SLOVENSKI STANDARD
SIST EN 3997:2016

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Nadomešča:
SIST EN 3997:2009

Aeronavtika - Aluminijeva zlitina AL-P2024-Al Cu4Mg1 - T3 - Pločevina in trakovi - 0,4 mm ≤ a ≤ 6 mm

Aerospace series - Aluminium alloy AL-P2024- Al Cu4Mg1 - T3 - Sheet and strip - 0,4 mm ≤ a ≤ 6 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2024- Al Cu4Mg1 - T3 - Bleche und Bänder - 0,4 mm ≤ a ≤ 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2024- Al Cu4Mg1 - T3 - Tôles et bandes - 0,4 mm ≤ a ≤ 6 mm

Ta slovenski standard je istoveten z: EN 3997:2015

ICS:

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EUROPEAN STANDARD
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English Version

Aerospace series - Aluminium alloy AL-P2024- Al Cu4Mg1 - T3 - Sheet and strip - 0,4 mm ≤ a ≤ 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2024- Al Cu4Mg1 - T3 - Tôles et bandes - 0,4 mm ≤ a ≤ 6 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2024- Al Cu4Mg1 - T3 - Bleche und Bänder - 0,4 mm ≤ a ≤ 6 mm

This European Standard was approved by CEN on 14 March 2013.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 3997:2015) 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of an identical text or by endorsement, at the latest by May 2016, and conflicting national standards shall be withdrawn at the latest by May 2016.

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This document supersedes EN 3997:2007.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 4500-2.

1 Scope

This standard specifies the requirements relating to:

Aluminium alloy AL-P2024- Al Cu4Mg1
T3
Sheet and strip
0,4 mm ≤ *a* ≤ 6 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 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use*

EN 4400-2, *Aerospace series — Aluminium and aluminium alloy wrought products — Technical specification — Part 2: Sheet and strip* [1)]

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)]

1) Published as ASD-STAN Prestandard at the date of publication of this standard (www.asd-stan.org).

1	Material designation		Aluminium alloy AL-P2024- Al Cu4Mg1 – T3										
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
											Each	Total	
		min.	–	–	3,8	0,30	1,2	–	–	–	–	–	Base
		max.	0,50	0,50	4,9	0,9	1,8	0,10	0,25	0,15	0,05	0,15	
3	Method of melting		–										
4.1	Form		Sheet and strip										
4.2	Method of production		Rolled										
4.3	Limit dimension(s)	mm	$0,4 \leq a \leq 6$										
5	Technical specification		EN 4400-2										

6.1	Delivery condition	T3
	Heat treatment	490 °C ≤ θ ≤ 500 °C / WQ θ ≤ 40 °C + Slight levelling permitted + age at room temperature t ≥ 5 days
6.2	Delivery condition code	U
7	Use condition	T3
	Heat treatment	Delivery condition

Characteristics

8.1	Test sample(s)			See EN 4400-2.									
8.2	Test piece(s)			See EN 4400-2.									
8.3	Heat treatment			Use condition									
9	Dimensions concerned		mm	$0,4 \leq a \leq 0,8$		$0,8 < a \leq 1,6$		$1,6 < a \leq 3,2$		$3,2 < a \leq 6$			
10	Thickness of cladding on each face		%	–									
11	Direction of test piece			L	LT	L	LT	L	LT	L	LT		
12	T	Temperature	θ °C	Ambient									
13	T	Proof stress	$R_{p0,2}$ MPa	≥ 325	≥ 290	≥ 325	≥ 290	≥ 325	≥ 290	≥ 325	≥ 290		
14	T	Strength	R_m MPa	≥ 440	≥ 440	≥ 440	≥ 440	≥ 440	≥ 440	≥ 450	≥ 445		
15	T	Elongation	$A_{50\,mm}$ %	≥ 15	≥ 15	≥ 15	≥ 15	≥ 15	≥ 15	≥ 15	≥ 15		
16	T	Reduction of area	Z %	–									
17	Hardness			–									
18	Shear strength		R_c MPa	–									
19	Bending		k –	2,5; α = 180°		3; α = 180°		3; α = 180°		4; α = 180°			
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)			–									

38	Intergranular corrosion	–	EN 4400-2			
		7	Dimensions (mm)	$0,4 \leq a \leq 1,6$	$1,6 < a \leq 3,2$	$3,2 < a \leq 6$
			Depth of penetration (µm)	≤ 125	≤ 150	≤ 200
44	External defects	–	EN 4400-2			
82	Batch uniformity (Material verification)	–	EN 4400-2			
		7	Electrical conductivity	γ	MS/m	19 (typical value)
		or				
		7	Hardness	HBW	100 (typical value)	
					δ ≤ 20 per product	Δ ≤ 30 per batch
95	Marking inspection	–	EN 4400-2			
96	Dimensional inspection	–	EN 4400-2			
98	Notes	–	–			
99	Typical use	–	–			