SLOVENSKI STANDARD
SIST EN 2395:2001

01-januar-2001

Aerospace series - Aluminium alloy AL-P2014A - T4 or T42 - Sheet and strip 0,4 mm <= a <= 6 mm

Aerospace series - Aluminium alloy AL-P2014A - T4 or T42 - Sheet and strip 0,4 mm <= a <= 6 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2014A - T4 oder T42 - Bleche und Bänder - 0,4 mm <= a <= 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2014A - T4 ou T42 - Tôles et bandes - 0,4 mm <= a <= 6 mm

Ta slovenski standard je istoveten z: **EN 2395:1994**

ICS:

49.025.20	Aluminij	Aluminium

SIST EN 2395:2001 **en**

EUROPEAN STANDARD **EN 2395**

NORME EUROPÉENNE

EUROPÄISCHE NORM January 1994

UDC 669.715-41:629.7

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

English version

Aerospace series - Aluminium alloy AL-P2014A - T4 or T42 - Sheet and strip 0,4 mm ⩽ a ⩽ 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2014A - T4 ou T42 - Tôles et bandes - 0,4 mm ⩽ a ⩽ 6 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2014A - T4 oder T42 - Bleche und Bänder - 0,4 mm ⩽ a ⩽ 6 mm

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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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 T4 or T42 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 2089	Aerospace series - Aluminium alloy AL-P2014A - T6 or T62 - Sheet and strip - 0,4 mm ≤ a ≤ 6 mm
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]
EN 2716	Aerospace series - Test method for susceptibility to intergranular corrosion of wrought products in 2XXX series aluminium alloys [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
	6.2 Delivery condition code	F	U
7	Use condition and heat treatment	T42 Delivery condition + 500°C ≤ θ ≤ 510°C / WQ θ ≤ 40°C + θ = ambient / t ≥ 5 d	T4 Delivery condition

Characteristics

8	Sample Test piece Heat treatment			–	–	–	–	
				Delivery condition : T4			– / – / Use condition : T4 or T42 [1]	
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	–	–	–	≥ 255	
14	T	Strength	R_m MPa	–	–	–	≥ 400	
15	T	Elongation	A %	–	–	–	$A_{50\ mm}$ ≥ 14	
16	T	Reduction of area	Z %	–				
17	Hardness			–				
18	Shear strength		R_c MPa	–				
19	Bending		k –	1,5; α = 180° [2]	2,5; α = 180° [2]	3,5; α = 180° [2]	–	
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)			1), 2)				

38	Intergranular corrosion	1	EN 2716			
		2	The 'capability clause' applies			
		7	Thickness (mm)	$0,4 \leq e \leq 1,6$	$1,6 < e \leq 3,2$	$3,2 < e \leq 6$
			Maximum depth of penetration (μm)	125	150	200
44	External defects	–	See EN 2070-2			
82	Batch uniformity	1	See EN 2070-2			
		5	T4			
		7	Electrical conductivity	γ = 18,5 MS/m (typical value)		
			or			
		7	Hardness	115 HB (typical value)		
				$\delta \leq 16$ HB per product	$\Delta \leq 24$ HB per batch	
97	Designation	–	See EN 2600			
98	Notes	–	1) If test samples are artificially aged $157°C \leq \theta \leq 163°C$ / $18h \leq t \leq 22h$ or $170°C \leq \theta \leq 180°C$ / $7h \leq t \leq 12h$, the properties shall be capable of meeting the requirements of EN 2089 2) The 'capability clause' applies.			
99	Typical use	–	–			