

**Aerospace series –
Aluminium alloy AL-P2024-T42 –
Clad plate – $6 \text{ mm} < a \leq 25 \text{ mm}$**

Europastandarden EN 4211:2005 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 4211:2005.

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EUROPEAN STANDARD
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English version

**Aerospace series - Aluminium alloy AL-P2024-T42 - Clad plate -
6 mm $<a \leq 25$ mm**

Série aérospatiale - Alliage d'aluminium AL-P2024-T42 -
Tôles épaisses plaquées - 6 mm $<a \leq 25$ mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2024-T42 -
Platten, plattiert - 6 mm $<a \leq 25$ mm

This European Standard was approved by CEN on 22 April 2005.

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

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EN 4211:2005 (E)

Foreword

This document (EN 4211:2005) 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of an identical text or by endorsement, at the latest by December 2005, and conflicting national standards shall be withdrawn at the latest by December 2005.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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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
Clad plate
 $6 \text{ mm} < a \leq 25 \text{ mm}$

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.

EN 4211:2005 (E)

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	–	–	–	–	–	–
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		Clad plate										
4.2	Method of production		Rolled										
4.3	Limit dimension(s)	mm	$6 < a \leq 25$										
5	Technical specification		EN 4400-1										

6.1	Delivery condition	F	O
	Heat treatment	–	–
6.2	Delivery condition code	F	A
7	Use condition	T42	T42
	Heat treatment	Delivery condition $+ 490 \text{ °C} \leq \theta \leq 500 \text{ °C} / \text{WQ } \theta \leq 40 \text{ °C}$ $+ \theta = \text{ambient} / t \geq 5d$	Delivery condition $+ 490 \text{ °C} \leq \theta \leq 500 \text{ °C} / \text{WQ } \theta \leq 40 \text{ °C}$ $+ \theta = \text{ambient} / t \geq 5d$

Characteristics

8.1	Test sample(s)		See EN 4400-1.			
8.2	Test piece(s)		See EN 4400-1.			
8.3	Heat treatment		Delivery condition : O		Use condition.	
9	Dimensions concerned	mm	$6 < a \leq 12,5$	$12,5 < a \leq 25$	$6 < a \leq 12,5$	$12,5 < a \leq 25$
10	Thickness of cladding on each face	%	≥ 2	≥ 2	≥ 2	≥ 2
11	Direction of test piece		LT	LT	LT	LT
12	Temperature	θ	°C	Ambient	Ambient	Ambient
13	Proof stress	$R_{p0,2}$	MPa	≤ 110	≤ 110	≥ 250
14	T Strength	R_m	MPa	≤ 220	≤ 220	≥ 415
15	Elongation	A	%	$A_{50 \text{ mm}} \geq 12$	≥ 10	$A_{50 \text{ mm}} \geq 12$
16	Reduction of area	Z	%	–		
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	Elongation	a	%	–		
25	Rupture stress	σ_R	MPa	–		
26	Elongation at rupture	A	%	–		
27	Notes (see line 98)		–			