SLOVENSKI STANDARD
SIST EN 2306:2018

01-februar-2018

Aeronavtika - Toplotno odporna - Zlitina na nikljevi osnovi Ni-Cr20Co3Fe3 - Žarjena - Palice

Aerospace series - Heat resisting - Nickel base alloy Ni-Cr20Co3Fe3 - Annealed - Bars

Luft- und Raumfahrt - Hochwarmfeste Nickelbasislegierung Ni-Cr20Co3Fe3 - Geglüht - Stangen

Série aérospatiale - Alliage résistant à chaud à base de Ni-Cr20Co3Fe3 - Recuit - Barres

Ta slovenski standard je istoveten z: **EN 2306:2017**

ICS:

49.025.15	Neželezove zlitine na splošno	Non-ferrous alloys in general

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EUROPEAN STANDARD

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EN 2306

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English Version

Aerospace series - Heat resisting - Nickel base alloy Ni-Cr20Co3Fe3 - Annealed - Bars

Série aérospatiale - Alliage résistant à chaud à base de nickel Ni-Cr20Co3Fe3 - Recuit - Barres

Luft- und Raumfahrt - Hochwarmfeste Nickelbasislegierung Ni-Cr20Co3Fe3 - Geglüht - Stangen

This European Standard was approved by CEN on 14 May 2017.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 2306:2017) 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of an identical text or by endorsement, at the latest by April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

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Introduction

This European Standard 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 standard has been prepared in accordance with EN 4500-003.

1 Scope

This standard specifies the requirements relating to:

This European Standard specifies the requirements relating to:

Heat resisting
Nickel base alloy Ni-Cr20Co3Fe3
Annealed
Bars

for aerospace applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2344, *Aerospace series — Round bars, machined in heat resisting alloys — Diameter 10 mm ≤ D ≤ 180 mm — Dimensions*

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*

EN 4700-002, *Aerospace series — Steel and heat resisting alloys wrought products — Technical specification — Part 002: Bar and section*

1	Material designation		Heat resisting nickel base alloy Ni-Cr20Co3Fe3									
2	Chemical [a] 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	(50)	0,60	
3	Method of melting [b]		Air or vacuum melted or air melted and vacuum refined or consumable electrode remelted									
4.1	Form		Bars for machining						Bars for forging			
4.2	Method of production											
4.3	Limit dimensions	mm										
5	Technical specification		EN 4700-002 and EN 2344.									

6.1	Delivery condition	Annealed	machined or descaled
	Heat treatment [c]	1 000 °C ≤ θ ≤ 1 050 °C/for time [d]	
6.2	Delivery condition code	Air cool	
7	Use condition	Annealed	Annealed
	Heat treatment	Delivery condition	1 000 °C ≤ θ ≤ 1 050 °C/ for time [d]/Air cool

					Characteristics	
8.1	Test Sample(s)				–	
8.2	Test piece(s)				–	
8.3	Heat treatment				Condition of use	
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	$R_{p\,0,2}$	MPa *	≥ 230	
14	T	Strength	R_m	MPa *	≥ 640	
15	T	Elongation	A	%	≥ 30	
16	T	Reduction of area	Z	%	–	
17	Hardness		HB	–	≤ 230 [e]	–
18	Shear strength		R_c	MPa *	–	
19	Bending		k	–	–	
20	Impact strength		K	J	–	
21	C	Temperature	θ	°C	–	
22	C	Time	t	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)				*, a, b, c, d, e	

28	–	–	–
95	Marking inspection	–	
96	Dimensional inspection	–	
98	Notes	–	* 1 MPa = 1N/mm². a Bracketed figures indicate composition expressed as parts per million (ppm). The method of analysis for lead shall be agreed between manufacturer and purchaser. b The method of melting required shall be agreed between manufacturer and purchaser. c In preparation. d 30 minutes per 25 mm of ruling section. e For bars $D_e \leq 8$ mm the hardness shall be ≤ 275 HV.
99	Typical use	–	–