



# SLOVENSKI STANDARD

## SIST EN 3944:2001

01-januar-2001

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**Aerospace series - Nickel base alloy NI-B41204 (NiCr13Si4B3) - Filler metal for brazing - Tape**

Aerospace series - Nickel base alloy NI-B41204 (NiCr13Si4B3) - Filler metal for brazing - Tape

Luft- und Raumfahrt - Nickelbasislegierung NI-B41204 (NiCr13Si4B3) - Hartlot in Form von Band

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Série aérospatiale - Alliage base nickel NI-B41204 (NiCr13Si4B3) - Métal d'apport de brasage - Feuillard de poudre agglomérée

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**Ta slovenski standard je istoveten z: EN 3944:1998**

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**ICS:**

49.025.99

Drugi materiali

Other materials

**SIST EN 3944:2001**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 3944

April 1998

ICS 49.025.99

Descriptors: aircraft industry, filler metals, brazing, nickel alloys, powdery materials, strips, designation, chemical composition, delivery condition, characteristics, specifications

English version

Aerospace series - Nickel base alloy NI-B41204 (NiCr13Si4B3) -  
Filler metal for brazing - Tape

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(NiCr13Si4B3) - Métal d'apport de brasage - Feuillard de  
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(NiCr13Si4B3) - Hartlot in Form von Band

This European Standard was approved by CEN on 17 December 1997.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

## Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, 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 October 1998, and conflicting national standards shall be withdrawn at the latest by October 1998.

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

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REPUBLIKA SLOVENIJA  
AGENCIJA REPUBLIKE SLOVENIJE  
ZA KVALITETO  
ANALIZIRANJE

1998-10-15

EVROPEJSKI SISTEM ZA KVALITETO



## 0 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 4500-6.

## 1 Scope

This standard specifies the requirements relating to:

Nickel base alloy NI-B41204 (NiCr13Si4B3)  
Filler metal for brazing  
Tape

for aerospace applications.

## 2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 2043	Aerospace series - Metallic materials - General requirements for semi-finished product qualification (excluding forgings and castings) <sup>1)</sup>
EN 3875	Aerospace series - Metallic materials - Filler metal for brazing - Technical specification <sup>1)</sup>
EN 3943	Aerospace series - Nickel base alloy NI-B41204 (NiCr13Si4B3) - Filler metal for brazing - Powder or paste <sup>1)</sup>
EN 4258	Aerospace series - Metallic materials - General organization of standardization - Links between types of EN standards and their use <sup>1)</sup>
EN 4500-6	Aerospace series - Metallic materials - Rules for drafting and presentation of material standards - Part 6: Specific rules for filler metals for brazing <sup>1)</sup>

<sup>1)</sup> Published as AECMA Prestandard at the date of publication of this standard

1	Material designation	Nickel base braze alloy NI-B41204 (NiCr13Si4B3)														
2	Chemical composition <sup>1)</sup> %	Element	C	Si	P	S	B	Cr	Fe	Al	Co	Se	Ti	Zr	Others	Ni
															Total	
		min.	–	3,50	–	–	2,50	12,0	3,0	–	–	–	–	–	–	–
max.	0,03	4,50	0,02	0,02	3,25	14,0	5,0	0,05	0,10	50*)	0,05	0,05	0,05			
3	Method of melting	Air or inert gas or vacuum melted														
4.1	Form	Tape														
4.2	Method of production	Produced from powder EN 3943														
4.3	Limit dimension(s)	mm	–													
5	Technical specification	EN 3875														

6.1	Delivery condition	As manufactured
	Heat treatment	–
6.2	Delivery condition code	U
7	Use condition	Delivery condition
	Heat treatment	–

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Characteristics

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8.1	Test sample(s)	<a href="https://standards.iteh.ai/catalog/standards/sist/bfd3f3e3-dc4f-42ad-855e-5495339f0e2/sist-en-3944-2001">https://standards.iteh.ai/catalog/standards/sist/bfd3f3e3-dc4f-42ad-855e-5495339f0e2/sist-en-3944-2001</a>		
8.2	Test piece(s)	–		
8.3	Heat treatment	–		
9	Dimensions concerned	mm	–	
10	Thickness of cladding on each face	%	–	
11	Direction of test piece	–		
12	Temperature	$\theta$	°C	–
13	Proof stress	$R_{p0,2}$	MPa	–
14	T Strength	$R_m$	MPa	–
15	Elongation	A	%	–
16	Reduction of area	Z	%	–
17	Hardness	–		
18	Shear strength	$R_c$	MPa	–
19	Bending	k	–	–
20	Impact strength	–		
21	Temperature	$\theta$	°C	–
22	Time		h	–
23	Stress	$\sigma_a$	MPa	–
24	C Elongation	a	%	–
25	Rupture stress	$\sigma_R$	MPa	–
26	Elongation at rupture	A	%	–
27	Notes (see line 98)	*) 1)		

44	External defects	-	See EN 3875
53	Thermal analysis (Differential thermal analysis)	-	See EN 3875
		7	Liquidus : 1 125 °C Solidus : 960 °C
76	Wettability (Fusion test)	-	See EN 3875
77	Mass per unit area	-	See EN 3875
78	Metallic alloy content	-	See EN 3875
		7	≥ 91 %
82	Batch uniformity (Material verification)	-	See EN 3875
<p><b>iTeh STANDARD PREVIEW</b> (standards.iteh.ai)</p> <p>SIST EN 3944:2001  <a href="https://standards.iteh.ai/catalog/standards/sist/bfd3f3e3-dc4f-42ad-855e-5495339fc0c2/sist-en-3944-2001">https://standards.iteh.ai/catalog/standards/sist/bfd3f3e3-dc4f-42ad-855e-5495339fc0c2/sist-en-3944-2001</a></p>			
95	Marking inspection	-	See EN 3875
96	Dimensional inspection	-	See EN 3875
98	Notes	-	*) p.p.m. 1) The chemical composition refers to the metallic alloy content.
99	Typical use	-	Joining nickel and cobalt base alloys.

100	-	Product qualification	-	See EN 2043
Qualification programme to be agreed between manufacturer and purchaser.				
<p data-bbox="451 981 1107 1099"><b>iTeh STANDARD PREVIEW</b> <b>(standards.iteh.ai)</b></p> <p data-bbox="424 1131 1135 1227"><u>SIST EN 3944:2001</u> <a href="https://standards.iteh.ai/catalog/standards/sist/bfd3f3e3-dc4f-42ad-855e-5495339fc0c2/sist-en-3944-2001">https://standards.iteh.ai/catalog/standards/sist/bfd3f3e3-dc4f-42ad-855e-5495339fc0c2/sist-en-3944-2001</a></p>				