



# SLOVENSKI STANDARD SIST EN 4880:2023

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## Aeronavtika - Splošna tehnična specifikacija za standardizirane dele

Aerospace series - General technical specification for standard parts

Luft- und Raumfahrt - Allgemeine technische Spezifikationen für Normteile

Série aérospatiale - Spécification technique générale pour les pièces standard

Ta slovenski standard je istoveten z: **EN 4880:2023**

<https://standards.iteh.ai/catalog/standards/sist/1a1590f7-8530-43bc-9ec2-dfdded6cb788/sist-en-4880-2023>

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### ICS:

49.035	Sestavni deli za letalsko in vesoljsko gradnjo	Components for aerospace construction
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EUROPEAN STANDARD

EN 4880

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 49.035

English Version

## Aerospace series - General technical specification for standard parts

Série aérospatiale - Spécification technique générale  
pour les pièces normalisées

Luft- und Raumfahrt - Allgemeine technische  
Lieferbedingung für Normteile

This European Standard was approved by CEN on 3 March 2023.

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 CEN-CENELEC Management Centre or to any CEN member.

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

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## European foreword

This document (EN 4880:2023) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, 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of an identical text or by endorsement, at the latest by February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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**EN 4880:2023 (E)****1 Scope**

This document specifies the minimum requirements for the qualification, acceptance, delivery and inspection of standard parts by the aerospace industry and its manufacturers.

This document is valid for standard parts and their assemblies as described in a product standard, if mentioned therein. This specification can also be applied to other parts when specifically invoked by the terms of delivery.

Parts/sections of this document are not applicable in cases where the product standard stipulates requirements that differ from this specification.

**2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2424, *Aerospace series — Marking of aerospace products*

EN 9130:2020, *Aerospace series — Quality systems — Record retention*

ISO 16228, *Fasteners — Types of inspection documents*

**3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp/>

— IEC Electropedia: available at <https://standards.iteh.ai/catalog/standards/sist/1a1590f7-8530-43bc-9ec2-2023> <https://www.electropedia.org/>

**3.1****standard part**

parts as defined by a product standard, which may be single or assemblies

**3.2****assembly**

individual parts that are connected to each other

**3.3****production lot****batch**

parts or assemblies, which shall have the same physical characteristics (dimensions, materials, manufacturing methods, heat treatment, surface finish, etc.), being manufactured under the same conditions and submitted together for inspection

**3.4****qualification test**

test or series of tests to demonstrate that the qualification sample of products comply with the requirements stipulated in this specification and/or in a product standard

Note 1 to entry: The tests shall be accomplished according to documented parameters and under reproducible conditions.

### 3.5

#### **acceptance test**

test which shall demonstrate that the characteristics of manufactured products comply with the requirements

## **4 Requirements**

### **4.1 Production engineering**

The manufacturer shall define the manufacturing sealed route which shall be submitted to the customer on request.

The manufacturing sealed route shall contain details of the sequence of operations including production processes, pretreatments and finishes, etc. as well as quality assurance requirements.

The customer shall treat the manufacturing sealed route as confidential information. After any change to the manufacturing sealed route and subsequent approval by the customer, the acceptance test report shall include a statement covering such changes with the next delivery.

### **4.2 Materials**

Materials shall conform to the specifications as specified or described in detail in the product standard.

Other materials not specified or described in the product standard, may be introduced by the manufacturer if compliance with technical requirements is proven.

The suitability of materials not specified in the product standard shall be verified by the qualification test.

For assemblies the manufacturer shall define all the materials used in each single part. A list of these materials shall be provided to the customer on request. Any changes to materials shall be approved by the customer prior to the next delivery.

### **4.3 Performance requirements**

The standard parts invoking this specification shall meet all the specified performance requirements of the product standard, irrespective of their installation requirements.

### **4.4 Workmanship**

Any deviation from the product standard or this specification shall be cause for rejection of the specific delivery.

### **4.5 Interchangeability**

Dimensions, tolerances, physical characteristics and chemical composition of the parts or materials that may affect interchangeability shall not be changed.

All parts that have the same manufacturer part number, or replaceable parts of an assembly carrying the same manufacturer part number, shall be directly and completely interchangeable.

### **4.6 Marking**

All assemblies and standard parts shall be marked in accordance with the product standard. Where marking is not specified on the product standard, EN 2424, style G shall be invoked as a minimum.

All marking shall be by means of clear and legibly applied characters.

**EN 4880:2023 (E)****4.7 Protective finish**

The physical characteristics and chemical composition of the protective finish shall conform to the requirements of the product standard.

