



**SLOVENSKI STANDARD**  
**oSIST prEN 4500-005:2022**

**01-februar-2022**

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**Aeronavtika - Kovinski materiali - Pravila za načrtovanje in predstavljanje  
standarov za materiale - 005. del: Posebna pravila za jekla**

Aerospace series - Metallic materials - Rules for drafting and presentation of material standards - Part 005: Specific rules for steels

Luft- und Raumfahrt - Metallische Werkstoffe - Regeln für das Erstellen und die Gestaltung von Werkstoffnormen - Teil 005: Besondere Regeln für Stähle

Série aérospatiale - Matériaux métalliques - Règles pour la rédaction et la présentation des normes de matériaux - Partie 005: Règles spécifiques aux aciers

**Ta slovenski standard je istoveten z: [oSIST prEN 4500-005:2022](https://standards.iteh.ai/catalog/standards/sist/ec42ba15-d495-4d80-aa88-8aa04a7324fe/osist-pren-4500-005-2022)  
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49.025.10      Jekla      Steels

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NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
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Will supersede EN 4500-005:2012

English Version

## Aerospace series - Metallic materials - Rules for drafting and presentation of material standards - Part 005: Specific rules for steels

Série aérospatiale - Matériaux métalliques - Règles  
pour la rédaction et la présentation des normes de  
matériaux - Partie 005: Règles spécifiques aux aciers

Luft- und Raumfahrt - Metallische Werkstoffe - Regeln  
für das Erstellen und die Gestaltung von  
Werkstoffnormen - Teil 005: Besondere Regeln für  
Stähle

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## **European foreword**

This document (prEN 4500-005:2021) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 4500-005:2012.

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## Introduction

This document is part of the series of EN metallic material standards for aerospace applications. The general organisation of this series is described in EN 4258.

The EN 4500 series (*Aerospace series — Metallic materials — Rules for drafting and presentation of material standards*) is composed by the following documents:

- General rules EN 4500-001;
- Aluminium, aluminium alloys and magnesium alloys EN 4500-002;
- Heat-resisting alloys EN 4500-003;
- Titanium and titanium alloys EN 4500-004;
- Steels EN 4500-005;
- Filler metals for welding EN 4500-002 to EN 4500-005;
- Filler metals for brazing EN 4500-006.

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**prEN 4500-005:2021 (E)****1 Scope**

The EN 4500 series specifies the rules for the drafting and presentation of metallic material standards for aerospace applications. This Part 005 specifies the “Specific rules for steels”.

**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 4259, *Aerospace series — Metallic materials — Definition of general terms*

EN 4500-001, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards — Part 001: General rules*

EN 10027-1, *Designation systems for steels — Part 1: Steel names*

EN 10027-2, *Designation systems for steels — Part 2: Numerical system*

EN 10083-1, *Steels for quenching and tempering — Part 1: General technical delivery conditions*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 4259 and EN 4500-001 apply.

ISO and IEC maintain terminological 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://www.electropedia.org/>

**4 Rules for drafting a European Standard for aerospace metallic materials****4.1 General**

Examples given in annexes are only intended to illustrate the rules for drafting and presentation and may not correspond to real standardized EN semi-finished products. Technological development may require the use of terms additional to those listed.

**4.2 Title****4.2.1 General**

According to EN 4500-001 and Annex A of this document.

The designation shall be in accordance with EN 10027-1 and EN 10027-2.

The following are examples of descriptions which shall be used.



#### 4.2.2 Method of melting

Complete in accordance with EN 4500-001 using one or more of the following terms:

- air melted;
- vacuum induction melted;
- vacuum refined;
- vacuum arc remelted;
- electro-slag remelted;
- consumable electrode remelted.

#### 4.2.3 Form entries

- a) sheets, strips, plates;

The terms may be qualified with one of the following terms:

- 1) rolled;
- 2) cold rolled;
- 3) hot rolled;

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- b) bars;

The term may be qualified with one or more of the following terms:

- 1) rolled;
- 2) hot rolled;
- 3) cold rolled;
- 4) drawn;
- 5) extruded;
- 6) forged;

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- c) sections;

The term may be qualified with one or more of the following terms:

- 1) rolled;
- 2) hot rolled;
- 3) cold rolled;
- 4) drawn;

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- 5) extruded;
- 6) forged;
- d) tubes;

The term may be qualified with one or more of the following terms:

- 1) rolled;
- 2) drawn;
- 3) extruded;
- 4) seamless;
- 5) welded;
- e) wires;

The term may be qualified with one or more of the following terms:

- 1) hot drawn;
- 2) cold drawn;
- 3) hot rolled;
- 4) cold rolled;

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- f) forging stock;
- g) forgings;
- h) remelting stock;
- i) castings;

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The term may be qualified with one or more of the following terms:

- 1) sand;
- 2) chill;
- 3) investment;
- 4) centrifugal;
- 5) hot isostatically pressed (hipped);
- j) rings;

The term may be qualified with one or more of the following terms:

- 1) rolled;

- 2) forged;
- 3) welded.

#### 4.2.4 Additional information entries

- For structural applications;
- for pressure applications;
- for the manufacturing of fasteners;
- for machining;
- for forged rings;
- for rolled rings;
- for welding;
- for the manufacturing of bearings;
- for carburizing or other thermo-chemical treatment;
- for nitriding.

#### 4.3 Introduction

According to EN 4500-001 and Annex B of this document.

#### 4.4 Scope, normative references, terms and definitions, requirements

According to EN 4500-001 and Annex C of this document.

#### 4.5 Table 1 (1 of 3)

##### 4.5.1 Line 1: Material designation

According to EN 4500-001 and Annex D of this document.

##### 4.5.2 Line 2: Chemical composition

The chemical composition shall be written in accordance with EN 4500-001 and the order of presentation of elements shall conform to the following rules:

- C, Si, Mn, P, S, Cr, Mo, Ni;
- Al, As, B, Co, Cu, N, Nb, Pb, Sn, Ti, V, W, Zr;
- all other elements except hydrogen shall be written in alphabetical order of their chemical symbols;
- H;
- ratio and/or total of above elements.