



SLOVENSKI STANDARD
SIST EN 4900:2022

01-julij-2022

Aeronavtika - Aluminijeve zlitine 5086 - H111 - Ekstrudirane palice - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

Aerospace series - Aluminium alloy 5086 - H111 - Extruded bars - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

Luft- und Raumfahrt - Aluminiumlegierung 5086 - H111 - Gezogene Stangen - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

Série aérospatiale - Alliage d'aluminium 5086 - H111 - Barres étirées - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

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Ta slovenski standard je istoveten z: EN 4900:2022

ICS:

49.025.20 Aluminij

Aluminium

SIST EN 4900:2022

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EUROPEAN STANDARD

EN 4900

NORME EUROPÉENNE

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May 2022

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English Version

Aerospace series - Aluminium alloy 5086 - H111 - Extruded bars - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

Série aérospatiale - Alliage d'aluminium 5086 - H111 -
Barres filées - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

Luft- und Raumfahrt - Aluminiumlegierung 5086 -
H111 - Gezogene Stangen - $10 \text{ mm} \leq D \leq 300 \text{ mm}$

This European Standard was approved by CEN on 13 March 2022.

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

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Contents	Page
European foreword	3
Introduction	4
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Requirements	4
Bibliography	8

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European foreword

This document (EN 4900:2022) 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 document 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2022, and conflicting national standards shall be withdrawn at the latest by November 2022.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: 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 the United Kingdom.

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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 5086

H111

Extruded bars

$10 \text{ mm} \leq D \leq 300 \text{ mm}$

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:

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

4 Requirements

According to Table 1.

EN 4900:2022 (E)

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		Al
			min.	—	—	—	0,20	3,5	0,05	—	—	—	
		max.	0,40	0,50	0,10	0,7	4,5	0,25	0,25	0,15	0,05	0,15	Rem.
3	Method of melting			—									
4.1	Form			Bars									
4.2	Method of production			Extruded									
4.3	Limit dimension(s)	mm	$10 \leq D \leq 300$										
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	$10 \leq D \leq 125$					$125 \leq D \leq 300$					
10	Thickness of cladding on each face	%	—										
11	Direction of test piece			L									
12	Temperature	θ	°C	Ambient									
13	Proof stress	$R_{p0,2}$	MPa	≥ 110					≥ 100				
14	Strength	R_m	MPa	≥ 250					≥ 230				
15	Elongation	A	%	≥ 12					≥ 12				
16	Reduction of area	Z	%	—									
17	Hardness	HB	—	70 (for information)									
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)												

EN 4900:2022 (E)

28	—		—	—
32	Electrical conductivity	γ	Ms/m	—
				—
44	External imperfections (visual testing - VT)		—	According to EN 4400-3.
61	Internal imperfections (ultrasonic testing - UT)		—	According to EN 4400-3.
87	Extrusion back-end defect		—	According to EN 4400-3.
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95	Marking inspection		—	According to EN 4400-3.
96	Dimensional inspection		—	According to EN 4400-3.

Bibliography

EN 4258, *Aerospace series — Metallic materials — General organization of standardization — Link between types of European 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 alloys¹⁾*

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¹⁾ Published as ASD-STAN Standard at the date of publication of this document by AeroSpace and Defence industries Association of Europe — Standardization (ASD-STAN), <https://www.asd-stan.org/>.