SLOVENSKI STANDARD
SIST EN 3481:2020

01-marec-2020

Aeronavtika - Jeklo X8CrNiTi18-10 (1.4878/1.4544) - Žarjeno - Referenčna toplotna obdelava: popuščano - Votle palice - 5 mm ≤ a ≤ 12 mm

Aerospace series - Steel X8CrNiTi18-10 (1.4878/1.4544) - Annealed - Reference heat treatment: softened - Hollow bars - 5 mm ≤ a ≤ 12 mm

Luft- und Raumfahrt - Stahl X8CrNiTi18-10 (1.4878/1.4544) - Geglüht - Referenz-Wärmebehandlung: weichgeglüht - Profilröhren - 5 mm ≤ a ≤ 12 mm

Série aérospatiale - Acier X8CrNiTi18-10 (1.4878/1.4544) - Recuit - Traitement thermique de référence : adouci - Barres creuses - 5 mm ≤ a ≤ 12 mm

Ta slovenski standard je istoveten z: **EN 3481:2019**

ICS:

49.025.10	Jekla	Steels

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EUROPEAN STANDARD

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English Version

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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 3481:2019) 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 document 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of an identical text or by endorsement, at the latest by May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.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)
Annealed
Reference heat treatment: softened
Hollow bars
5 mm ≤ *a* ≤ 12 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 4700-003, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 003: Tube*

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 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.	—	—	—	—	—	17,00	9,00	5 × % C	Rem.
		max.	0,08	1,00	2,00	0,035	0,025	19,00	11,00	0,60	
3	Method of melting		Air melted								
4.1	Form		Hollow bars								
4.2	Method of production		–								
4.3	Limit dimension(s)	mm	$5 \leq a \leq 12$								
5	Technical specification		See EN 4700-003.								

6.1	Delivery condition Heat treatment	Annealed
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				Reference heat treatment: see line 29.
9	Dimensions concerned			mm	–
10	Thickness of cladding on each face			%	–
11	Direction of test piece				–
12	T	Temperature	θ	°C	Ambient
13	T	Proof stress	$R_{p0,2}$	MPa*	≥ 210
14	T	Strength	R_m	MPa*	$500 \leq R_m \leq 700$
15	T	Elongation	A	%	$A_{50\,mm} \geq 40$
16	T	Reduction of area	Z	%	–
17	Hardness (HB)				≤ 197
18	Shear strength		R_c	MPa*	–
19	Bending		k	–	–
20	Impact strength (J)				≥ 50
21	C	Temperature	θ	°C	–
22	C	Time		h	–
23	C	Stress	σ_a	MPa*	–
24	C	Elongation	a	%	–
25	C	Rupture stress	σ_R	MPa*	–
26	C	Elongation at rupture	A	%	–
27	Notes (see line 98)				*

29	Reference heat treatment	–	Softened 1 050 °C ≤ θ ≤ 1 100 °C/AQ or WQ
38	Intergranular corrosion	–	In acidified copper sulphate
97	Designation	–	–
98	Notes	–	* 1 MPa = 1 N/mm².
99	Typical use	–	Austenitic corrosion resisting steel, weldable
100	– Product qualification	–	–
			Qualification programme to be agreed between manufacturer and purchaser.