SLOVENSKI STANDARD
SIST EN 3816:2009

01-maj-2009

Aeronavtika - Jeklo FE-PA3601 (X6CrNiTi18-10) - Taljeno - Mehļano in hladno valjano - Ploļevina in trakovi a Ò3 mm - Rm Ó800 MPa

Aerospace series - Steel FE-PA3601 (X6CrNiTi18-10) - Air melted - Softened and cold rolled - Sheet and strip a Ò3 mm - Rm Ó800 MPa

Luft- und Raumfahrt - Stahl FE-PA3601 (X6CrNiTi18-10) - Lufterschmolzen - Abgeschreckt und kaltgewalzt - Bleche und Bª nder - a Ò3 mm - Rm Ó800 MPa

S®rie a®rospatiale - Acier FE-PA3601 (X6CrNiTi18-10) - £ labor®¨ l'air - Tremp®et lamin®¨ froid - T¹ les et bandes - a Ò3 mm - Rm Ó800 MPa

Ta slovenski standard je istoveten z: **EN 3816:2006**

ICS:

49.025.10	Jekla	Steels

SIST EN 3816:2009 **en,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3816

December 2006

ICS 49.025.10

English Version

Aerospace series - Steel FE-PA3601 (X6CrNiTi18-10) - Air melted - Softened and cold rolled - Sheet and strip a ≤ 3 mm - Rm ≥ 800 MPa

Série aérospatiale - Acier FE-PA3601 (X6CrNiTi18-10) - Élaboré à l'air - Trempé et laminé à froid - Tôles et bandes - a ≤ 3 mm - Rm ≥ 800 MPa

Luft- und Raumfahrt - Stahl FE-PA3601 (X6CrNiTi18-10) - Lufterschmolzen - Abgeschreckt und kaltgewalzt - Bleche und Bänder - a ≤ 3 mm - Rm ≥ 800 MPa

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

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Foreword

This document (EN 3816:2006) 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of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

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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 4500-5.

1 Scope

This standard specifies the requirements relating to:

Steel FE-PA3601 (X6CrNiTi18-10)
Air melted
Softened and cold rolled
Sheet and strip
$a \leq 3$ mm
$R_m \geq 800$ MPa

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 4500-5, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards — Part 5: Specific rules for steels.* [1)]

EN 4700-1, *Aerospace series — Steel and heat resisting alloy — Wrought products — Technical specification — Part 1: Plate, sheet and strip.* [1)]

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

1	Material designation		Steel FE-PA3601 (X6CrNiTi18-10)								
2	Chemical composition %	Element	C	Si	Mn	P	S	Cr	Ni	Ti	Fe
		min.	–	–	–	–	–	17,0	9,0	5 x % C	Base
		max.	0,08	1,00	2,00	0,035	0,025	19,0	11,0	0,60	
3	Method of melting		Air melted								
4.1	Form		Sheet and strip								
4.2	Method of production		Cold rolled								
4.3	Limit dimension(s)	mm	$a \leq 3$								
5	Technical specification		EN 4700-1								

6.1	Delivery condition	Softened + cold rolled
	Heat treatment	1 050 °C ≤ θ ≤ 1 100 °C / AQ or WQ
6.2	Delivery condition code	U
7	Use condition	Delivery condition
	Heat treatment	–

Characteristics

8.1	Test sample(s)				See EN 4700-1.
8.2	Test piece(s)				See EN 4700-1.
8.3	Heat treatment				Delivery condition
9	Dimensions concerned			mm	$a \leq 3$
10	Thickness of cladding on each face			%	–
11	Direction of test piece				See EN 4700-1.
12	T	Temperature	θ	°C	Ambient
13	T	Proof stress	$R_{p0,2}$	MPa	≥ 700
14	T	Strength	R_m	MPa	≥ 800
15	T	Elongation	A	%	≥ 10
16	T	Reduction of area	Z	%	–
17	Hardness				250 ≤ HV ≤ 350
18	Shear strength		R_c	MPa	–
19	Bending		k	–	1 ; α = 180°
20	Impact strength				–
21	C	Temperature	θ	°C	–
22	C	Time		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)				–

30	Microstructure	–	See EN 4700-1.
34	Grain size	–	See EN 4700-1.
		7	G ≥ 5
44	External defects	–	See EN 4700-1.
80	Magnetic permeability	1	Test method to be agreed between manufacturer and purchaser
		7	μr < 1,2 for a magnetic field of 15 915 A/m
95	Marking inspection	–	See EN 4700-1.
96	Dimensional inspection	–	See EN 4700-1.
98	Notes	–	–
99	Typical use	–	Components of self-locking nuts (cages, washers, etc.).

100	–	Product qualification	–	See EN 2043.
				Qualification programme to be agreed between manufacturer and purchaser.