SLOVENSKI STANDARD
SIST EN 2089:2001

01-januar-2001

Aerospace series - Aluminium alloy AL-P2014A - T6 or T62 - Sheet and strip - 0,4 mm <= a <= 6 mm

Aerospace series - Aluminium alloy AL-P2014A - T6 or T62 - Sheet and strip - 0,4 mm <= a <= 6 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2014A - T6 oder T62 - Bleche und Bänder - 0,4 mm <= a <= 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2014A - T6 ou T62 - Tôles et bandes - 0,4 mm <= a <= 6 mm

Ta slovenski standard je istoveten z: **EN 2089:1994**

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EUROPEAN STANDARD

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Descriptors: Aircraft industry, aluminium alloys, metal plates, steel strips, specifications, dimensions

English version

Aerospace series - Aluminium alloy AL-P2014A - T6 or T62 - Sheet and strip - 0,4 mm ⩽ a ⩽ 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2014A - T6 ou T62 - Tôles et bandes - 0,4 mm ⩽ a ⩽ 6 mm

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This European Standard was approved by CEN on 1994-01-06. 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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

This standard was submitted for Formal Vote, and the result was positive.

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 July 1994, and conflicting national standards shall be withdrawn at the latest by July 1994.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

0 Introduction

For the use of this standard, see EN 2500-2.

1 Scope

This standard specifies the requirements relating to sheet and strip, in aluminium alloy AL-P2014A, for use in the T6 or T62 condition, 0,4 mm ≤ a ≤ 6 mm, for aerospace applications.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 2070-2 Aerospace series - Aluminium and aluminium alloy wrought products - Technical specification - Part 2 - Sheet, strip, formed profiles and plate

EN 2071 Sheets in aluminium and aluminium alloys - Thickness a ≤ 6 mm - Dimensions - Aerospace series [1)]

EN 2500-2 Aerospace series - Instructions for the drafting and use of metallic material standards - Part 2 - Specific requirements for aluminium, aluminium alloys and magnesium alloys [2)]

EN 2599 Aerospace series - Strip in aluminium and aluminium alloys - 0,3 mm ≤ a ≤ 3,2 mm - Dimensions [2)]

EN 2600 Aerospace series - Designation of metallic semi-finished products - Rules [2)]

1) Published as AECMA Standard at the date of publication of this standard
2) Published as AECMA Prestandard at the date of publication of this standard

1	Material designation		Aluminium alloy AL-P2014A											
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti+Zr	Ti	Others	Al
													Each / Total	
		min.	0,50	–	3,9	0,40	0,20	–	–	–	–	–	– / –	Base
		max.	0,9	0,50	5,0	1,2	0,8	0,10	0,10	0,25	0,20	0,15	0,05 / 0,15	
3	Method of melting		–											
4	Form Method of production Limit dimensions (mm)		Sheet and strip Rolled 0,4 ≤ a ≤ 6											
5	5.1 Technical specification		EN 2070-2											
	5.2 Dimensional standards		EN 2071, EN 2599											

6	6.1 Delivery condition and heat treatment	F As rolled	T4 500 °C ≤ θ ≤ 510 °C/WQ θ ≤ 40 °C + θ = ambient / t ≥ 5 d	T6 500 °C ≤ θ ≤ 510 °C/WQ θ ≤ 40 °C + 157 °C ≤ θ ≤ 163 °C/18h ≤ t ≤ 22h or + 170 °C ≤ θ ≤ 180 °C/7h ≤ t ≤ 12h
	6.2 Delivery condition code	F	K	U
7	Use condition and heat treatment	T62 Delivery condition + 500 °C ≤ θ ≤ 510 °C/WQ θ ≤ 40 °C + 157 °C ≤ θ ≤ 163 °C/18h ≤ t ≤ 22h or + 170 °C ≤ θ ≤ 180 °C/7h ≤ t ≤ 12h	T6 Delivery condition + 157 °C ≤ θ ≤ 163 °C/18h ≤ t ≤ 22h or + 170 °C ≤ θ ≤ 180 °C/7h ≤ t ≤ 12h	T6 Delivery condition

					Characteristics			
8	Sample Test piece Heat treatment				– – Delivery condition : T4			– – Use condition : T6 or T62
9	Dimensions concerned			mm	0,4 ≤ a ≤ 1,6	1,6 < a ≤ 3,2	3,2 < a ≤ 6	0,4 ≤ a ≤ 6
10	Thickness of cladding on each face			%	–			
11	Direction of test piece				LT			
12	T	Temperature	θ	°C	Ambient			
13	T	Proof stress	$R_{p0,2}$	MPa	–	–	–	≥ 390
14	T	Strength	R_m	MPa	–	–	–	≥ 440
15	T	Elongation	A	%	–	–	–	$A_{50\ mm}$ ≥ 7
16	T	Reduction of area	Z	%	–			
17	Hardness				–			
18	Shear strength		R_c	MPa	–			
19	Bending		k	–	1,5; α = 180° 1)	2,5; α = 180° 1)	3,5; α = 180° 1)	–
20	Impact strength				–			
21	C	Temperature	θ	°C	–			
22	C	Time		h	–			
23	C	Stress	σ_e	MPa	–			
24	C	Elongation	e	%	–			
25	C	Rupture stress	σ_R	MPa	–			
26	C	Elongation at rupture	A	%	–			
27	Notes (see line 98)				1)			

44	External defects	–	See EN 2070-2		
82	Batch uniformity	1	See EN 2070-2		
		5		T4	T6
		7	Electrical conductivity	γ = 18,5 MS/m (typical value)	γ = 22,0 MS/m (typical value)
		or			
		7	Hardness	115 HB (typical value)	135 HB (typical value)
				$\delta \leq$ 16 HB per product	$\delta \leq$ 20 HB per product
				$\Delta \leq$ 24 HB per batch	$\Delta \leq$ 30 HB per batch
97	Designation	–	See EN 2600		
98	Notes	–	1) The 'capability clause' applies.		
99	Typical use	–	–		