SLOVENSKI STANDARD
oSIST prEN 4900:2020

01-oktober-2020

Aeronavtika - Aluminijeve zlitine 5086 - H111 - Ekstrudirane palice - 10 mm≤ D ≤ 300 mm

Aerospace series - Aluminium alloy 5086 - H111 - Extruded bars - 10 mm≤ D ≤ 300 mm

Luft- und Raumfahrt - Aluminiumlegierung 5086 - H111 - gezogene Stange - 10 mm ¿ D ¿ 300 mm

Série aérospatiale - Alliage d'aluminium 5086 - H111 - Barres étirées - 10 mm ≤ D ≤ 300 mm

Ta slovenski standard je istoveten z: **prEN 4900**

ICS:

49.025.20	Aluminij	Aluminium

oSIST prEN 4900:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 4900

July 2020

ICS

English Version

Aerospace series - Aluminium alloy 5086 - H111 - Extruded bars - 10 mm ≤ D ≤ 300 mm

Série aérospatiale - Alliage d'aluminium 5086 - H111 - Barres étirées - 10 mm ≤ D ≤ 300 mm

Luft- und Raumfahrt - Aluminiumlegierung 5086 - H111 - gezogene Stange - 10 mm ≤ D ≤ 300 mm

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (prEN 4900:2020) 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-STAN, prior to its presentation to CEN.

This document is currently submitted to the CEN Enquiry.

Introduction

This document is part of the series of 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 5086

— H111

— Extruded bars

— 10 mm ≤ *D* ≤ 300 mm

for aerospace applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4400-3, *Aerospace series — Aluminium and aluminium– and magnesium– alloys — Technical specification — Part 3: Aluminium and aluminium alloy bar and section*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at http://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

4 Requirements

See Table 1.

Table 1 — Requirements for aluminium alloy 5086

1	Material designation		Aluminium alloy 5086										
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Each	Others Total	Al
		min.	—	—	—	0,20	3,5	0,05	—	—	—	—	Rem.
		max.	0,40	0,50	0,10	0,7	4,5	0,25	0,25	0,15	0,05	0,15	
3	Method of melting		—										
4.1	Form		Bars										
4.2	Method of production		Extruded										
4.3	Limit dimension(s)	mm	10 ≤ D ≤ 300										
5	Technical specification		EN 4400-3										

6.1	Delivery condition	H111		
	Heat treatment	—		
6.2	Delivery condition code	U		
7	Use condition	H111		
	Heat treatment	Delivery condition		

Characteristics

8.1	Test sample(s)				EN 4400-3	
8.2	Test piece(s)				EN 4400-3	
8.3	Heat treatment				H111	
9	Dimensions concerned			mm	10 ≤ D ≤ 125	125 ≤ D ≤ 300
10	Thickness of cladding on each face			%	—	
11	Direction of test piece				L	
12	T	Temperature	θ	°C	Ambient	
13	T	Proof stress	$R_{p0,2}$	MPa*	≥ 110	≥ 100
14	T	Strength	R_m	MPa*	≥ 250	≥ 230
15	T	Elongation	A	%	≥ 12	≥ 12
16	T	Reduction of area	Z	%	—	
17	Hardness		HB	—	70 (for information)	
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)				*	

28	—			—	—
32	Electrical conductivity	ϒ	Ms/m	—	—
					—
44	External imperfections (visual testing – VT)			—	See EN 4400-3.
61	Internal imperfections (ultrasonic testing – UT)			—	See EN 4400-3.
95	Marking inspection			—	See EN 4400-3.
96	Dimensional inspection			—	See EN 4400-3.
98	Notes			—	* 1 MPa = 1 N/mm².
99	Typical use			—	—

100	—	Product qualification	—	—
				Qualification programme to be agreed between manufacturer and purchaser.