SLOVENSKI STANDARD
SIST EN 2125:2019

01-november-2019

Aeronavtika - Aluminijeva zlitina Al-P16 - T6151 - Plošče 6 mm < a ≤ 120 mm

Aerospace series - Aluminium alloy Al-P16 - T6151 - Plates 6 mm < a ≤ 120 mm

Luft- und Raumfahrt - Aluminium-legierung Al-P16 - T6151 - Platten 6 mm < a ≤ 120 mm

Série aérospatiale - Alliage d'aluminium Al-P16 - T6151 - Tôles épaisses 6 mm < a ≤ 120 mm

Ta slovenski standard je istoveten z: **EN 2125:2019**

ICS:

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EUROPEAN STANDARD

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English Version

Aerospace series - Aluminium alloy Al-P16- - T6151 - Plates - 6 mm < a ≤ 120 mm

Série aérospatiale - Alliage d'aluminium Al-P16- - T6151 - Tôles épaisses - 6 mm ≤ a ≤ 120 mm

Luft- und Raumfahrt - Aluminiumlegierung Al-P16- - T6151 - Bleche - 6 mm < a ≤ 120 mm

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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 2125:2019) 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of an identical text or by endorsement, at the latest by March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

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Introduction

This document 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 document has been prepared in accordance with EN 4500-2.

1 Scope

This document specifies the requirements relating to:

Aluminium alloy Al-P16-
T6151
Plates
6 mm < a ≤ 120 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 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use*

EN 4400-1, *Aerospace series — Aluminium and aluminium- and magnesium- alloys — Technical specification - Part 1: Aluminium and aluminium alloy plate*

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*[1]

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:

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

4 Requirements

See Table 1.

[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), http://www.asd-stan.org/

Table 1 — Requirements for aluminium alloy Al-P16-

1	Material designation		Aluminium alloy Al-P16-												
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ti + Zr	Others		Al
													each	total	
		min.	0,50	–	3,9	0,40	0,20	–	–	–	–	–	–	–	Remainder
		max.	1,20	0,35	5,0	1,20	0,80	0,10	–	0,25	0,15	0,20	0,05	0,15	
3	Method of melting		—												
4.1	Form		Rolled plates												
4.2	Method of production		Controlled stretched												
4.3	Limit dimension(s)	mm	$6 < a \leq 120$												
5	Technical specification		See EN 4400-1.												

6.1	Delivery condition	T451[a]	T6151
	Heat treatment	Solution treated 503 °C ± 5 °C quenched in water/ $\theta \leq 40$ °C 1,5 % ≤ controlled stretched ≤ 3 %	Solution treated 503 °C ± 5 °C quenched in water/ $\theta \leq 40$ °C 1,5 % ≤ controlled stretched ≤ 3 % Artificially aged 180 °C ± 5 °C 3 h ≤ t ≤ 7 h
6.2	Delivery condition code	—	—
7	Use condition	T6151	T6151
	Heat treatment	Delivery condition then artificially aged 180 °C ± 5 °C 3 h ≤ t ≤ 7 h	Delivery condition

Characteristics

8.1	Test sample(s)			Specimens cut from the plates																
8.2	Test piece(s)			—																
8.3	Heat treatment			T6151																
9	Dimensions concerned		mm	$6 \leq a \leq 10$	$10 \leq a \leq 25$	$25 \leq a \leq 40$			$40 \leq a \leq 60$			$60 \leq a \leq 80$			$80 \leq a \leq 100$			$100 \leq a \leq 120$		
10	Thickness of cladding on each face		%	—																
11	Direction of test piece			LT	LT	L	LT	ST	L	LT	ST	L	LT	ST	L	LT	ST	L	LT	ST
12	Tb	Temperature	θ	°C	Ambient															
13	Tb	Proof stress	$R_{p0,2}$	MPa*	410	410	410	400	360	400	390	360	400	390	360	380	370	340	375	365	340
14	Tb	Strength	R_m	MPa*	460	460	460	450	420	450	450	420	440	440	420	430	430	410	430	420	400
15	Tb	Elongation	A	%	$A_{50\,mm} \leq 8$	6	6	5	2,5[c]	6	5	2,5[c]	6	5	2,5[c]	6	4	2,5[c]	6	4	2,5[c]
16	Tb	Reduction of area	Z	%	—															
17	Hardness			—																
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)																

32	Electrical conductivity	7	γ ≥ 22 MS/m (for information)
97	Designation	–	—
98	Notes	–	*) 1 MPa = 1 N/mm² a By order b Minimum values c Or $A_{4\sqrt{S}} \geq 3$ %
99	Typical use	–	—