
Aeronavtika - Toplotno odporna zlitina X6NiCrTiMnMoV26-15 (1.4944) - Popuščana in hladno obdelana - Žice za kovane vezne elemente - $D \leq 15$ mm - $1100 \text{ MPa} \leq R_m \leq 1300 \text{ MPa}$

Aerospace series - Heat-resisting alloy X6NiCrTiMnMoV26-15 (1.4944) - Softened and cold worked - Wire for forged fasteners - $D \leq 15$ mm - $1100 \text{ MPa} \leq R_m \leq 1300 \text{ MPa}$

Luft- und Raumfahrt - Hochwarmfeste Legierung X6NiCrTiMnMoV26-15 (1.4944) - Weichgeglüht und kaltverfestigt - Draht zum Stauchen für Verbindungselemente - $D \leq 15$ mm - $1100 \text{ MPa} \leq R_m \leq 1300 \text{ MPa}$

Série aérospatiale - Alliage résistant à chaud X6NiCrTiMnMoV26-15 (1.4944) - Adouci et écroui - Fils pour éléments de fixation forgés - $D \leq 15$ mm - $1100 \text{ MPa} \leq R_m \leq 1300 \text{ MPa}$

Ta slovenski standard je istoveten z: EN 3762:2022

ICS:

49.025.05	Železove zlitine na splošno	Ferrous alloys in general
77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains

SIST EN 3762:2023

en,fr,de

EUROPEAN STANDARD

EN 3762

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2022

ICS 49.025.05

English Version

**Aerospace series - Heat-resisting alloy
X6NiCrTiMnMoV26-15 (1.4944) - Softened and cold
worked - Wire for forged fasteners - $D \leq 15$ mm - 1 100
MPa $\leq R_m \leq 1$ 300 MPa**

Série aérospatiale - Alliage résistant à chaud
X6NiCrTiMnMoV26-15 (1.4944) - Adouci et écroui -
Fils pour éléments de fixation forgés - $D \leq 15$ mm - 1
100 MPa $\leq R_m \leq 1$ 300 MPa

Luft- und Raumfahrt - Hochwarmfeste Legierung
X6NiCrTiMnMoV26-15 (1.4944) - Weichgeglüht und
kaltverfestigt - Draht zum Stauchen für
Verbindungselemente - $D \leq 15$ mm - 1 100 MPa $\leq R_m \leq$
1 300 MPa

This European Standard was approved by CEN on 24 July 2022.

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

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European foreword

This document (EN 3762:2022) 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 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 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 month year June 2023, and conflicting national standards shall be withdrawn at the latest by month year June 2023.

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.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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EN 3762:2022 (E)

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 4500-003.

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1 Scope

This document specifies the requirements relating to:

Heat-resisting alloy X6NiCrTiMnMoV26-15 (1.4944)

Softened and cold worked

Wire for forged fasteners

$D \leq 15 \text{ mm}$

$1\,100 \text{ MPa} \leq R_m \leq 1\,300 \text{ MPa}$

for aerospace applications.

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 4700-004, *Aerospace series — Heat resisting alloys — Wrought products — Technical specification — Part 004: Wire*

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 <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Acceptance sampling plan

According to Table 1.

Table 1 — Requirements for heat resisting alloy X6NiCrTiMnMoV26-15 (1.4944)

1	Material designation	Heat resisting alloy X6NiCrTiMnMoV26-15 (1.4944)															
2	Chemical composition %	Element	C	Si	Mn	P	S	Al	B	Cr	Mo	Ni	Pb	Ti	V	Fe	
		min.	—	—	—	—	—	—	30 *	13,5	1,0	24,0	—	1,9	0,10	Base	
		max.	0,08	1,0	2,0	0,020	0,015	0,35	100 *)	16,0	1,5	27,0	50 *	2,3	0,50		
3	Method of melting	Air melted or vacuum induction melted and consumable electrode remelted (vacuum or slag)															
4.1	Form	Wire for forged fasteners															
4.2	Method of production	Cold worked															
4.3	Limit dimension(s)	mm	$D \leq 15$														
5	Technical specification	EN 4700-004															

6.1	Delivery condition	Softened and cold worked														
	Heat treatment	900 °C/t = 1 h/AC or faster + 15 % ≤ cold work ≤ 25 % at $\theta \leq 870$ °C														
6.2	Delivery condition code	U														
7	Use condition	Delivery condition														
	Heat treatment	—														

Characteristics

8.1	Test sample(s)	Cut from bar							Cut from bar								
8.2	Test piece(s)	—							—								
8.3	Heat treatment	Delivery condition							See line 29.								
9	Dimensions concerned	mm	$D \leq 15$							$D \leq 15$							
10	Thickness of cladding on each face	%	—							—							
11	Direction of test piece	—							—								
12	Temperature	θ	°C	—							Ambient						
13	Proof stress	$R_{p0,2}$	MPa	—							≥ 770						
14	Strength	R_m	MPa	—							$1\ 100 \leq R_m \leq 1\ 300$						
15	Elongation	A	%	—							≥ 12						
16	Reduction of area	Z	%	—							—						
17	Hardness	HB		≤ 277							$341 \leq HB \leq 410$						
18	Shear strength	R_c	MPa	—							—						
19	Bending	k	—	—							—						
20	Impact strength	—							—								
21	Temperature	θ	°C	—							650						
22	Time	h		—							≥ 23						
23	Stress	σ_a	MPa	—							—						
24	Elongation	a	%	—							—						
25	Rupture stress	σ_R	MPa	—							480 a,b						
26	Elongation at rupture	A	%	—							≥ 4						
27	Notes (see line 98)	*,a,b															

29	Reference heat treatment	—	Precipitation treated	
			Delivery condition	
			+ 720 °C/t = 16 h/AC	
34	Grain size	—	According to EN 4700-004.	
			2	One per batch
			3	L and LT
			7	5 or finer — No duplex structure
44	External imperfections	—	According to EN 4700-004.	
	(visual testing - VT)	1	Visual testing (VT)	
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97	Designation	—	—	
98	Notes	—	<p>* p.p.m.</p> <p>a Proportional round test piece.</p> <p>b Stress may be increased after 48 h to promote rupture.</p>	
99	Typical use	—	—	

EN 3762:2022 (E)

100	Product qualification	—	According to EN 4700-004.
			Qualification programme shall be agreed between manufacturer and purchaser.
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