



**SLOVENSKI STANDARD**  
**SIST EN 6069:2023**

**01-marec-2023**

**Nadomešča:**  
**SIST EN 6069:2010**

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**Aeronavtika - Kovice, 100° zmanjšana ugrezna glava, ozka toleranca - Palčne mere**

Aerospace series - Rivet, 100° reduced flush head, close tolerance - Inch series

Luft- und Raumfahrt - Vollniet, 100° reduzierter Senkkopf, enge Toleranz - Inch-Reihe

Série aérospatiale - Rivets de précision, tête fraisée réduite 100° - Série en inches

**Ta slovenski standard je istoveten z: EN 6069:2022**

**ICS:**

49.030.60      Kovice      Rivets

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EUROPEAN STANDARD

EN 6069

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2022

ICS 49.030.60

Supersedes EN 6069:2009

English Version

## Aerospace series - Rivet, 100° reduced flush head, close tolerance - Inch series

Série aérospatiale - Rivets de précision, tête fraisée  
réduite 100° - Série en inches

Luft- und Raumfahrt - Vollniet, 100° reduzierter  
Senkkopf, enge Toleranz - Inch-Reihe

This European Standard was approved by CEN on 30 May 2021.

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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 6069:2022) 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 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of an identical text or by endorsement, at the latest by June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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.

This document supersedes EN 6069:2009.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Türkiye and the United Kingdom.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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EN 6069:2022 (E)

## Introduction

This document is published at Airbus agreed version prEN 6069 edition P4. Former issue 1 to 3 and drafts may exist of Airbus development only but without any ASD-STAN official publication. In consequence configuration management discrepancies with these unofficial documents are under Airbus responsibility.

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## 1 Scope

This document specifies the dimensions, tolerances and mass of rivets with 100° reduced flush head, close tolerance, inch series, 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 2115, *Aerospace series — Aluminium alloy 2117-T42 — Wire for solid rivets —  $D \leq 10$  mm*

EN 2116, *Aerospace series — Aluminium alloy 2017A-T42 — Wire for solid rivets —  $D \leq 10$  mm*

EN 2117, *Aerospace series — Aluminium alloy AL-P5056A (5056A)-H32 — Wire for solid rivets —  $D \leq 10$  mm*

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2941, *Aerospace series — Nickel alloy rivets — Technical specification*

EN 3115, *Aerospace series — Aluminium alloy 7050-T73 — Wire for solid rivets —  $D \leq 10$  mm*

EN 4372, *Aerospace series — Heat resisting nickel alloy with copper NI-PD9001 (NiCu31) — Wire for solid rivets —  $D \leq 10$  mm*

prEN 6104, *Aerospace series — Rivets, solid, in aluminium or aluminium alloy — Inch series — Technical specification*<sup>1</sup>

<https://standards.iteh.ai/catalog/standards/sist/3afad0d4-54ce-490c-8d82-d07930703b96/sist-prEN-6118>, *Aerospace series — Process specification — Aluminium base protection for fasteners*

ISO 8080, *Aerospace — Anodic treatment of titanium and titanium alloys — Sulfuric acid process*

MIL-A-8625, *Anodic Coatings for Aluminum and Aluminum Alloys*<sup>2</sup>

MIL-DTL-5541, *Chemical Conversion Coatings on Aluminum and Aluminum alloys*<sup>2</sup>

NASM5674, *Rivets, Structural, Aluminium Alloy, Titanium Columbium Alloy, General Specification for*<sup>3</sup>

NAS9800, *Head Protrusion Gaging, 100° Flush Head Fasteners, Gage Block, Gage diameters and Stylus*<sup>3</sup>

SAE AMS 4982, *Titanium Alloy Wire 44.5 Cb*<sup>4</sup>

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

<sup>2</sup> Published by: Department of Defense (DoD), the Pentagon, Washington, D.C., 20307, USA.

<sup>3</sup> Published by: Aerospace Industries Association of America, Inc. (AIA), 1250 Eye Street, N.W., Washington, D.C. 20005-3924, USA.

<sup>4</sup> Published by: Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001, USA.

### 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 <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 4 Requirements

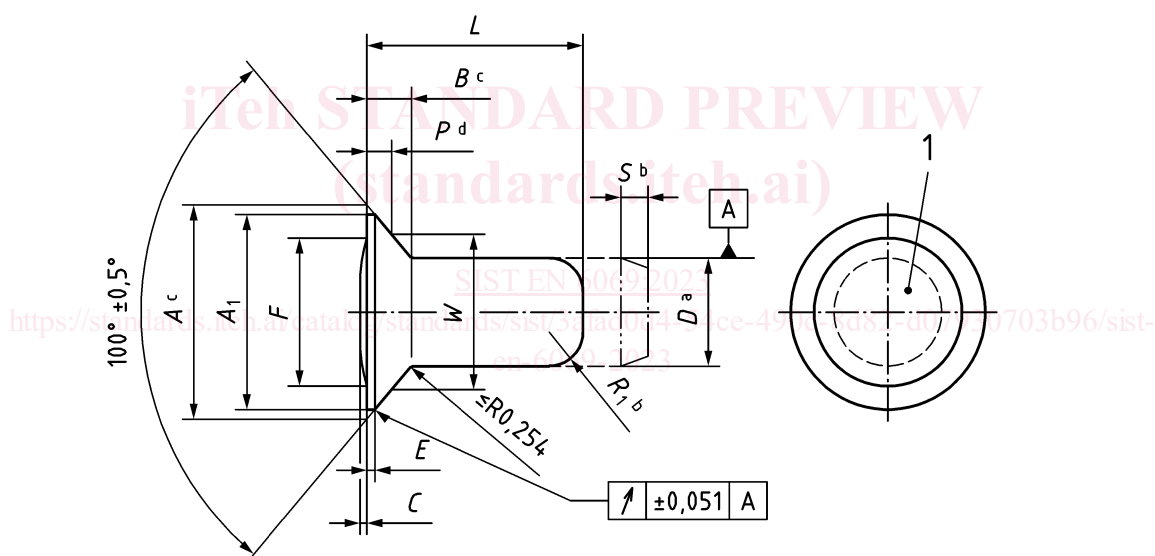
#### 4.1 Configuration, dimensions, tolerances and masses

The configuration shall conform to Figure 1.

