

Aerospace series - Steel and heat-resisting alloys for wrought products - Technical specification - Part 002: Bars and sections

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 4700-002:2025 sisaldab Euroopa standardi EN 4700-002:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.12.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 4700-002:2025 consists of the English text of the European standard EN 4700-002:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 10.12.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

EN 4700-002

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2025

ICS 49.025.10

Supersedes EN 4700-002:2021

English Version

**Aerospace series - Steel and heat-resisting alloys for
wrought products - Technical specification - Part 002: Bars
and sections**

Série aérospatiale - Acier et alliages résistant à chaud
pour les produits corroyés - Spécification technique -
Partie 002 : Barres et profilés

Luft- und Raumfahrt - Stahl und Hochwarmfesten
Legierungen - Umgeformte Erzeugnisse - Technische
Lieferbedingungen - Teil 002: Stangen und Profile

This European Standard was approved by CEN on 8 September 2025.

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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CEN members are the national standards bodies of 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 United Kingdom.



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

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European foreword

This document (EN 4700-002:2025) has been prepared by 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2026, and conflicting national standards shall be withdrawn at the latest by June 2026.

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.

This document supersedes EN 4700-002:2021.

EN 4700-002:2025 includes the following significant technical changes with respect to EN 4700-002:2021:

- update of Clause 2 “Normative references”;
- Table 1: addition of a note in line 17 and addition of ASTM E340 and ASTM E381 for steels in line 51.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: 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.

Introduction

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

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1 Scope

This document specifies the requirements for the ordering, manufacture, testing, inspection and delivery of steel and heat-resisting alloy bars and sections. It is presupposed to be applied when referred to and in conjunction with the EN material standard unless otherwise specified on the drawing, order or inspection schedule.

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 2002-001,¹ *Aerospace series — Metallic materials — Test methods — Part 001: Tensile testing at ambient temperature*

EN 2002-002, *Aerospace series — Metallic materials — Test methods — Part 002: Tensile testing at elevated temperature*

EN 2002-005, *Aerospace series — Test methods for metallic materials — Part 005: Uninterrupted creep and stress-rupture testing*

EN 2002-16, *Aerospace series — Metallic materials — Test methods — Part 16: Non-destructive testing — Penetrant testing*

EN 2032-001, *Aerospace series — Metallic materials — Part 001: Conventional designation*

EN 2032-2, *Aerospace series — Metallic materials — Part 2: Coding of metallurgical condition in delivery condition*

EN 2078, *Aerospace series — Metallic materials — Manufacturing schedule, inspection schedule, inspection and test report — Definition, general principles, preparation and approval*

EN 2950, *Aerospace series — Test method — Wrought heat resisting alloys semi-finished products and parts — Conditions for macrographic and micrographic examination — Atlas of structures and defects*

EN 3874,¹ *Aerospace series — Test methods for metallic materials — Constant amplitude force-controlled low cycle fatigue testing*

EN 3987, *Aerospace series — Test methods for metallic materials — Constant amplitude force-controlled high cycle fatigue testing*

EN 3988,¹ *Aerospace series — Test methods for metallic materials — Constant amplitude strain-controlled low cycle fatigue testing*

EN 4050-1, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 1: General requirements*

EN 4050-4, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 4: Acceptance criteria*

¹ Published as ASD-STAN prEN at the date of publication of this document, available at: <https://www.asd-stan.org/>.

EN 4259:2022, *Aerospace series — Metallic materials — Definition of general terms*

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

EN 10079, *Definition of steel products*

TR 2410,² *Aerospace series — Metallic materials — Relationship between dimensional standards and material standards*

EN ISO 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method* (ISO 148-1)

EN ISO 642, *Steel — Hardenability test by end quenching (Jominy test)* (ISO 642)

EN ISO 643, *Steels — Micrographic determination of the apparent grain size* (ISO 643)

EN ISO 3651-1, *Determination of resistance to intergranular corrosion of stainless steels — Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels — Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)* (ISO 3651-1)

EN ISO 3651-2, *Determination of resistance to intergranular corrosion of stainless steels — Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels — Corrosion test in media containing sulfuric acid* (ISO 3651-2)

EN ISO 3887, *Steels — Determination of the depth of decarburization* (ISO 3887)

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method* (ISO 6506-1)

EN ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method* (ISO 6507-1)

EN ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method* (ISO 6508-1)

EN ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature* (ISO 6892-1)

EN ISO 6892-2, *Metallic materials — Tensile testing — Part 2: Method of test at elevated temperature* (ISO 6892-2)

EN ISO 15549, *Non-destructive testing — Eddy current testing — General principles* (ISO 15549)

ISO 4967, *Steel — Determination of content of non-metallic inclusions — Micrographic method using standard diagrams*

AMS 2315,³ *Determination of delta ferrite content*

AMS 2750,³ *Pyrometry*

ASTM A604,⁴ *Standard practice for macroetch testing of consumable electrode remelted steel bars and billets*

ASTM E45,⁴ *Standard test methods for determining the inclusion content of steel*

² Published as ASD-STAN TR, available at: <https://www.asd-stan.org/>.

³ Published by Society of Automotive Engineers (SAE), available at: <https://www.sae.org/>.

⁴ Published by American Society for Testing and Materials (ASTM International), available at: <https://www.astm.org/>.

ASTM E340,⁴ *Standard practice for macroetching metals and alloys*

ASTM E381,⁴ *Standard method of macroetch testing steel bars, billets, blooms and forgings*

ASTM E399,⁴ *Standard test method for linear-elastic plane-strain fracture toughness of metallic materials*

ASTM E407,⁴ *Standard practice for microetching metals and alloys*

ASTM E1444,⁴ *Standard practice for magnetic particle testing for aerospace*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 4259:2022 and the following apply. For definitions specific to steel, EN 10079 applies.

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://www.electropedia.org/>

3.1

batch

quantity of bars and sections consisting of the same nominal dimensions or having the same heat treatment condition

Note 1 to entry: For the general case, see EN 4259:2022.

Note 2 to entry: For heat treatment using a continuous furnace, a continuous run of less than or equal to eight hours (or: ≤ 8 h) may be considered as the same heat treatment charge.

[SOURCE: EN 4259:2022, Table 1, No. 4, modified – Addition of Note 1 to entry]

4 Wording of order

The order shall clearly indicate:

- a) quantities to be supplied;
- b) dates of delivery;
- c) material standard number;
- d) delivery condition and metallurgical code of products;
- e) dimensions and tolerances or reference to an appropriate dimensional standard;
- f) product designation, when required;
- g) forwarding address;
- h) nature and type of packing, if required;
- i) surface protection, if appropriate;
- j) definition and frequency of any special tests and their retest procedures, if required.