**4.8 Acceptance test report**

The manufacturer shall issue, and enclose with each delivery, an acceptance test report as per ISO 16228 to demonstrate the conformity with product requirements and material properties and also to certify the test results of the acceptance test per 5.6.

**4.9 Standard ambient test conditions**

Unless otherwise specified, the measurements and tests shall be made at the following standard ambient condition:

Atmospheric pressure range: 860 hPa to 1 040 hPa (12,5 lb/in<sup>2</sup> to 15,1 lb/in<sup>2</sup>).

Room temperature: 13 °C to 33 °C (55 °F to 91 °F).

Relative humidity: 50 % ± 30 %.

**5 Qualifications and quality assurance provisions****5.1 Approval of manufacturers**

The manufacturer's quality management system shall conform to an aerospace accepted and established quality management system (e.g. according to ISO 9002, EN 9100 or equivalent). The purpose of these procedures is to ensure that a manufacturer has a quality system and the capability for continuous manufacture and release of parts complying with the specified quality requirements. The granting of an approval of the manufacturer is a function of the Certification Authorities or their appointed representative, who shall be prime contractor.

**5.2 Responsibility for Inspection**

Unless otherwise specified in the contract or purchase order, the manufacturer is responsible for the completion of all inspection requirements as specified in this specification.

The manufacturer may use his own or other approved facilities and inspection methods to achieve satisfactorily the inspection requirements as covered by this specification.

The customer reserves the right to perform counter-acceptance tests to ensure performance attains the required characteristics.



### 5.3 Classification of Inspection

Inspection and testing standard parts are classified as follows:

- qualification test (5.4);
- first article inspection (5.5);
- conformance/acceptance test (5.6).

### 5.4 Qualification test

All product qualification activities shall be carried out in accordance with a Qualification Test Program prepared by the manufacturer and approved by the customer.

The satisfactory results of all tests, collected in a referenced Qualification Test Report, are the basis of qualification for delivery to the customer.

The Qualification Test Report shall be carried out by the manufacturer's quality assurance department on a sample of parts that has been manufactured in the same way as production lots.

### 5.5 First Article Inspection

The manufacturer shall conduct a First Article Inspection on all initially manufactured parts, components, sub-assemblies and assemblies, as well as on the first complete production lot manufactured in accordance with accepted production practices and procedures.

The manufacturer shall record the results of each First Article Inspection in an agreed report according to EN 9130:2020, 4.1.

The first components supplied to the customer shall be accompanied by a valid set of documentation and the First Article Inspection report.

The manufacturer shall be informed in writing by the customer of any discrepancies that withhold approval.

### 5.6 Conformance/Acceptance test

Unless otherwise specified, acceptance tests for each part shall be carried out by the manufacturer. The purpose of the acceptance test is to ensure conformity with specified requirements using approved testing methods. In cases where a manufacturer is not able to carry out the required tests due to the lack of suitable facilities or installations, they shall be carried out by suitable test facilities agreed by the customer or approved by national authorities.

The quantity of samples can be adjusted to the respective production situation via an inspection plan specification, i.e. at the discretion of the quality assurance management. This is based on continuous production monitoring according to the rules of statistical quality assurance.

Changes to the acceptance test are only permissible with written approval from the customer.

Each delivery shall be accompanied by conformance test results and certified as defined in 4.8.

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## 6 Conditions on delivery

### 6.1 Packaging

The standard parts shall be protected against humidity, corrosion, impact, contamination and other negative influences by suitable approved materials, so that no damage or deterioration will occur under normal transport and storage conditions.

The packaging materials used shall conform with national health and safety requirements and shall not affect the appearance or quality of the packaged items.

This responsibility shall lie with the manufacturer.

### 6.2 Marking of packages

All packages shall be permanently and legibly marked with the following:

- the full standard part designation;
- manufacturer's name and address;
- order or purchase number;
- production lot number;
- gross weight.

Packages, containing standard parts manufactured from shelf-live controlled materials, additionally shall be marked with

- quarter and year of manufacture.

### 6.3 Unit and transport packages

The products shall be packed in unit or transport packages that comply with the customer's requirements.

## 7 Quality management system

The manufacturer's operations shall be an approved production organization for aerospace products and shall demonstrate that it has implemented and is able to maintain a quality management system (e.g. according to EN 9100 or an equivalent aerospace accepted and established quality management system).

The qualification procedure for aerospace standard products (e.g. according to EN 9133 or an equivalent aerospace accepted and established qualification procedure) shall be used and documented according to the specified tests if not otherwise agreed between customer and manufacturer.