SLOVENSKI STANDARD
SIST EN 2482:2011

01-november-2011

Aeronavtika - Jeklo FE-PL2108 (35NiCrMo16) - 1100 MPa ≤ Rm ≤ 1300 MPa - Palice - De ≤ 100 mm

Aerospace series - Steel FE-PL2108 (35NiCrMo16) - 1100 MPa ≤ Rm ≤ 1300 MPa - Bars - De ≤ 100 mm

Luft- und Raumfahrt - Stahl FE-PL2108 (35NiCrMo16) - 1100 MPa ≤ Rm ≤ 1300 MPa - Stangen - De ≤ 100 mm

Série aérospatiale - Acier FE-PL2108 (35NiCrMo16) - 1100 MPa ≤ Rm ≤ 1300 MPa - Barres - De ≤ 100 mm

Ta slovenski standard je istoveten z: **EN 2482:2010**

ICS:

49.025.10 Jekla Steels

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EUROPEAN STANDARD

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English Version

Aerospace series - Steel FE-PL2108 (35NiCrMo16) - 1 100 MPa ≤ R_m ≤ 1 300 MPa - Bars - D_e ≤ 100 mm

Série aérospatiale - Acier FE-PL2108 (35NiCrMo16) - 1 100 MPa ≤ R_m ≤ 1 300 MPa - Barres - D_e ≤ 100 mm

Luft- und Raumfahrt - Stahl FE-PL2108 (35NiCrMo16) - 1 100 MPa ≤ R_m ≤ 1 300 MPa - Stangen - D_e ≤ 100 mm

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

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Contents

Foreword

This document (EN 2482:2010) 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of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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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-PL2108 (36NiCrMo16)
1 100 MPa ≤ R_m ≤ 1 300 MPa
Bars
D_e ≤ 100 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 2951, *Aerospace series — Metallic materials — Test method — Micrographic determination of content of non-metallic inclusions* [1)]

EN 4050-4, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 4: Acceptance criteria* [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 4700-002, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 002: Bar and section*

1) Published as ASD-STAN Prestandard at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) (www.asd-stan.org).

1	Material designation		Steel FE-PL2108 (36NiCrMo16)								
2	Chemical composition %	Element	C	Si	Mn	P	S	Cr	Mo	Ni	Fe
		min.	0,30	0,15	0,30	–	–	1,60	0,25	3,50	Base
		max.	0,40	0,40	0,60	0,025	0,020	2,00	0,60	4,20	
3	Method of melting		Air melted								
4.1	Form		Bars								
4.2	Method of production		–								
4.3	Limit dimension(s)	mm	$D_e \leq 100$								
5	Technical specification		EN 4700-002								

6.1	Delivery condition	Annealed	Hardened and tempered
	Heat treatment	–	860 °C ≤ θ ≤ 890 °C / AQ + θ ≥ 560 °C
6.2	Delivery condition code	A	U
7	Use condition	Hardened and tempered	Delivery condition
	Heat treatment	Delivery condition + 860 °C ≤ θ ≤ 890 °C / AQ + θ ≥ 560 °C	–

				Characteristics		
8.1	Test sample(s)			See EN 4700-002.		
8.2	Test piece(s)			See EN 4700-002.		
8.3	Heat treatment			Annealed	Hardened and tempered	
9	Dimensions concerned		mm	$D_e \leq 100$		
10	Thickness of cladding on each face		%	–		
11	Direction of test piece			–		
12	T	Temperature	θ °C	Ambient		
13	T	Proof stress	$R_{p0,2}$ MPa	–	≥ 900	
14	T	Strength	R_m MPa	–	1 100 ≤ R_m ≤ 1 300	
15	T	Elongation	A %	–	≥ 10	
16	T	Reduction of area	Z %	–	≥ 40	
17	Hardness			HB ≤ 293 HV ≤ 309 [a]	331 ≤ HB ≤ 388 350 ≤ HV ≤ 410 [a]	
18	Shear strength		R_c MPa	–		
19	Bending		k –	–		
20	Impact strength		KV J	–	≥ 25	
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)			a		

34	Grain size	–	See EN 4700-002.
		7	G ≥ 5
44	External defects	–	See EN 4700-002.
		1	Visual
50	Cleanliness/inclusion content	–	See EN 4700-002.
	(micro-cleanness)	1	EN 2951
		7	Category 2
61	Internal defects	–	See EN 4700-002.
		1	EN 4050-4
		6	*A* or *D* ≤ 35 may be tested either on the product or at an earlier stage of manufacturing
		7	Class 2
95	Marking inspection	–	See EN 4700-002.
96	Dimensional inspection	–	See EN 4700-002.
98	Notes	–	[a] HV for $D_e \leq 5$ mm.
99	Typical use	–	Low alloy general purpose steel.