



**SLOVENSKI STANDARD**  
**SIST EN 2728:2019**

**01-januar-2019**

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**Aeronavtika - Aluminijeva zlitina AL-C42101 - T6 - Litje v pesek - a ≤ 20 mm**

Aerospace series - Aluminium alloy AL-C42101 - T6 - Sand casting - a ≤ 20 mm

Luft- und Raumfahrt - Aluminiumlegierung AL-C42101 - T6 - Sandgußstück - a ≤ 20 mm

Série aérospatiale - Alliage d'aluminium AL-C42101 - T6 - Pièce moulée en sable - a ≤ 20 mm

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**Ta slovenski standard je istoveten z: EN 2728:2018**

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**ICS:**

49.025.20      Aluminij                                      Aluminium

**SIST EN 2728:2019**                                      **en,fr,de**

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EUROPEAN STANDARD

EN 2728

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2018

ICS 49.025.20

English Version

## Aerospace series - Aluminium alloy AL-C42101 - T6 - Sand casting - $a \leq 20$ mm

Série aérospatiale - Alliage d'aluminium AL-C42101 -  
T6 - Pièce moulée en sable -  $a \leq 20$  mm

Luft- und Raumfahrt - Aluminiumlegierung AL-C42101  
- T6 - Sandgußstück -  $a \leq 20$  mm

This European Standard was approved by CEN on 24 September 2018.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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## European foreword

This document (EN 2728:2018) 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 May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] 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 European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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**EN 2728:2018 (E)**

## **Introduction**

This European 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 European Standard has been prepared in accordance with EN 4500-2.

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## 1 Scope

This European Standard specifies the requirements relating to:

Aluminium alloy AL-C42101  
T6  
Sand casting  
 $a \leq 20$  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 2076-3, *Aerospace series — Aluminium and magnesium alloy ingots and castings — Technical specification — Part 3: Pre-production and production castings*

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*<sup>1)</sup>

## 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 <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

## 4 Requirements

Table 1 shows the requirements for aluminium alloy AL-C42101 T6, sand casting,  $a \leq 20$  mm.

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1) Published as ASD-STAN Prestandard at the date of publication of this standard by AeroSpace and Defence industries Association of Europe - Standardization (ASD-STAN) (<http://www.asd-stan.org/>)

## EN 2728:2018 (E)

Table 1 — Requirements for aluminium alloy AL-C42101 T6, sand casting,  $a \leq 20$  mm

1	Material designation		Aluminium alloy AL-C42101 <sup>a</sup>									
2	Chemical composition %	Element	Si	Fe	Cu	Mn	Mg	Zn	Ti	Others		Al
										Each	Total	
		min.	6,5	-	-	-	0,25	-	0,04	-	-	Base
max.	7,5	0,15	0,05	0,05	0,45	0,07	0,25	0,03	0,10			
3	Method of melting		-									
4.1	Form		Sand casting									
4.2	Method of production		Sand casting									
4.3	Limit dimension(s)	mm	$a \leq 20$									
5	Technical specification		See EN 2076-3.									

6.1	Delivery condition	T6										
	Heat treatment	525 °C ≤ $\theta$ ≤ 550 °C/6 h ≤ $t \leq 24$ h/WQ $\theta \leq 70$ °C <sup>b</sup> + 150 °C ≤ $\theta \leq 200$ °C/6 h ≤ $t \leq 12$ h/AC										
6.2	Delivery condition code	U										
7	Use condition	T6										
	Heat treatment	Delivery condition										

## iTeh STANDARD PREVIEW

Characteristics

8.1	Test sample(s)		Separately cast	Cut-up, undesignated location, gated or integral				Cut-up, designated location			
8.2	Test piece(s)		See EN 2076-3.	See EN 2076-3.				See EN 2076-3.			
8.3	Heat treatment		Use condition				Use condition				
9	Dimensions concerned	mm	See EN 2076-3.				$a \leq 20$				
10	Thickness of cladding on each face	%	-				-				
11	Direction of test piece		-				-				
12	Temperature	$\theta$	°C	Ambient				Ambient			
13	Proof stress	R <sub>p0,2</sub>	MPa	≥ 200				≥ 185 <sup>c</sup>			
14	T Strength	R <sub>m</sub>	MPa	≥ 260				≥ 230 <sup>c</sup>			
15	Elongation	A	%	≥ 3,0				≥ 2,5 <sup>c</sup>			
16	Reduction of area	Z	%	-				-			
17	Hardness		-				-				
18	Shear strength	R <sub>c</sub>	MPa	-				-			
19	Bending	k	-	-				-			
20	Impact strength		-				-				
21	Temperature	$\theta$	°C	-				-			
22	Time		h	-				-			
23	Stress	$\sigma_a$	MPa	-				-			
24	Elongation	a	%	-				-			
25	Rupture stress	$\sigma_R$	MPa	-				-			
26	Elongation at rupture	A	%	-				-			
27	Notes (see line 98)		a, b, c								



44	External defects	-	See EN 2076-3.		
61	Internal defects	-	See EN 2076-3.		
82	Batch uniformity	-	See EN 2076-3.		
		7	Hardness	HB	80 (typical value)
					$\delta \leq 20$ (per product)
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95	Marking inspection	-	See EN 2076-3.		
96	Dimensional inspection	-	See EN 2076-3.		
98	Notes	-	<p>a Corresponds to ISO AlSi7Mg0,3 and is similar to the ALUMINIUM-ASSOCIATION registered alloy A356.0.</p> <p>b Unless otherwise advised by the purchaser, the manufacturer may, at his discretion, alternatively use a polymer quench at <math>\theta \leq 30</math> °C.</p> <p>c The tensile properties stated may not be consistently achievable in all parts of all castings. Any differing requirements stated on the drawing shall take precedence over those of this material standard.</p>		
99	Typical use	-	-		