
Aeronavtika - Toplotno odporna zlitina NI-PH2801 (NiCr16Fe7Ti3Nb1Al1) - Pretaljena s taljivo elektrodo - Hladno vlečena žica za proizvodnjo navojnih vložkov - $D \leq 3$ mm

Aerospace series - Heat resisting alloy NI-PH2801 (NiCr16Fe7Ti3Nb1Al1) - Consumable electrode remelted - Cold drawn wire for the manufacture of thread inserts - $D \leq 3$ mm

Luft- und Raumfahrt - Hochwarmfeste Nickellegierung NI-PH2801 (NiCr16Fe7Ti3Nb1Al1) - Drähte, kaltgezogen, für die Herstellung Mit selbstverzehrender Elektrode Umgeschmolzen von gewindeinsätzen - $D \leq 3$ mm

Série aérospatiale - Alliage résistant à chaud NI-PH2801 (NiCr16Fe7Ti3Nb1Al1) - Refondu à l'électrode consommable - Fils étirés à froid pour la fabrication de filets rapportés - $D \leq 3$ mm

Ta slovenski standard je istoveten z: EN 3018:2019

ICS:

49.025.15	Neželezove zlitine na splošno	Non-ferrous alloys in general
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SIST EN 3018:2020 en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3018

December 2019

ICS 49.025.15

English Version

**Aerospace series - Heat resisting alloy NI-PH2801
(NiCr16Fe7Ti3Nb1Al1) - Consumable electrode remelted -
Cold drawn wire for the manufacture of thread inserts - D
 ≤ 3 mm**

Série aérospatiale - Alliage résistant à chaud NI-PH2801 (NiCr16Fe7Ti3Nb1Al1) - Refondu à l'électrode consommable - Fil étiré à froid pour la fabrication de filets rapportés - D ≤ 3 mm

Luft- und Raumfahrt - Hochwarmfeste Legierung NI-PH2801 (NiCr16Fe7Ti3Nb1Al1) - Mit selbstverzehrender Elektrode umgeschmolzen - Drähte, kaltgezogen, für die Herstellung von Gewindeeinsätzen - D ≤ 3 mm

This European Standard was approved by CEN on 14 January 2019.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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 3018:2019) 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 June 2020, and conflicting national standards shall be withdrawn at the latest by June 2020.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 3018:2019 (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 European Standard specifies the requirements relating to:

Heat resisting alloy NI-PH2801 (NiCr16Fe7Ti3Nb1Al1)
Consumable electrode remelted
Cold drawn wire for the manufacture
of the thread inserts
 $D \leq 3$ 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 2043, *Aerospace series — Metallic materials — General requirements for semi-finished product qualification (excluding forgings and castings)*

EN 3235-5, *Aerospace series — Heat resisting alloys — Wrought products — Technical specification Part 5: Wire*¹⁾

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3 Terms and definitions (standards.iteh.ai)

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:
SIST EN 3018:2020
<https://standards.iteh.ai/catalog/standards/sist/9ea9c9f3-c581-4b90-bec5-f5973fa056cd/sist-en-3018-2020>

- 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/>

EN 3018:2019 (E)

Table 1 — Requirements for heat resisting alloy NI-PH2801 (NiCr16Fe7Ti3Nb1Al1)

1	Material designation	Heat resisting alloy NI-PH2801 (NiCr16Fe7Ti3Nb1Al1)						
2	Chemical composition %	Element	C	Si	Mn	P	S	Co
		min.	–	–	–	–	–	–
		max.	0,08	0,50	1,00	0,015	0,010	1,00
	Element	Cr	Fe	Nb + Ta	Ti	Al	Cu	Ni
		min.	14,0	5,00	0,70	2,25	0,40	–
max.	17,0	9,00	1,20	2,75	1,00	0,50		
3	Method of melting	Consumable electrode remelted						
4.1	Form	Wire						
4.2	Method of production	Cold drawn						
4.3	Limit dimension(s)	mm	$D \leq 3$					
5	Technical specification	EN 3235-5						

6.1	Delivery condition	Cold drawn						
	Heat treatment	–						
6.2	Delivery condition code	<i>U</i>						
7	Use condition	Delivery condition $+700\text{ °C} \pm 5\text{ °C}/t \geq 4\text{ h/AC}$						
	Heat treatment	iTech STANDARD PREVIEW						

Characteristics
(standards.iten.ai)

8.1	Test sample(s)	See EN 3235-5.						
8.2	Test piece(s)	SIST EN 3018:2020 See EN 3235-5.						
8.3	Heat treatment	https://standards.iten.ai/catalog/standards/sist/9ea9e913-c581-4b90-bec5-15973fa156ed/sist-en-3018-2020 Delivery condition Use condition						
9	Dimensions concerned	mm	$D \leq 3$				$D \leq 3$	
10	Thickness of cladding on each face	%	–				–	
11	Direction of test piece	<i>L</i>				<i>L</i>		
12	Temperature	θ	°C	Ambient				Ambient
13	Proof stress	$R_{p0,2}$	MPa	–				–
14	T Strength	R_m	MPa	≥ 900				$\geq 1\ 240$
15	Elongation	<i>A</i>	%	–				–
16	Reduction of area	<i>Z</i>	%	–				–
17	Hardness	–						
18	Shear strength	R_c	MPa	–				–
19	Bending	<i>k</i>	–	–				–
20	Impact strength	–						
21	Temperature	θ	°C	–				–
22	Time	h		–				–
23	Stress	σ_a	MPa	–				–
24	C Elongation	<i>a</i>	%	–				–
25	Rupture stress	σ_R	MPa	–				–
26	Elongation at rupture	<i>A</i>	%	–				–
27	Notes (see line 98)	–						

43	Wrapping test for wires	-	-
		6	Number of single turns = 5 Diameter of mandrel = diameter of wire
		7	No cracks
44	External defects	-	See EN 3235-5.
		1	Only visual is required
95	Marking inspection	-	See EN 3235-5.
96	Dimensional inspection	-	See EN 3235-5.
98	Notes	-	-
99	Typical use	-	Wire for the manufacture of thread inserts.
100	-	Product qualification	-
			See EN 2043 Qualification programme to be agreed between manufacturer and purchaser.

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