



SLOVENSKI STANDARD

SIST EN 2085:2005

01-april-2005

Aeronavtika - Aluminijeva zlitina AL-P2618A - T6 - Prosto in utopno kovani izkovki - a \leq 150 mm

Aerospace series - Aluminium alloy AL-P2618A - T6 - Hand and die forgings - a \leq 150 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2618A - T6 - Freiform- und Gesenkschmiedestücke - a \leq 150 mm

Série aérospatiale - Alliage d'aluminium AL-P2618A - T6 - Pièces forgées et matricées - a \leq 150 mm

Ta slovenski standard je istoveten z: EN 2085:2004

ICS:

49.025.20 Aluminij Aluminium

SIST EN 2085:2005 **en**

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SIST EN 2085:2005

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 2085

December 2004

ICS 49.025.20

English version

Aerospace series - Aluminium alloy AL-P2618A - T6 - Hand and die forgings - $a \leq 150$ mm

Série aérospatiale - Alliage d'aluminium AL-P2618A - T6 -
Pièces forgées et matricées - $a \leq 150$ mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2618A - T6
- Freiform- und Gesenkschmiedestücke - $a \leq 150$ mm

This European Standard was approved by CEN on 15 July 2004.

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.

This European Standard exists 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This document (EN 2085:2004) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-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 AECMA, 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 June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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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-P2618A
T6
Hand and die forgings
 $a \leq 150$ mm

for aerospace application.

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 2486, *Aerospace series – Aluminium alloy AL-P2618A – Forging stock* ¹⁾
- EN 4258, *Aerospace series – Metallic materials – General organization of standardization – Links between types of EN standards and their use*
- EN 4400-7, *Aerospace series – Aluminium and aluminium- and magnesium- alloys – Technical specification – Part 7: Aluminium alloy forgings* ²⁾
- 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 AECMA Prestandard at the date of publication of this standard

2) In preparation at the date of publication of this standard

1	Material designation		Aluminium alloy AL-P2618A											
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Ni	Zn	Ti + Zr	Ti	Others		Al
												Each	Total	
		min.	0,15	0,9	1,8	–	1,2	0,8	–	–	–	–	–	–
max.	0,25	1,4	2,7	0,25	1,8	1,4	0,15	0,25	0,20	0,05	0,15			
3	Method of melting		–											
4.1	Form		Hand and die forgings											
4.2	Method of production		Forged from forging stock to EN 2486											
4.3	Limit dimension(s)	mm	$a \leq 150$											
5	Technical specification		EN 4400-7											

6.1	Delivery condition	T4	T6
	Heat treatment	$525\text{ °C} \leq \theta \leq 535\text{ °C}^a$ / WQ boiling water + $\theta = \text{ambient}$ / $t \geq 5\text{ d}$	$525\text{ °C} \leq \theta \leq 535\text{ °C}^a$ / WQ boiling water + $198\text{ °C} \leq \theta \leq 208\text{ °C}$ / $20\text{ h} \leq t \leq 24\text{ h}$
6.2	Delivery condition code	K	U
7	Use condition	T6	T6
	Heat treatment	Delivery condition $+198\text{ °C} \leq \theta \leq 208\text{ °C}$ / $20\text{ h} \leq t \leq 24\text{ h}$	Delivery condition

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Characteristics

8.1	Test sample(s)		SIST EN 2085:2005		See EN 4400-7.	
8.2	Test piece(s)		https://standards.iteh.ai/catalog/standards/sist/ebde3212-b0ed-461b-a4a7-3c372dd17111/sist-en-2085-2005		See EN 4400-7.	
8.3	Heat treatment		Use condition			
9	Dimensions concerned	mm	$a \leq 150$			
10	Thickness of cladding on each face	%	–			
11	Direction of test piece		L	LT	ST	
12	Temperature	θ	°C			
13	Proof stress	$R_{p0,2}$	MPa		≥ 340	≥ 330
14	T Strength	R_m	MPa		≥ 410	≥ 400
15	Elongation	A	%		≥ 6	$\geq 4,5$
16	Reduction of area	Z	%		–	≥ 3
17	Hardness		–			
18	Shear strength	R_c	MPa		–	
19	Bending	k	–		–	
20	Impact strength		–			
21	Temperature	θ	°C			
22	Time		h		–	
23	Stress	σ_a	MPa		–	
24	C Elongation	a	%		–	
25	Rupture stress	σ_R	MPa		–	
26	Elongation at rupture	A	%		–	
27	Notes (see line 98)		a			

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44	External defects	–	See EN 4400-7.				
51	Macrostructure	–	See EN 4400-7.				
61	Internal defects	–	See EN 4400-7.				
82	Batch uniformity	–	See EN 4400-7.				
		5				T4	T6
		7	Electrical conductivity	γ	MS/m	17,5 (typical value)	21,0 (typical value)
		or					
		7	Hardness	–	HB	105 (typical value)	120 (typical value)
	δ	≤ 16 (per product)		≤ 20 (per product)			
	Δ	≤ 24 (per batch)		≤ 30 (per batch)			
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95	Marking inspection	–	See EN 4400-7.				
96	Dimensional inspection	–	See EN 4400-7.				
98	Notes	–	^a A longer solution heat treatment time than is usual may be required for this alloy, typically $4 \text{ h} \leq t \leq 24 \text{ h}$.				
99	Typical use	–	–				