
Aeronavtika - Toplotnoodporne zlitine na nikljevi osnovi Ni Cr20Co3Fe3 - Rm ≥ 650 MPa - Pločevina in trakovi, hladno valjani - 0,25 mm < a ≤ 3 mm

Aerospace series - Heat resisting nickel base alloy Ni Cr20Co3Fe3 - Rm ≥ 650 MPa - Sheets and strips, cold rolled - 0,25 mm < a ≤ 3 mm

Luft- und Raumfahrt - Hochwarmfeste Nickellegierung Ni Cr20Co3Fe3 - Rm ≥ 650 MPa - Bleche und Bänder, kaltgewalzt - 0,25 mm < a ≤ 3 mm

Série aérospatiale - Alliage résistant à chaud à base de nickel Ni Cr20Co3Fe3 - Rm ≥ 650 MPa - Tôles et bandes, laminées à froid - 0,25 mm < a ≤ 3 mm

Ta slovenski standard je istoveten z: prEN 2302

ICS:

49.025.15	Neželezove zlitine na splošno	Non-ferrous alloys in general
77.120.40	Nikelj, krom in njune zlitine	Nickel, chromium and their alloys

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 2302

June 2022

ICS

English Version

Aerospace series - Heat resisting nickel base alloy Ni-Cr20Co3Fe3 - $R_m \geq 650$ MPa - Sheets and strips, cold rolled - $0,25 \text{ mm} < a \leq 3 \text{ mm}$

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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.

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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

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Contents	Page
European foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Requirements	5
Bibliography	8

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European foreword

This document (prEN 2302:2022) 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 document is currently submitted to the CEN Enquiry.

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prEN 2302:2022 (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 nickel base alloy Ni-Cr20Co3Fe3

$R_m \geq 650$ MPa

Sheets and strips, cold rolled

$0,25 \text{ mm} < a \leq 3 \text{ mm}$

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

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology 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 Requirements

According to Table 1.

Table 1 — Requirements for heat resisting nickel base alloy Ni-Cr20Co3Fe3

1	Material designation	Heat resisting nickel base alloy Ni-Cr20Co3Fe3											
2	Chemical composition %	Element	C	Si	Mn	S	Co	Cr	Cu	Fe	Pb	Ti	Ni
		min.	0,08	—	—	—	—	18,0	—	—	—	0,20	Base
		max.	0,15	1,0	1,0	0,020	5,0	21,0	0,5	5,0	0,005	0,60	
3	Method of melting	Air or vacuum melted or air melted and vacuum refined or consumable electrode re-melted											
4.1	Form	Sheet and strip											
4.2	Method of production	Cold rolled											
4.3	Limit dimensions	mm	0,25 < a ≤ 3										
5	Technical specification	According to EN 4700-001.											

6.1	Delivery condition	Annealed and descaled or bright annealed											
	Heat treatment	1 000 °C ≤ θ ≤ 1 050 °C/AC or cool in protective atmosphere ^a											
6.2	Delivery condition code	U											
7	Use condition	Delivery condition											
	Heat treatment	—											

Characteristics

8.1	Test Sample(s)	According to EN 4700-001.													
8.2	Test piece(s)	According to EN 4700-001.													
8.3	Heat treatment	Use condition													
9	Dimensions concerned	a	mm	< 0,5				0,5 ≤ a ≤ 2				2 < a ≤ 3			
10	Thickness of cladding on each face	%	—												
11	Direction of test piece	According to EN 4700-001.													
12	Temperature	θ	°C	Ambient											
13	Proof stress	R _{p0,2}	MPa	≥ 260				≥ 310							
14	Strength	R _m	MPa	≥ 650				≥ 760							
15	Elongation	A	%	A _{50 mm} ≥ 25				A _{50 mm} ≥ 30							
16	Reduction of area	Z	%	—				—							
17	Hardness	HV	—	≤ 230				≤ 230							
18	Shear strength	R _c	MPa	—											
19	Bending	k	—	0,5: α = 180°				0,5: α = 180°				1,0: α = 180°			
20	Impact strength	K	J	—											
21	Temperature	θ	°C	—											
22	Time	t	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
44	External defects		—	According to EN 4700-001.
95	Marking inspection		—	According to EN 4700-001.
96	Dimensional inspection		—	According to EN 4700-001.
98	Notes		—	^a For strip annealed in a continuous furnace, a furnace temperature setting higher than 1 050 °C may be used.
99	Typical use		—	—
100	—	Product qualification	—	According to EN 4700-001.
				Qualification programme to be agreed between manufacturer and purchaser.

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prEN 2302:2022 (E)

Bibliography

EN 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use*

EN 4500-003, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards — Part 003: Specific rules for heat resisting alloys*

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