes d'essais - Partie 312: Etanchéité a l'air

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**Ta slovenski standard je istoveten z: EN 2591-312:1997**

**ICS:**

49.060 Štejni inženjerski sistemi in oprema za letalstvo in zrakoplovstvo  
 Aerospace electric equipment and systems

**SIST EN 2591-312:2001**

**en**

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EUROPEAN STANDARD

EN 2591-312

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 312: Air leakage

Série aérospatiale - Organes de connexion électrique et  
optique - Méthodes d'essais - Partie 312: Etanchéité à l'air

Luft- und Raumfahrt - Elektrische und optische  
Verbindungselemente - Prüfverfahren - Teil 312:  
Luftdichtheit

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.

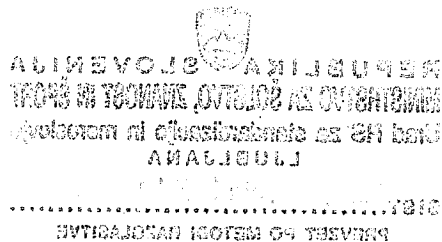
This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

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 checking air leakage of the seals at the interfaces between:

- mounting panel and receptacle;
- housing (shell) and insulator;
- insulator and contacts;
- insulator and cables;
- receptacle and plug;

of elements of connection subjected to an air pressure difference.

It shall be used together with EN 2591.

## 2 Normative reference

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

[SIST EN 2591-312:2001](https://standards.iteh.ai/catalog/standards/sist/5d546085-97e0-4076-938e-7c3cb42c6cdd/sist-en-2591-312-2001)

## 3 Preparation of specimens

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

Unless otherwise specified, 50 % of cables shall be of the minimum diameter, 50 % of the maximum diameter, evenly distributed.

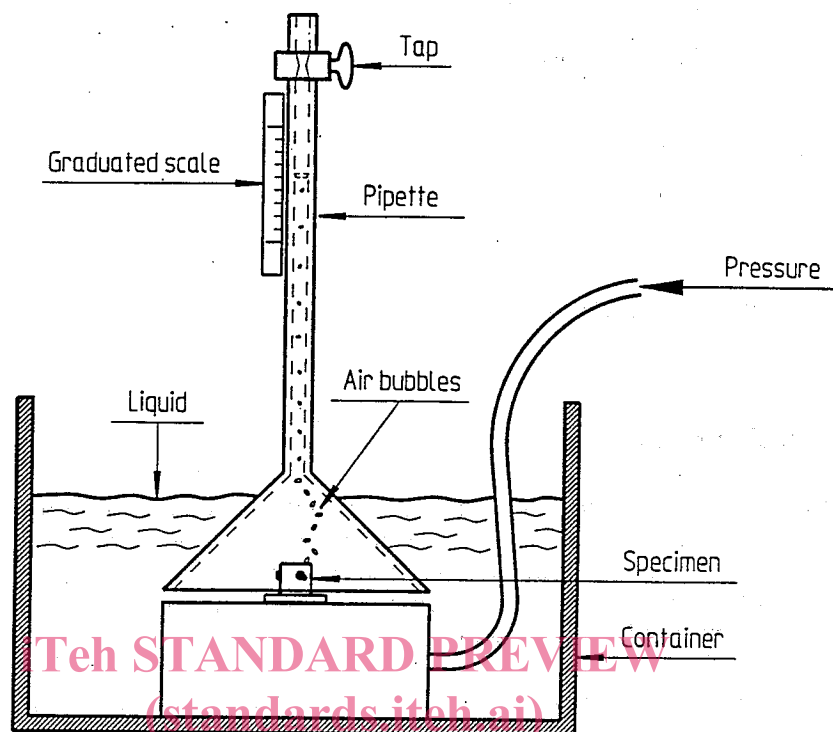
The receptacle shall be mounted on a test setup which allows pressure to be applied in either direction.

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

- mounting method, type of cable and definition of wiring of specimen;
- preconditioning: temperature and duration (if applicable);
- applicable test methods (A, B or C);
- value of pressure difference;
- maximum limit of leakage rate for each method.

## 4 Apparatus

The leakage rate shall be measured by means of an appropriate apparatus (see figure 1).



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Figure 1 - Example of test apparatus  
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## 5 Methods

### 5.1 Preconditioning (if applicable)

It shall be carried out as specified.

### 5.2 Procedure

#### 5.2.1 Method A - Leakage through sealed receptacles

The ends of the cables shall be blanked off.

The specified pressure difference shall be established between the two faces of the receptacle, for 30 min, in either direction in turn.

The leakage rate shall be measured.

NOTE: It shall be ensured that any possible leakages at the mounting of the receptacle are not taken into account in the measurement.

### 5.2.2 Method B - Leakage through and at the coupling of plugs and protective covers

The ends of the cables shall be blanked off.

The plug or protective cover shall be mated with the receptacle from which one central contact has been removed.

The specified pressure difference shall be established for 30 min between the two faces of the receptacle mounting panel in either direction in turn.

The leakage rate shall be measured.

NOTE: It shall be ensured that any possible leakages at the mounting of the receptacle are not taken into account in the measurement.

### 5.2.3 Method C - Leakage of the mounting of receptacles

Precautions shall be taken so that only the device for sealing the mounting of the receptacle is tested.

The specified pressure difference shall be established for 30 min between the two faces of the receptacle mounting panel in either direction in turn.

The leakage rate shall be measured.

## 5.3 Requirement

The leakage rate measured shall not exceed the specified value.

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