BRITISH STANDARD

BS EN
4003:2006

Aerospace series — Aluminium alloy AL-P2219-T87 — Sheet and strip 0,5 mm ≤ a ≤ 6 mm

The European Standard EN 4003:2006 has the status of a British Standard

ICS 77.150.10

BSI
British Standards

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 4003:2006.

The UK participation in its preparation was entrusted by Technical Committee ACE/61, Metallic materials for aerospace purposes, to Panel ACE/61/-/24, Light alloys.

A list of organizations represented on ACE/61/-/24 can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

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English Version

Aerospace series - Aluminium alloy AL-P2219-T87 - Sheet and strip 0,5 mm ≤ a ≤ 6 mm

Série aérospatiale - Alliage d'aluminium AL-P2219-T87 - Tôles et bandes 0,5 mm ≤ a ≤ 6 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-P2219-T87 - Bleche und Bänder 0,5 mm ≤ a ≤ 6 mm

This European Standard was approved by CEN on 12 June 2006.

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

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Contents

Foreword

This document (EN 4003:2006) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-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 ASD, 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of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

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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-P2219-T87 — Sheet and strip 0,5 mm ≤ *a* ≤ 6 mm 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 4258, *Aerospace series — Metallic materials — General organization of standardization — Links between types of EN standards and their use*

EN 4400-2, *Aerospace series — Aluminium and aluminium alloy wrought products — Technical specification — Part 2: Sheet and strip*[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 ASD prestandard at the date of publication of this standard.

1	Material designation		Aluminium alloy AL-P2219-											
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Zn	Ti	V	Zr	Others		Al
												Each	Total	
		min.	–	–	5,8	0,20	–	–	0,02	0,05	0,10	–	–	Base
		max.	0,20	0,30	6,8	0,40	0,02	0,10	0,10	0,15	0,25	0,05	0,15	
3	Method of melting		–											
4.1	Form		Sheet and strip											
4.2	Method of production		Rolled											
4.3	Limit dimension(s)	mm	$0,5 \le a \le 6$											
5	Technical specification		EN 4400-2											

6.1	Delivery condition	T37	T87
	Heat treatment	530 °C ≤ θ ≤ 540 °C / WQ θ ≤ 40 °C + approximately 7 % cold work + θ = ambient / $t \ge 5$ d	530 °C ≤ θ ≤ 540 °C / WQ θ ≤ 40 °C + approximately 7 % cold work + 157 °C ≤ θ ≤ 168 °C / 10 h ≤ t ≤ 28 h
6.2	Delivery condition code	K	U
7	Use condition	T87	T87
	Heat treatment	Delivery condition + 157 °C ≤ θ ≤ 168 °C / 10 h ≤ t ≤ 28 h	Delivery condition

Characteristics

8.1	Test sample(s)			See EN 4400-2.	
8.2	Test piece(s)			See EN 4400-2.	
8.3	Heat treatment			Use condition	
9	Dimensions concerned		mm	$0,5 \le a \le 1,0$	$1,0 < a \le 6$
10	Thickness of cladding on each face		%	–	–
11	Direction of test piece			LT	LT
12	T	Temperature	θ °C	Ambient	Ambient
13	T	Proof stress	$R_{p0,2}$ MPa	≥ 360	≥ 360
14	T	Strength	R_m MPa	≥ 440	≥ 440
15	T	Elongation	A %	$A_{50\ mm} \ge 5$	$A_{50\ mm} \ge 6$
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)			–	

44	External defects	–	See EN 4400-2.				
82	Batch uniformity	–	See EN 4400-2.				
		5	–			T37	T87
		7	Electrical conductivity	γ	MS/m	16,5 (Typical value)	21,5 (Typical value)
		or					
		7	Hardness	HB		95 (Typical value)	130 (Typical value)
						$\delta \leq$ 16 per product	$\delta \leq$ 20 per product
						$\Delta \leq$ 24 per batch	$\Delta \leq$ 30 per batch
95	Marking inspection	–	See EN 4400-2.				
96	Dimensional inspection	–	See EN 4400-2.				
98	Notes	–	–				
99	Typical use	–	–				

100	–	Product qualification	–	See EN 4400-2. Qualification programme to be agreed between manufacturer and purchaser.

BSI — British Standards Institution

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