BS EN
4342:2001

Aerospace series — Titanium TI-W99001 — Filler metal for welding — Wire and rod

The European Standard EN 4342:2001 has the status of a British Standard

ICS 49.025.30; 77.120.50; 25.160.20

National foreword

This British Standard is the official English language version of EN 4342:2001.

The UK participation in its preparation was entrusted to Technical Committee ACE/49, Wrought and cast titanium alloy for aerospace, which has the responsibility to:

— aid enquirers to understand the text;

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

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

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This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 September 2001

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 6, an inside back cover and a back cover.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4342

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English version

Aerospace series - Titanium TI-W99001 - Filler metal for welding - Wire and rod

Série aérospatiale - Titane TI-W99001 - Métal d'apport de soudage - Fil et baguette

Luft- und Raumfahrt - Titan TI-W99001 - Schweißzusatz - Draht und Stäbe

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 4342:2001 E

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries 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of an identical text or by endorsement, at the latest by December 2001, and conflicting national standards shall be withdrawn at the latest by December 2001.

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0 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 4500-4.

1 Scope

This standard specifies the requirements relating to:

Titanium TI-W99001
Filler metal for welding
Wire and rod

for aerospace applications.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 2043 Aerospace series – Metallic materials – General requirements for semi-finished product qualification (excluding forgings and castings) [1)]

EN 3879 Aerospace series – Metallic materials – Filler metal for welding – Technical specification [1)]

EN 4258 Aerospace series – Metallic materials – General organization of standardization – Links between types of EN standards and their use

EN 4500-4 Aerospace series – Metallic materials – Rules for drafting and presentation of material standards – Part 4: Specific rules for titanium and titanium alloys [1)]

1) Published as AECMA Prestandard at the date of publication of this standard

1	Material designation		Titanium TI-W99001								
2	Chemical composition %	Element	O_2	N_2	H_2	Fe	C	Others [a]		Ti	
								Each	Total		
		min.	–	–	–	–	–	–	–	Base	
		max.	0,18	0,05	50 *)	0,20	0,08	0,10	0,40		
3	Method of melting		Consumable electrode vacuum arc remelted								
4.1	Form		Wire and rod								
4.2	Method of production		Cold drawn								
4.3	Limit dimension(s)	mm	–								
5	Technical specification		EN 3879								

6.1	Delivery condition	Cold drawn and annealed
	Heat treatment	–
6.2	Delivery condition code	U
7	Use condition	Delivery condition
	Heat treatment	–

Characteristics

8.1	Test sample(s)				–
8.2	Test piece(s)				–
8.3	Heat treatment				–
9	Dimensions concerned			mm	–
10	Thickness of cladding on each face			%	–
11	Direction of test piece				–
12	T	Temperature	θ	°C	–
13	T	Proof stress	$R_{p0,2}$	MPa	–
14	T	Strength	R_m	MPa	–
15	T	Elongation	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]

44	External defects	–	See EN 3879
57	Residual stress	–	See EN 3879
61	Internal defects	–	See EN 3879
82	Batch uniformity (Material verification)	–	See EN 3879
95	Marking inspection	–	See EN 3879
96	Dimensional inspection	–	See EN 3879
98	Notes	–	*) [a] p.p.m. Determination not required for routine acceptance
99	Typical use	–	–

100	–	Product qualification	–	See EN 2043
				Qualification programme to be agreed between manufacturer and purchaser.

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