



SLOVENSKI STANDARD  
SIST EN 2478:2008  
01-junij-2008

Aeronavtika - Jeklo FE-PL2107 (30NiCrMo16) - 1 220 MPa <= Rm <= 1 370 MPa -  
Palice - De <= 40 mm

Če je potrebno, se lahko uporabijo dodatni testi, ki jih določa standard. Če se uporablja dodatni test, se mora uporabiti tudi standard, ki ga določa ta standard.

Številni dodatni testi, ki jih določa standard, so opisani v dodatnih standardih, ki jih določa ta standard. Če se uporablja dodatni test, se mora uporabiti tudi standard, ki ga določa ta standard.

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Učinkovitost dodatnih testov, ki jih določa standard, je odvisna od tega, kako se uporabljajo. Če se uporablja dodatni test, se mora uporabiti tudi standard, ki ga določa ta standard.

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Ta slovenski standard je istoveten z: EN 2478:2008

**ICS:**

49.025.10

**SIST EN 2478:2008**

**en**

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ICS 49.025.10

English Version

**Aerospace series - Steel FE-PL2107 (30NiCrMo16) - 1 220 MPa  
≤ Rm ≤ 1 370 MPa - Bars - De ≤ 40 mm**

Série aérospatiale - Acier FE-PL2107 (30NiCrMo16) - 1 220  
MPa ≤ Rm ≤ 1 370 MPa - Barres - De ≤ 40 mm

Luft- und Raumfahrt - Stahl FE-PL2107 (30NiCrMo16) - 1  
220 MPa ≤ Rm ≤ 1 370 MPa - Stangen - De ≤ 40 mm

This European Standard was approved by CEN on 10 November 2007.

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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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Foreword

This document (EN 2478:2008) 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 September 2008, and conflicting national standards shall be withdrawn at the latest by September 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 4500-5.

## 1 Scope

This standard specifies the requirements relating to:

Steel FE-PL2107 (30NiCrMo16)  
 $1\,220\text{ MPa} \leq R_m \leq 1\,370\text{ MPa}$   
 Bars  
 $D_e \leq 40\text{ mm}$

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 2034, *Round steel bars drawn and/or descaled — Dimensions — Tolerance h 11 — Aerospace series.* <sup>1)</sup>

EN 2042, *Square steel bars — Rolled — Dimensions — Tolerance js 16 — Aerospace series.* <sup>1)</sup>

EN 2951, *Aerospace series — Metallic materials — Test method — Micrographic determination of content of non-metallic inclusions.* <sup>2)</sup>

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.* <sup>2)</sup>

EN 4700-2, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 2: Bar and section.* <sup>2)</sup>

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

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

**EN 2478:2008 (E)**

1	Material designation		Steel FE-PL2107 (30NiCrMo16)								
2	Chemical composition %	Element	C	Si	Mn	P	S	Cr	Mo	Ni	Fe
		min.	0,26	0,10	0,20	–	–	1,20	0,30	3,30	Base
		max.	0,33	0,40	0,60	0,025	0,020	1,50	0,60	4,30	
3	Method of melting		Air melted								
4.1	Form		Bars								
4.2	Method of production		–								
4.3	Limit dimension(s)	mm	$D_e \leq 40$								
5	Technical specification		EN 4700-2								

6.1	Delivery condition		Annealed			Hardened and tempered		
	Heat treatment		–			840 °C ≤ $\theta$ ≤ 860 °C / OQ + $\theta \geq 525$ °C / OQ		
6.2	Delivery condition code		A			U		
7	Use condition		Delivery condition			Delivery condition		
	Heat treatment		Delivery condition + 840 °C ≤ $\theta$ ≤ 860 °C / OQ + $\theta \geq 525$ °C / OQ			–		

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Characteristics

8.1	Test sample(s)		See EN 4700-2.								
8.2	Test piece(s)		See EN 4700-2.								
8.3	Heat treatment		Annealed			Hardened and tempered					
9	Dimensions concerned	mm	$D_e \leq 40$								
10	Thickness of cladding on each face	%	–								
11	Direction of test piece		L								
12	Temperature	$\theta$	°C	Room temperature							
13	Proof stress	$R_{p0,2}$	MPa	–			≥ 1 020				
14	T Strength	$R_m$	MPa	–			1 220 ≤ $R_m$ ≤ 1 370				
15	Elongation	A	%	–			≥ 8				
16	Reduction of area	Z	%	–			–				
17	Hardness		HB ≤ 270 HV ≤ 285 <sup>a</sup>			360 ≤ HB ≤ 400 380 ≤ HV ≤ 420 <sup>a</sup>					
18	Shear strength	$R_c$	MPa	–							
19	Bending	k	–	–							
20	Impact strength		–			≥ 25					
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)		a								

34	Grain size	–	See EN 4700-2.
		7	$G \geq 5$
44	External defect	–	See EN 4700-2.
		1	Visual
50	Cleanliness inclusion content (micro cleanliness)	–	See EN 4700-2.
		7	EN 2951 – Category 2
61	Internal defects	–	See EN 4700-2.
		6	$A$ or $D \leq 35$ may be tested either on the product or at an earlier stage of manufacturing
		7	Class 2
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95	Marking inspection	–	See EN 4700-2.
96	Dimensional inspection	–	See EN 4700-2.
		7	EN 2034 (round bar) EN 2042 (square bar)
98	Notes	– <sup>a</sup>	HV for $D_e \leq 5$ mm.
99	Typical use	–	Low alloy general purpose steel.

100	-	Product qualification	-	See EN 4700-2.
				Qualification programme to be agreed between manufacturer and purchaser.
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