The dimensions, tolerances and mass shall conform to Figure 1 and Table 1, Table 2, and Table 3.

Dimensions and tolerances of oversizes (for repair purposes only) shall conform to Figure 1 and Table 2 and Table 3.

Dimensions and tolerances are expressed in millimetres.



#### Key

- 1 Marking (see Clause 6)
- a 0,025 mm shank diameter increase is permissible within 2,54 mm of the base of the head
- b Chamfered ends with radius to the  $R_1$  dimensions or a  $20^\circ$  chamfer to dimension "S"
- c Maximum head diameters are to theoretical sharp corners as measured by projection
- d Measurement method for inspection of head characteristics in accordance with NAS9800

NOTE Angular misalignment of rivet head to rivet shank axis  $0,5^\circ$  max.

**Figure 1 — Configuration**



Table 1 — Dimensions and tolerances

Diameter code	D Nominal diameter ±0,03	A		A <sub>1</sub>	B	C	E	F		P		R <sub>1</sub>	S	W	
		max.	min.	min.	Ref.	+0,05 0		±0,13	max.	min.	±0,25	±0,25	max.	min.	
3	2,38	3,71	3,62	3,26	0,54	0,08	0,08 to 0,15	2,31	0,291	0,248	0,74	0,58	3,028	3,023	
4	3,18	4,92	4,84	4,48	0,71			3,53	0,336	0,291	0,99	0,79	4,135	4,130	
5	3,97	6,23	6,14	5,78	0,93			4,83	0,457	0,412	1,24	0,99	5,151	5,146	
6	4,76	7,64	7,54	7,18	1,19	0,10	0,10	5,15	0,610	0,559	1,50	1,19	6,200	6,195	
7	5,56	8,88	8,79	8,43	1,38			7,00	0,670	0,612	1,75	1,37	7,310	7,305	
8	6,36	10,01	9,98	9,55	1,51			8,15	0,677	0,618	1,98	1,57	8,420	8,415	

Table 2 — Dimensions and tolerances for oversize rivets

Diameter code	D ±0,03	A		A <sub>1</sub>	B	C	E	F		P		R <sub>1</sub>	S	W	
		max.	min.	min.	Ref.	+0,05 0		±0,13	max.	min.	±0,25	±0,25	max.	min.	
5X	4,37	6,63	6,54	6,18	0,93	0,08	0,08 to 0,15	5,10	0,628	0,578	1,24	0,99	5,151	5,146	
6X	5,16	8,04	7,95	7,59	1,19	0,10		6,25	0,781	0,728	1,50	1,19	6,200	6,195	
7X	5,96	9,28	9,19	8,83	1,38			7,25	0,836	0,782	1,75	1,37	7,310	7,305	

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Table 3 — Length code and masses

Length <sup>a, b</sup>		Diameter code					
		3	4	5 5X	6 6X	7 7X	8
code	L ± 0,254	Mass kg/1 000 parts					
03	4,76	0,06	0,11	—	—	—	—
04	6,35	0,08	0,15	0,24	—	—	—
05	7,94	0,10	0,18	0,29	0,43	—	—
06	9,52	0,12	0,22	0,35	0,51	0,71	—
07	11,11	0,14	0,25	0,40	0,59	0,81	1,07
08	12,70	0,16	0,29	0,46	0,67	0,92	1,21
09	14,29	0,18	0,32	0,51	0,75	1,03	1,35
10	15,87	0,20	0,36	0,57	0,83	1,14	1,49
11	17,46	0,22	0,40	0,62	0,90	1,24	1,63
12	19,05	0,24	0,43	0,68	0,98	1,35	1,77

## EN 6069:2022 (E)

Length <sup>a, b</sup>		Diameter code					
		3	4	5 5X	6 6X	7 7X	8
code	L ± 0,254	Mass kg/1 000 parts					
		13	20,64	0,26	0,47	0,73	1,06
14	22,22	0,28	0,50	0,79	1,14	1,57	2,05
15	23,81	0,30	0,54	0,84	1,22	1,67	2,19
16	25,40	0,32	0,57	0,90	1,30	1,78	2,34
17	26,99	—	0,61	0,95	1,38	1,89	2,48
18	28,57	—	0,64	1,01	1,46	2,00	2,62
20	31,75	—	0,71	1,11	1,61	2,21	2,90
22	34,92	—	0,78	1,22	1,77	2,43	3,18
24	38,10	—	0,85	1,33	1,93	2,64	3,46
28	44,45	—	—	1,55	2,24	3,07	4,02
32	50,80	—	—	1,77	2,56	3,50	4,59
40	63,50	—	—	—	—	4,36	5,71

<sup>a</sup> Lengths missing in table can be created in 1/16 inch (1,59 mm) steps, e.g. length code 19 corresponds to: 19/16 inch (30,16 mm).

<sup>b</sup> 1/32 inch (0,79 mm) length increments may be obtained by adding code 5 after the last digit of part number, e.g. length code 06-5 corresponds to: 6/16 inch (9,53 mm) + 1/32 inch (0,79 mm) = 13/32 inch (10,32 mm).

## 4.2 Material and surface treatment

Material and surface treatment shall be according to Table 4.