



SLOVENSKI STANDARD
SIST EN 4373:2007
01-november-2007

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Aerospace series - Heat resisting alloy NI-PD9001 (NiCu31) - Annealed, seamless tube
D ≤ 75 mm, a ≤ 3 mm

Luft- und Raumfahrt - Hochwarmfeste Legierung NI-PD9001 (NiCu31) - Geglüht,
nahtlose Rohre D ≤ 75 mm, a ≤ 3 mm

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Série aérospatiale - Alliage résistant a chaud NI-PD9001 (NiCu31) - Recuit, tubes sans
soudure D ≤ 75 mm, a ≤ 3 mm

[SIST EN 4373:2007](https://standards.iteh.ai/catalog/standards/sist/043516ae-0b7b-48f0-b361-6ccc426aad6/sist-en-4373-2007)

Ta slovenski standard je istoveten z: EN 4373:2007

ICS:

49.025.15 Neželezove zlitine na Non-ferrous alloys in general
splošno

SIST EN 4373:2007

en

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ICS 49.025.15

English Version

**Aerospace series - Heat resisting alloy NI-PD9001 (NiCu31) -
Annealed, seamless tube $D \leq 75$ mm, $a \leq 3$ mm**

Série aérospatiale - Alliage résistant à chaud NI-PD9001
(NiCu31) - Recuit, tubes sans soudure $D \leq 75$ mm, $a \leq 3$
mm

Luft- und Raumfahrt - Hochwarmfeste Legierung NI-
PD9001 (NiCu31) - Geglüht, nahtlose Rohre $D \leq 75$ mm, a
 ≤ 3 mm

This European Standard was approved by CEN on 15 March 2007.

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 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 Management Centre has the same status as the official versions.

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

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

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Foreword

This document (EN 4373:2007) 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 February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

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Introduction

This 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 4500-3.

1 Scope

This standard specifies the requirements relating to:

Heat resisting alloy NI-PD9001 (NiCu31) — Annealed, seamless tube $D \leq 75$ mm, $a \leq 3$ mm

for aerospace applications.

2 Normative references

The following referenced documents are indispensable for the application 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)*¹⁾

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

EN 4500-3, *Aerospace — Metallic materials — Rules for drafting and presentation of material standards — Part 3: Specific rules for heat resisting alloys*¹⁾

EN 4700-3, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 3: Tube*¹⁾

¹⁾ Published as AECMA prestandard at the date of publication of this standard.

1	Material designation		Heat resisting alloy NI-PD9001 (NiCu31)							
2	Chemical composition %	Element	C	Si	Mn	S	Al	Cu	Fe	Ni
		min.	0,080	–	–	–	–	28,0	–	Base
		max.	0,16	0,50	2,00	0,024	0,50	34,0	2,50	
3	Method of melting		Air melted							
4.1	Form		Seamless tube							
4.2	Method of production		Cold drawn							
4.3	Limit dimension(s)	mm	$D \leq 75, a \leq 3$							
5	Technical specification		EN 4700-3							

6.1	Delivery condition		Annealed							
	Heat treatment		$\theta = 870 \text{ °C} \pm 10 \text{ °C} / 5 \text{ min} \leq t \leq 10 \text{ min} / \text{Inert atmosphere}$							
6.2	Delivery condition code		U							
7	Use condition		Delivery condition							
	Heat treatment		–							

Characteristics

8.1	Test sample(s)		Cut from tube							
8.2	Test piece(s)		See EN 4700-3							
8.3	Heat treatment		Delivery condition							
9	Dimensions concerned	mm	$D \leq 75, a \leq 3$							
10	Thickness of cladding on each face	%	–							
11	Direction of test piece		https://standards.iteh.ai/catalog/standards/sist/043516ae-0b7b-48f0-b361-0ecc4426aad6/sist-en-4373-2007							
12	Temperature	θ	°C	Ambient						
13	Proof stress	$R_{p0,2}$	MPa	$170 \leq R_{p0,2} \leq 310$						
14	T Strength	R_m	MPa	$490 \leq R_m \leq 590$						
15	Elongation	A	%	≥ 32						
16	Reduction of area	Z	%	–						
17	Hardness		$\leq 180 \text{ HV}$							
18	Shear strength	R_c	MPa	–						
19	Bending	k	–	–						
20	Impact strength		–							
21	Temperature	θ	°C	–						
22	Time		h	–						
23	Stress	σ_a	MPa	–						
24	C Elongation	a	%	–						
25	Rupture stress	σ_R	MPa	–						
26	Elongation at rupture	A	%	–						
27	Notes (see line 98)		–							

33	Flattening of tubes	–	See EN 4700-3
41	Grain size	–	See EN 4700-3
44	External defects	–	See EN 4700-3
55	Deformation under pressure of tubes	–	See EN 4700-3
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95	Marking inspection	–	See EN 4700-3
96	Dimensional inspection	–	See EN 4700-3
98	Notes	–	–
99	Typical use	–	–