SLOVENSKI STANDARD
SIST EN 2321:2019

01-junij-2019

Aeronavtika - Aluminijeva zlitina 2024-T3 - Palice in profili a < ali = 150 mm

Aerospace series - Aluminium Alloy 2024-T3 - Bars and Sections a < or = 150 mm

Luft- und Raumfahrt - Aluminiumlegierung 2024-T3 - Stangen und Profile - a ≤ 150 mm

Série aérospatiale - Alliage d'aluminium 2024-T3 - Barres et profilés - a ≤ 150 mm

Ta slovenski standard je istoveten z: **EN 2321:2019**

ICS:

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EUROPEAN STANDARD

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English Version

Aerospace series - Aluminium alloy 2024-T3 - Bars and sections - a ≤ 150 m

Série aérospatiale - Alliage d'aluminium 2024-T3 - Barres et profilés - a ≤ 150 mm

Luft- und Raumfahrt - Aluminiumlegierung 2024-T3 - Stangen und Profile - a ≤ 150 mm

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

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Contents

Page

European foreword

This document (EN 2321:2019) 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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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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 4500-2.

1 Scope

This European Standard specifies the requirements relating to:

Aluminium alloy 2024-T3
Bars and sections
$a \leq 150$ 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 2047, *Aerospace series — Beaded L-section extruded, in aluminium alloys — Dimensions*

EN 2048, *Aerospace series — Extruded L-section, in aluminium alloys — Dimensions*

EN 2049, *Aerospace series — Extruded channel section, in aluminium alloys — Dimensions*

EN 2050, *Aerospace series — Extruded T-section, in aluminium alloys — Dimensions*

EN 2066, *Aerospace series — Extruded section in aluminium alloys — General tolerances*

EN 2134, *Aerospace series — Round bars, extruded in aluminium and aluminium alloys — Diameter 10 mm ≤ D ≤ 220 mm — Dimensions*

EN 2341, *Aerospace series — Aluminium and aluminium alloy — Square and rectangular extruded bars — Dimensions* [1)]

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

EN 4400-3, *Aerospace series — Aluminium and aluminium alloy wrought products — Technical specification — Part 3: Aluminium and aluminium alloy bar and section*

EN 4500-2, *Aerospace series — Metallic materials — Rules for drafting and presentation of material standards — Part 2: Specific rules for aluminium, aluminium alloys and magnesium alloys* [2)]

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

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

2) 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

4 Requirements

See Table 1.

Table 1 — Requirements for aluminium alloy 2024-T3

1	Material designation		Aluminium alloy 2024-T3												
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ti + Zr	Others		Al
													Each	Total	
		min.	–	–	3,8	0,30	1,2	–	–	–	–	–	–	–	Remainder
		max.	0,50	0,50	4,9	0,9	1,8	0,10	–	0,25	0,15	0,20	0,05	0,15	
3	Method of melting		–												
4.1	Form		Extruded bars and sections												
4.2	Method of production		–												
4.3	Limit dimension(s)	mm	$a \leq 150$												
5	Technical specification		EN 4400-3. EN 2047, EN 2048, EN 2049, EN 2050, EN 2066, EN 2134 and EN 2341.												

6.1	Delivery condition	T3
	Heat treatment	Solution treated 495 °C ± 5 °C / WQ $\theta \leq 40$ °C + Naturally aged $t \geq 5$ d
6.2	Delivery condition code	–
7	Use condition	T3
	Heat treatment	Delivery condition

Characteristics

8.1	Test sample(s)			T3					
8.2	Test piece(s)			–					
8.3	Heat treatment			–					
9	Dimensions concerned		mm	≤ 10 [a]	10 < a ≤ 25	25 < a ≤ 75	75 < a ≤ 100	100 < a [b] ≤ 150	
10	Thickness of cladding on each face		%	–					
11	Direction of test piece			L	L	L	L	L	
12	T	Temperature	θ	°C	Ambient				
13	T	Proof stress	$R_{p0,2}$	MPa	≥ 330	≥ 330	≥ 340	≥ 330	≥ 320
14	T	Strength	R_m	MPa	≥ 440	≥ 440	≥ 470	≥ 460	≥ 450
15	T	Elongation	A	%	≥ 12 [c]	≥ 11	≥ 10	≥ 10	≥ 9
16	T	Reduction of area	Z	%	–	–	–	–	–
17	Hardness			120 HB (for information)					
18	Shear strength		R_c	MPa	–				
19	Bending		k	–	–				
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)			a, b, c					