

Aerospace series - Steel X4CrNiMo16-5-1 (1.4418) -
Air melted - Hardened and tempered - Forgings - $D_e \leq 200 \text{ mm}$ - $900 \text{ MPa} \leq R_m \leq 1\,050 \text{ MPa}$

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 4630:2024 sisaldab Euroopa standardi EN 4630:2024 ingliskeelset teksti. Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 14.08.2024. Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	This Estonian standard EVS-EN 4630:2024 consists of the English text of the European standard EN 4630:2024. This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 14.08.2024. The standard is available from the Estonian Centre for Standardisation and Accreditation.
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ICS 49.025.10

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English Version

**Aerospace series - Steel X4CrNiMo16-5-1 (1.4418) - Air
melted - Hardened and tempered - Forgings - $De \leq 200$ mm
- $900 \text{ MPa} \leq R_m \leq 1\,050 \text{ MPa}$**

Série aéronautique - Acier X4CrNiMo16-5-1 (1.4418) -
Élaboré à l'air - Trempé et revenu - Pièces forgées ou
matricées - $De \leq 200$ mm - $900 \text{ MPa} \leq R_m \leq 1\,050 \text{ MPa}$

Luft- und Raumfahrt - Stahl X4CrNiMo16-5-1 (1.4418)
- Lufterschmolzen - Gehärtet- und angelassen -
Schmiedestücke - $De \leq 200$ mm - $900 \text{ MPa} \leq R_m \leq 1\,050 \text{ MPa}$

This European Standard was approved by CEN on 26 May 2024.

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.

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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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

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European foreword

This document (EN 4630:2024) 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 February 2025, and conflicting national standards shall be withdrawn at the latest by February 2025.

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 4630:2014.

The main changes with respect to the previous edition are as follows:

- EN 4630 (P2), 10/2014 — General editorial improvements;
- correction of the French title;
- Clause 2: EN 2950 removed from normative references;
- Table 1, line 8.1: addition of precise wording regarding separately forged test samples;
- Table 1, line 9: correction of Dimensions concerned (a or D instead of D);
- Table 1, line 11: correction of Direction of test piece (T instead of LT);
- Table 1, line 13: correction of Proof stress ($R_{p0,2} \geq 700$ instead of ≥ 900);
- Table 1, line 15: correction of Elongation (≥ 16 instead of ≥ 14);
- Table 1, line 17: correction of values for Hardness (addition of optional HV criteria);
- Table 1, line 51: correction of sub-line 1;
- Table 1, line 98: addition of note d.

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.

This document has been prepared in accordance with EN 4500-005.

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1 Scope

This document specifies the requirements relating to:

Steel X4CrNiMo16-5-1 (1.4418)

Air melted

Hardened and tempered

Forgings

$D_e \leq 200 \text{ mm}$

$900 \text{ MPa} \leq R_m \leq 1\,050 \text{ MPa}$

for aerospace applications.

NOTE Other common designation:

- AIR: Z 8 CND 17-04;
- only the chemical composition of this document is considered.

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 2951, *Aerospace series — Metallic materials — Micrographic determination of content of non-metallic inclusions*

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

EN 4629, *Aerospace series — Steel X4CrNiMo16-5-1 (1.4418) — Air melted — Softened — Forging stock — $D_e \leq 300 \text{ mm}$*

EN 4700-006, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 006: Pre-production and production forgings*

EN ISO 643, *Steels — Micrographic determination of the apparent grain size* (ISO 643:2019, corrected version 2023-11)

AMS 2315,¹ *Determination of Delta Ferrite Content*

ASTM A604,² *Standard Practice for Macroetch Testing of Consumable Electrode Remelted Steel Bars and Billets*

ASTM E340,² *Standard Practice for Macroetching Metals and Alloys*

ASTM E381,² *Standard Method of Macroetch Testing Steel Bars, Billets, Blooms, and Forgings*

¹ Published by: Society of Automotive Engineers (SAE), available at: <https://www.sae.org/>.

² Published by: American Society for Testing and Materials (ASTM International), available at: <https://www.astm.org/>.