SLOVENSKI STANDARD
SIST EN 2252:2012

01-maj-2012

Aeronavtika - Jeklo FE-PL1505 (15CrMoV6) - 1080 MPa ≤ Rm ≤ 1250 MPa - Kovani izdelki - De ≤ 100 mm

Aerospace series - Steel FE-PL1505 (15CrMoV6) - 1 080 MPa ≤ Rm ≤ 1 250 MPa - Forgings - De ≤ 100 mm

Luft- und Raumfahrt - Stahl FE-PL1505 (15CrMoV6) - 1 080 MPa ≤ Rm ≤ 1 250 MPa - Gesenk- und Freiformschmiedestücke - De ≤ 100 mm

Série aérospatiale - Acier FE-PL1505 (15CrMoV6) - 1 080 MPa ≤ Rm ≤ 1 250 MPa - Pièces forgées et matricées - De ≤ 100 mm

Ta slovenski standard je istoveten z: EN 2252:2012

ICS:

49.025.10 Jekla Steels

SIST EN 2252:2012 en,de

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 2252

February 2012

ICS 49.025.10

English Version

Aerospace series - Steel FE-PL1505 (15CrMoV6) - 1 080 MPa ≤ Rm ≤ 1 250 MPa - Forgings - De ≤ 100 mm

Série aérospatiale - Acier FE-PL1505 (15CrMoV6) - 1 080 MPa ≤ Rm ≤ 1 250 MPa - Pièces forgées et matricées - De ≤ 100 mm

Luft- und Raumfahrt - Stahl FE-PL1505 (15CrMoV6) - 1 080 MPa ≤ Rm ≤ 1 250 MPa - Gesenk- und Freiformschmiedestücke - De ≤ 100 mm

This European Standard was approved by CEN on 29 July 2011.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, 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, Turkey and United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 2252:2012: E

Contents

Page

Foreword

This document (EN 2252:2012) 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 August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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, Croatia, 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, Turkey and the United Kingdom.

Introduction

This European 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 European Standard has been prepared in accordance with EN 4500-5.

1 Scope

This European Standard specifies the requirements relating to:

Steel FE-PL1505 (15CrMoV6)
1 080 MPa ≤ R_m ≤ 1 250 MPa
Forgings
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 4050-4, *Aerospace series — Test method for metallic materials — Part 4: Acceptance criteria*

EN 4700-005, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 005: Forging stock*

EN 4700-006, *Aerospace series — Steel and heat resisting alloys — Wrought products — Technical specification — Part 006: Pre-production and production forgings*

1	Material designation		Steel FE-PL1505 (15CrMoV6)								
2	Chemical composition %	Element	C	Si	Mn	P	S	Cr	Mo	V	Fe
		min.	0,12	–	0,80	–	–	1,25	0,80	0.20	Base
		max.	0,18	0,20	1,10	0,020	0,015	1,50	1,00	0.30	
3	Method of melting		Air melted								
4.1	Form		Forgings								
4.2	Method of production		forged from forging stock EN 4700-005*								
4.3	Limit dimension(s)	mm	$D_e \leq 100$								
5	Technical specification		EN 4700-006								

6.1	Delivery condition	Annealed	Hardened and tempered
	Heat treatment	–	955 °C ≤ θ ≤ 995 °C / WQ or OQ + 595 °C ≤ θ ≤ 645 °C
6.2	Delivery condition code	A	U
7	Use condition	Hardened and tempered	Delivery condition
	Heat treatment	Delivery condition + 955 °C ≤ θ ≤ 995 °C / WQ or OQ + 595 °C ≤ θ ≤ 645 °C	–

Characteristics

8.1	Test sample(s)				See EN 4700-006.	
8.2	Test piece(s)				See EN 4700-006.	
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				L	
12	T	Temperature	θ	°C	Ambient	
13	T	Proof stress	$R_{p0,2}$	MPa	–	≥ 930
14	T	Strength	R_m	MPa	–	1 080 ≤ R_m ≤ 1 250
15	T	Elongation	A	%	–	≥ 10
16	T	Reduction of area	Z	%	–	–
17	Hardness				HB ≤ 197	321 ≤ HB ≤ 380
18	Shear strength		R_c	MPa	–	
19	Bending		k	–	–	
20	Impact strength		KV	J	–	≥ 30
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)				–	

34	Grain size	–	See EN 4700-006.
		7	G ≥ 5
44	External defects	–	See EN 4700-006.
51	Macrostructure (Grain flow)	–	See EN 4700-006.
61	Internal defects	–	See EN 4700-006.
		1	EN 4050-4
		7	Class 2
95	Marking inspection	–	See EN 4700-006.
96	Dimensional inspection	–	See EN 4700-006.
98	Notes	–	–
99	Typical use	–	Low alloy general purpose steel.