BRITISH STANDARD AEROSPACE SERIES

BS EN
4287:2005

Aluminium alloy AL-P7010 — Forging stock

The European Standard EN 4287:2005 has the status of a British Standard

ICS 49.025.20

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 4287:2005.

The UK participation in its preparation was entrusted by Technical Committee ACE/61, Metallic materials for aerospace purposes, to Subcommittee ACE/61/-/24, Light alloys, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 7 and a back cover.

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Aerospace series - Aluminium alloy AL-P7010 - Forging stock

Série aérospatiale - Alliage d'aluminium AL-P7010 - Produits destinés à la forge

Luft- und Raumfahrt - Aluminiumlegierung AL-P7010 - Schmiedevormaterial

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 4287:2005) 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of an identical text or by endorsement, at the latest by August 2005, and conflicting national standards shall be withdrawn at the latest by August 2005.

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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-P7010
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-P7010-											
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Zr	Ti	Others	Al
													Each / Total	
		min.	—	—	1,5	—	2,1	—	—	5,7	0,10	—	— / —	Base
		max.	0,12	0,15	2,0	0,10	2,6	0,05	0,05	6,7	0,16	0,06	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 $D \leq 1000$	a or $D \leq 400$	$a \leq 400$
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			T74 (see line 29)	T74 (see line 29)	T74 (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	≥ 435[a]	≥ 435[a]	≥ 435[a]
14	T	Strength	R_m MPa	≥ 435[a]	≥ 435[a]	≥ 435[a]
15	T	Elongation	A %	≥ 9[a]	≥ 9[a]	≥ 9[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 %	—		
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29	Reference heat treatment	—	Forged test pieces (cast stock, extruded stock or plate) or delivery condition (extruded stock)
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99	Typical use	—	

100	—	Product qualification	–	See EN 4400-6
				Qualification programme to be agreed between the manufacturer and purchaser.

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