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**Aeronavtika - Jeklo X6CrNiTi18-10 (1.4541) - Taljeno na zraku - Popuščano - Plošča**  
**- 6 mm < a ≤ 50 mm - 500 MPa ≤ Rm ≤ 700 Mpa**

Aerospace series - Steel X6CrNiTi18-10 (1.4541) - Air melted - Softened - Plate - 6 mm  
< a ≤ 50 mm - 500 MPa ≤ Rm ≤ 700 Mpa

Luft- und Raumfahrt - Stahl X6CrNiTi18-10 (1.4541) - Lufterschmolzen - Weichgeglüht -  
Platten - 6 mm < a ≤ 50 mm - 500 MPa ≤ Rm ≤ 700 MPa

Série aérospatiale - Acier X6CrNiTi18-10 (1.4541) - Elaboré à l'air - Adouci - Plaques - 6  
mm < a ≤ 50 mm - 500 MPa ≤ Rm ≤ 700 MPa

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**Ta slovenski standard je istoveten z: prEN 3480**

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**ICS:**

49.025.10	Jekla	Steels
77.140.50	Ploščati jekleni izdelki in polizdelki	Flat steel products and semi-products

**oSIST prEN 3480:2020**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 3480**

September 2020

ICS

Will supersede EN 3480:2007

English Version

**Aerospace series - Steel X6CrNiTi18-10 (1.4541) - Air  
melted - Softened - Plate -  $6 \text{ mm} < a \leq 50 \text{ mm}$  -  $500 \text{ MPa} \leq$   
 $R_m \leq 700 \text{ MPa}$**

Série aérospatiale - Acier X6CrNiTi18-10 (1.4541) -  
Élaboré à l'air - Adouci - Plaques -  $6 \text{ mm} < a \leq 50 \text{ mm}$  -  
 $500 \text{ MPa} \leq R_m \leq 700 \text{ MPa}$

Luft- und Raumfahrt - Stahl X6CrNiTi18-10 (1.4541) -  
Lufterschmolzen - Weichgeglüht - Platten -  $6 \text{ mm} < a \leq$   
 $50 \text{ mm}$  -  $500 \text{ MPa} \leq R_m \leq 700 \text{ MPa}$

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 3480:2020) 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 Standard 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 3480:2007.

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**prEN 3480:2020 (E)**

## **Introduction**

This document is part of the series of 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 X6CrNiTi18-10 (1.4541)

Air melted

Softened

Plates

$6 \text{ mm} < a \leq 50 \text{ mm}$

$500 \text{ MPa} \leq R_m \leq 700 \text{ MPa}$

for aerospace applications.

W.nr: 1.4541.

ASD-STAN designation: FE-PA3601.

## 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*

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EN 4700-001, *Aerospace series - Steel and heat resisting alloys - Wrought products - Technical specification - Part 001: Plate, sheet and strip*

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## 3 Terms and definitions

No terms and definitions are listed in this document.

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

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

## 4 Requirements

See Table 1.

Table 1 — Requirements for steel X6CrNiTi18-10 (1.4541)

1	Material designation	Steel X6CrNiTi18-10 (1.4541)									
2	Chemical composition %	Element	C	Si	Mn	S <sup>a</sup>	P <sup>a</sup>	Cr <sup>a</sup>	Ni <sup>a</sup>	Ti	Fe
		min.	—	—	—	—	—	17,0	9,0	5 × C	Base
		max.	0,08	1,00	2,00	0,030	0,045	19,0	12,0	0,70	
3	Method of melting	Air melted									
4.1	Form	Plates									
4.2	Method of production	Rolled									
4.3	Limit dimension(s)	mm	6 < a ≤ 50								
5	Technical specification	EN 4700-001									

6.1	Delivery condition	Softened									
	Heat treatment	1 050 °C ≤ θ ≤ 1 100 °C/WQ or AQ									
6.2	Delivery condition code	U									
7	Use condition	Delivery condition									
	Heat treatment	—									

8.1	Test sample(s)	Characteristics See EN 4700-001.									
8.2	Test piece(s)	(standards.iteh.ai) See EN 4700-001.									
8.3	Heat treatment	Delivery condition									
9	Dimensions concerned	mm	6 < a ≤ 50								
10	Thickness of cladding on each face	%	—								
11	Direction of test piece	L - LT									
12	Temperature	θ	°C	Ambient							
13	Proof stress	R <sub>p0,2</sub>	MPa	≥ 200							
14	Strength	R <sub>m</sub>	MPa	500 ≤ R <sub>m</sub> ≤ 700							
15	Elongation	A	%	≥ 40							
16	Reduction of area	Z	%	—							
17	Hardness	HV		≤ 207							
18	Shear strength	R <sub>c</sub>	MPa	—							
19	Bending	k	—	—							
20	Impact strength	—									
21	Temperature	θ	°C	—							
22	Time		h	—							
23	Stress	σ <sub>a</sub>	MPa	—							
24	Elongation	a	%	—							
25	Rupture stress	σ <sub>R</sub>	MPa	—							
26	Elongation at rupture	A	%	—							
27	Notes (see line 98)	a									



30	Microstructure	—	See EN 4700-001.
		7	Ferrite $\delta < 8 \%$
34	Grain size	—	See EN 4700-001.
		7	$G \geq 4$
44	External imperfections (visual testing - VT)	—	See EN 4700-001.
		7	Visual
50	Inclusion content	1	EN 2951
61	Internal imperfections (ultrasonic testing - UT)	—	See EN 4700-001.
		6	Ep. $\geq 12$
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95	Marking inspection	—	See EN 4700-001.
96	Dimensional inspection	—	See EN 4700-001.
98	Notes	— <sup>a</sup>	<p>For specific welding applications (e.g. high power beam), and after agreement between manufacturer and purchaser:</p> <ul style="list-style-type: none"> <li>- maximum content of S and P should be reduced to 0,005 % and 0,020 %, respectively;</li> <li>- ratio between Cr and Ni according to SUUTALA Formula should be <math>&gt; 1,67 \%</math>;</li> <li>- <math>S + P + B</math> should be <math>\leq 0,025 \%</math>.</li> </ul>
99	Typical use	—	—

100	—	Product qualification	—	See EN 4700-001.
				Qualification programme to be agreed between manufacturer and purchaser.
				<p style="text-align: center;"><b>iTeh STANDARD PREVIEW</b> <b>(standards.iteh.ai)</b></p> <p style="text-align: center;"><a href="https://standards.iteh.ai/catalog/standards/sist/14748fbb-7aca-40ac-a2c1-4baaecb4a4ef/osist-pren-3480-2020">oSIST prEN 3480:2020</a> <a href="https://standards.iteh.ai/catalog/standards/sist/14748fbb-7aca-40ac-a2c1-4baaecb4a4ef/osist-pren-3480-2020">https://standards.iteh.ai/catalog/standards/sist/14748fbb-7aca-40ac-a2c1-4baaecb4a4ef/osist-pren-3480-2020</a></p>