SLOVENSKI STANDARD
SIST EN 2486:2005

01-maj-2005

Aeronavtika - Aluminijeva zlitina AL-P2618A - Material za kovanje

Aerospace series - Aluminium alloy AL-P2618A - Forging stock

Luft- und Raumfahrt - Aluminiumlegierung AL-P2618A - Schmiedevormaterial

Série aérospatiale - Alliage d'aluminium AL-P2618A - Produits destinés a la forge

Ta slovenski standard je istoveten z: **EN 2486:2005**

ICS:

49.025.20 Aluminij Aluminium

SIST EN 2486:2005 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 2486

February 2005

ICS 49.025.20

English version

Aerospace series - Aluminium alloy AL-P2618A - Forging stock

Série aérospatiale - Alliage d'aluminium AL-P2618A - Produits destinés à la forge

Luft- und Raumfahrt - Aluminiumlegierung AL-P2618A - Schmiedevormaterial

This European Standard was approved by CEN on 10 September 2004.

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Ref. No. EN 2486:2005: E

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Foreword

This document (EN 2486:2005) 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of an identical text or by endorsement, at the latest by August 2005, and conflicting national standards shall be withdrawn at the latest by August 2005.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 United Kingdom.

0 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-P2618A
Forging stock

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 4400-6, *Aerospace series — Aluminium and aluminium- and magnesium- alloys — Technical specification — Part 6: Aluminium alloy forging stock.*[1)]

EN 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use.*

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

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	—	—	—	—	—	Base
		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		Ingot or billet				Rod, bar or section				Plate			
4.2	Method of production		Cast				Extruded				Hot rolled			
4.3	Limit dimension(s)	mm	*a* or *D* ≤ 1000				*a* or *D* ≤ 400				*a* ≤ 400			
5	Technical specification		EN 4400-6				EN 4400-6				EN 4400-6			
6.1	Delivery condition		03				F				F			
	Heat treatment		—				—				—			
6.2	Delivery condition code		U				U				U			
7	Use condition		03				F				F			
	Heat treatment		Delivery condition				Delivery condition				Delivery condition			
	Characteristics													
8.1	Test sample(s)		See EN 4400-6				See EN 4400-6				See EN 4400-6			
8.2	Test piece(s)		See EN 4400-6				See EN 4400-6				See EN 4400-6			
8.3	Heat treatment		T6 (see line 29)				T6 (see line 29)				T6 (see line 29)			
9	Dimensions concerned	mm	See EN 4400-6				See EN 4400-6				See EN 4400-6			
10	Thickness of cladding on each face	%	—				—				—			
11	Direction of test piece		L				L				L			
12	T	Temperature θ °C	Ambient				Ambient				Ambient			
13	T	Proof stress $R_{p0,2}$ MPa	≥ 340[a]				≥ 340[a]				≥ 340[a]			
14	T	Strength R_m MPa	≥ 430[a]				≥ 430[a]				≥ 430[a]			
15	T	Elongation A %	≥ 6[a]				≥ 6[a]				≥ 6[a]			
16	T	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											

29	Reference heat treatment	—	Forged test pieces (cast stock, extruded stock or plate) or delivery condition (extruded stock) + 520 °C ≤ θ ≤ 535 °C[b] / WQ Boiling water + 195 °C ≤ θ ≤ 205 °C / 16 h ≤ t ≤ 24 h
44	External defects	—	See EN 4400-6
61	Internal defects	—	See EN 4400-6
87	Back - end defect	—	See EN 4400-6
		3	Extruded forging stock
		7	See EN 4400-6
88	Peripheral coarse grain	—	See EN 4400-6
		3	Extruded forging stock
		7	Level A
95	Marking inspection	—	See EN 4400-6
96	Dimensional inspection	—	See EN 4400-6
98	Notes	—	[a] The “capability clause“ may apply [b] A longer solution heat treatment time than is usual may be required for this alloy, typically 4h ≤ t ≤ 24h
99	Typical use	—	