BRITISH STANDARD AEROSPACE SERIES

BS EN
4247:2005

Aluminium alloy AL-P2024-T42 — Plate — 6 mm <a ≤140 mm

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ICS 49.025.20

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Summary of pages

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English version

Aerospace series - Aluminium alloy AL-P2024-T42 - Plate - 6 mm <a ≤140 mm

Série aérospatiale - Alliage d'aluminium AL-P2024-T42 - Tôles épaisses - 6 mm <a ≤140 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2024-T42 - Platten - 6 mm <a ≤140 mm

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Foreword

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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.

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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-P2024-
T42
Plate
6 mm < *a* ≤ 140 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 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use.*

EN 4400-1, *Aerospace series — Aluminium and aluminium alloy wrought products — Technical specification — Part 1: Plate.* [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 AECMA Prestandard at the date of publication of this standard.

1	Material designation		Aluminium alloy AL-P2024-										
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		Plate										
4.2	Method of production		Rolled										
4.3	Limit dimension(s)	mm	$6 < a \leq 140$										
5	Technical specification		EN 4400-1										

6.1	Delivery condition	F
	Heat treatment	–
6.2	Delivery condition code	F
7	Use condition	T42
	Heat treatment	Delivery condition + 490 °C ≤ θ ≤ 500 °C / WQ θ ≤ 40 °C + θ = ambient / t ≥ 5 d

Characteristics

8.1	Test sample(s)			See EN 4400-1.					
8.2	Test piece(s)			See EN 4400-1.					
8.3	Heat treatment			Use condition.					
9	Dimensions concerned		mm	$6 < a \leq 12,5$	$12,5 < a \leq 25$	$25 < a \leq 50$	$50 < a \leq 100$	$100 < a \leq 140$
10	Thickness of cladding on each face		%	–	–	–	–	–
11	Direction of test piece			LT	LT	LT	LT	LT
12	T	Temperature	θ °C	Ambient	Ambient	Ambient	Ambient	Ambient
13	T	Proof stress	$R_{p0,2}$ MPa	≥ 260	≥ 260	≥ 255	≥ 255	≥ 245
14	T	Strength	R_m MPa	≥ 420	≥ 410	≥ 400	≥ 390	≥ 380
15	T	Elongation	A %	$A_{50\ mm}$ ≥ 12	≥ 12	≥ 9	≥ 8	≥ 7
16		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)			–				

44	External defects	–	See EN 4400-1.
95	Marking inspection	–	See EN 4400-1.
96	Dimensional inspection	–	See EN 4400-1.
98	Notes	–	–
99	Typical use	–	–

100	–	Product qualification	–	See EN 4400-1.
				Qualification programme to be agreed between manufacturer and purchaser.

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