SLOVENSKI STANDARD

SIST EN 4314:2007

01-november-2007

Aeronavtika - Zlitina FE-PA2602 (X4NiCrTiMoV26-15), odporna proti vroļ ini - Toplotno neobdelani materiali za kovanje a ali D <= 250 mm

Aerospace series - Heat resisting alloy FE-PA2602 (X4NiCrTiMoV26-15) - Non heat treated, forging stock a or D <= 250 mm

Luft- und Raumfahrt - Hochwarmfeste Legierung FE-PA2602 (X4NiCrTiMoV26-15) - Nicht wärmebehandelt, Schmiedevormaterial a oder D <= 250 mm

Série aérospatiale - Alliage résistant a chaud FE-PA2602 (X4NiCrTiMoV26-15) - Non traité, produits destinés a la forge a ou D <= 250 mm

Ta slovenski standard je istoveten z: EN 4314:2007

ICS:

49.025.05 Železove zlitine na splošno Ferrous alloys in general

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 4314

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English Version

Aerospace series - Heat resisting alloy FE-PA2602 (X4NiCrTiMoV26-15) - Non heat treated, forging stock a or D ≤ 250 mm

Série aérospatiale - Alliage résistant à chaud FE-PA2602 (X4NiCrTiMoV26-15) - Non traité, produits destinés à la forge a ou D ≤ 250 mm

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

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Foreword

This document (EN 4314:2007) 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of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

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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 FE-PA2602 (X4NiCrTiMoV26-15) — Non heat treated, forging stock *a* or $D \leq 250$ 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 2860-2, *Aerospace series — Heat resisting alloys — Forging stock and forgings — Technical specification — Part 2: Forging stock*[1)]

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

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

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

1	Material designation		Heat resisting alloy FE-PA2602 (X4NiCrTiMoV26-15)												
2	Chemical composition %	Element	C	Si	Mn	P	S	Al	B	Cr	Mo	Ni	Ti	V	Pb	Fe
		min.	–	–	–	–	–	–	30[a]	13,5	1,00	24,0	1,70	0,10	–	Base
		max.	0,060	0,50	2,00	0,020	0,015	0,35	100[a]	16,0	1,50	27,0	2,00	0,50	20[a]	
3	Method of melting		Consumable electrode remelted												
4.1	Form		Forging stock												
4.2	Method of production		–												
4.3	Limit dimension(s)	mm	*a* or $D \leq 250$												
5	Technical specification		EN 2860-2												

6.1	Delivery condition	Non heat treated
	Heat treatment	–
6.2	Delivery condition code	U
7	Use condition	Delivery condition
	Heat treatment	–

Characteristics

8.1	Test sample(s)				See 2860-2
8.2	Test piece(s)				See 2860-2
8.3	Heat treatment				See line 29
9	Dimensions concerned			mm	*a* or $D \leq 250$
10	Thickness of cladding on each face			%	–
11	Direction of test piece				T
12	T	Temperature	θ	°C	Ambient
13	T	Proof stress	$R_{p0,2}$	MPa	≥ 580
14	T	Strength	R_m	MPa	≥ 850
15	T	Elongation	A	%	≥ 20
16	T	Reduction of area	Z	%	–
17	Hardness				≥ 235 HB
18	Shear strength		R_c	MPa	–
19	Bending		k	–	–
20	Impact strength				–
21	C	Temperature	θ	°C	650[b]
22	C	Time		h	$t_R \geq 30$
23	C	Stress	σ_a	MPa	–
24	C	Elongation	*a*	%	–
25	C	Rupture stress	σ_R	MPa	410
26	C	Elongation at rupture	A	%	≥ 3,5
27	Notes (see line 98)				a, b

29	Reference heat treatment	–	Solution treated and precipitation treated θ = 980 °C ± 10 °C / $t \geq$ 1 h / AC + θ = 720 °C ± 10 °C (Heating from θ = 550 °C to θ = 710 °C / $t \geq$ 1 h) / t = 16 h / AC
44	External defects	–	See EN 2860-2
51	Macrostructure	–	See EN 2860-2
		7	To be defined on the order
61	Internal defects	–	See EN 2860-2
		7	Class 2
96	Marking inspection	–	See EN 2860-2
97	Dimensional inspection	–	See EN 2860-2
98	Notes	–	[a] p.p.m. [b] Combined notched – unnotched test piece. The rupture shall occur in the unnotched section.
99	Typical use	–	–