



SLOVENSKI STANDARD
SIST EN 3315:2019
01-januar-2019

Aeronavtika - Titanova zlitina TI-P64001 - Topilno žarjena in starana - Izkovki - De ≤ 75 mm

Aerospace series - Titanium alloy TI-P64001 - Solution treated and aged - Forgings - De ≤ 75 mm

Luft- und Raumfahrt - Titanlegierung TI-P64001 - Lösungsgeglüht und ausgelagert - Schmiedestücke - De ≤ 75 mm

Série aérospatiale - Alliage de titane TI-P64001 - Mis en solution et revenu - Pièces forgées et pièces matricées - De ≤ 75 mm

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Ta slovenski standard je istoveten z: EN 3315:2018

ICS:

49.025.30 Titan Titanium

SIST EN 3315:2019 en,fr,de

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EUROPEAN STANDARD

EN 3315

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2018

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English Version

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This European Standard was approved by CEN on 8 July 2018.

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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-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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 3315:2018) 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 May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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EN 3315:2018 (E)

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 4500-004.

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1 Scope

This European Standard specifies the requirements relating to:

Titanium alloy TI-P64001
Solution treated and aged
Forgings
 $D_e \leq 75$ mm

for aerospace applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2858-3, *Aerospace series — Titanium and titanium alloys — Forging stock and forgings — Technical specification — Part 3: Pre-production and production forgings*

EN 3313, *Aerospace series — Titanium alloy TI-P64001 — Not heat treated — Grade 2 forging stock, for solution treated and aged forgings — a or D \leq 360 mm*

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

EN 4500-004, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards — Part 004: Specific rules for titanium and titanium alloys*

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3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Requirements

See Table 1.

EN 3315:2018 (E)

Table 1 — Requirements for titanium alloy TI-P64001 — Solution and aged heat treat condition

1	Material designation	Titanium alloy TI-P64001																	
2	Chemical composition %	Element	Al	V	O ₂ +2N ₂	N ₂	H ₂	Fe	C	Others ^a		Ti							
			Each	Total															
		min.	5,5	3,5	-	-	-	-	-	-	-	-	Base						
max.	6,75	4,5	0,25	0,03	0,0 125	0,30	0,08	0,10	0,40										
3	Method of melting	Grade 2																	
4.1	Form	Forgings																	
4.2	Method of production	Forged from forging stock EN 3313																	
4.3	Limit dimension(s)	mm	$D_e \leq 75$																
5	Technical specification	EN 2858-3																	

6.1	Delivery condition	Solution treated and aged									
	Heat treatment	860 °C ≤ θ ≤ 960 °C ^b / t ≥ 30 min / Quenched in agitated water + 460 °C ≤ θ ≤ 600 °C / 2 h ≤ t ≤ 8 h / AC									
6.2	Delivery condition code	U									
7	Use condition	Delivery condition									
	Heat treatment	-									

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Characteristics

8.1	Test sample(s)	(standards.iteh.ai)									
8.2	Test piece(s)	-									
8.3	Heat treatment	Use condition https://standards.iteh.ai/catalog/standards/sist/6aed62c5-1add-4066-b05e-38879161aa/sist-en-3315-2019									
9	Dimensions concerned	mm	$D_e \leq 25$			$25 < D_e \leq 50$			$50 < D_e \leq 75$		
10	Thickness of cladding on each face	%	-			-			-		
11	Direction of test piece	See EN 2858-3.			See EN 2858-3.			See EN 2858-3.			
12	Temperature	θ	°C			Ambient			Ambient		
13	Proof stress	R _{p0,2}	MPa			≥ 1 030			≥ 1 000		
14	T Strength	R _m	MPa			≥ 1 100			≥ 1 070		
15	Elongation	A	%			≥ 8			≥ 8		
16	Reduction of area	Z	%			≥ 20			≥ 20		
17	Hardness	-									
18	Shear strength	R _c	MPa			-			-		
19	Bending	k	-			-			-		
20	Impact strength	-									
21	Temperature	θ	°C			-			-		
22	Time	h			-			-			
23	Stress	σ_a	MPa			-			-		
24	C Elongation	a	%			-			-		
25	Rupture stress	σ_R	MPa			-			-		
26	Elongation at rupture	A	%			-			-		
27	Notes (see line 98)	a, b									

44	External defects	-	See EN 2858-3.
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95	Marking inspection	-	See EN 2858-3.
96	Dimensional inspection	-	See EN 2858-3.
98	Notes	-	<p>^a Determination not required for routine acceptance.</p> <p>^b As an alternative Beta-transus minus 30 °C may be used as the solution heat treatment temperature.</p>
99	Typical use	-	-