SLOVENSKI STANDARD
SIST EN 3468:2020

01-februar-2020

Aeronavtika - Jeklo X8CrNiTi18-10 (1.4878/1.4544) - Popuščano - 500 MPa ≤ Rm ≤ 700 MPa - Izkovki - De ≤ 100 mm

Aerospace series - Steel X8CrNiTi18-10 (1.4878/1.4544) - Softened - 500 MPa ≤ Rm ≤ 700 MPa - Forgings - De ≤ 100 mm

Luft- und Raumfahrt - Stahl X8CrNiTi18-10 (1.4878/1.4544) - Abgeschreckt - 500 MPa ≤ Rm ≤ 700 MPa - Schmiedestücke - De ≤ 100 mm

Série aérospatiale - Acier X8CrNiTi18-10 (1.4878/1.4544) - Adouci - 500 MPa ≤ Rm ≤ 700 MPa - Pièces forgées ou matricées - De ≤ 100 mm

Ta slovenski standard je istoveten z: **EN 3468:2019**

ICS:

49.025.10	Jekla	Steels

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EUROPEAN STANDARD

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English Version

Aerospace series - Steel X8CrNiTi18-10 (1.4878/1.4544) - Softened - 500 MPa ≤ Rm ≤ 700 MPa - Forgings - De ≤ 100 mm

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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 (EN 3468:2019) 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, 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of an identical text or by endorsement, at the latest by May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

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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.

1 Scope

This document specifies the requirements relating to:

Steel X8CrNiTi18-10 (1.4878/1.4544)
Softened
500 MPa ≤ R_m ≤ 700 MPa
Forgings
D_e ≤ 100 mm

for aerospace applications.

ASD-STAN designation: FE-PA13.

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 2157-3, *Aerospace series — Steel — Forging stock and forgings — Technical specification — Part 3: Pre–production and production forgings*

EN 3482, *Aerospace series — Steel FE-PA13 — Annealed — Reference heat treatment: softened — Forging stock — D_e ≤ 100 mm* [1)]

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.

1) Published as ASD-STAN Standard at the date of publication of this standard by AeroSpace and Defence industries Association of Europe — Standardization (ASD-STAN) (http://www.asd-stan.org/)

Table 1 — Requirements for steel X8CrNiTi18-10 (1.4878/1.4544)

1	Material designation		Steel X8CrNiTi18-10 (1.4878/1.4544)								
2	Chemical composition %	Element	C	Si	Mn	P	S	Cr	Ni	Ti	Fe
		min.	–	–	–	–	–	17,0	9,0	5 × % C	Rem.
		max.	0,08	1,00	2,00	0,035	0,025	19,0	11,0	0,60	
3	Method of melting		Air melted								
4.1	Form		Forgings								
4.2	Method of production		–								
4.3	Limit dimension(s)	mm	$D_e \leq 100$								
5	Technical specification		EN 2157-3								

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

Characteristics

8.1	Test sample(s)			–
8.2	Test piece(s)			–
8.3	Heat treatment			In the delivery condition
9	Dimensions concerned		mm	≤ 100
10	Thickness of cladding on each face		%	–
11	Direction of test piece			L or LT in accordance with EN 2157-3
12	T	Temperature	°C	Ambient
13		Proof stress	$R_{p0,2}$ MPa*	≥ 210
14		Strength	R_m MPa*	500 ≤ R_m ≤ 700
15		Elongation	A %	≥ 40
16		Reduction of area	Z %	–
17	Hardness			HB ≤ 197, HV ≤ 207 [a]
18	Shear strength		R_c MPa*	–
19	Bending		k –	–
20	Impact strength (J)			≥ 50
21	C	Temperature	θ °C	–
22		Time	h	–
23		Stress	σ_a MPa*	–
24		Elongation	a %	–
25		Rupture stress	σ_R MPa*	
26		Elongation at rupture	A %	
27	Notes (see line 98)			*, a

38	Intergranular corrosion	–	In acidified copper sulphate
65	Chemical millability (C Quality)	–	In accordance with EN 3482
95	Marking inspection	–	–
96	Dimensional inspection	–	–
98	Notes	–	* 1 MPa = 1 N/mm². a HV for $D_e \leq 5$ mm.
99	Typical use	–	Austenitic corrosion resisting steel, weldable