



SLOVENSKI STANDARD
oSIST prEN 6080:2019

01-januar-2019

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

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

Luft- und Raumfahrt - Vollniet, 100° Normaler Senkkopf, enge Toleranz - Zoll-Reihe

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

Ta slovenski standard je istoveten z: prEN 6080

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ICS:

49.030.60 Kovice Rivets

oSIST prEN 6080:2019 **en,fr,de**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 6080

October 2018

ICS 49.030.60

Will supersede EN 6080:2016

English Version

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

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

Luft- und Raumfahrt - Vollniet, 100° Normaler Senkkopf, enge Toleranz - Zoll-Reihe

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.

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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.

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

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

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European foreword

This document (prEN 6080:2018) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 6080:2016.

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prEN 6080:2018 (E)**Introduction**

This document is published at Airbus agreed version prEN 6080 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 masses of rivets with 100° normal flush head, close tolerance, inch series, for aerospace application.

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 ≤ 10 mm*

EN 2116, *Aerospace series - Aluminium alloy 2017A-T42 - Wire for solid rivets – D ≤ 10 mm*

EN 2117, *Aerospace series - Aluminium alloy AL-P5056A (5056A)-H32 - Wire for solid rivets – D ≤ 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 ≤ 10 mm*

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

EN 6101, *Aerospace series - Rivet, 100° medium flush head, close tolerance - Inch series*

prEN 6104, *Aerospace series - Rivets solid in aluminium or aluminium alloy - Inch series - Technical Specification*¹

prEN 6118, *Aerospace series - Process specification - Aluminium base protection for fasteners*¹

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

AMS 4982, *Titanium alloy wire 44.5 Cb*²

MIL-A-8625, *Anodic coatings for aluminum and aluminum alloys*³

MIL-C-5541, *Chemical conversion coatings on aluminium and aluminium alloys*²

NAS 9800, *Head protrusion gaging, 100° flush head fasteners, gage block, gage diameters and stylus*⁴

NASM 5674, *Rivets, structural, aluminium alloy, titanium columbium alloy, general specification Fo*³

¹ Under preparation. Published as ASD Prestandard at the date of publication of this standard.

² Published by: Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001, USA.

³ Published by: Department of Defense (DoD), the Pentagon, Washington, D.C., 20307, USA.

⁴ Published by: Aerospace Industries Association of America, Inc. (AIA), 1250 Eye Street, N.W., Washington, D.C. 20005-3924, 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:

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

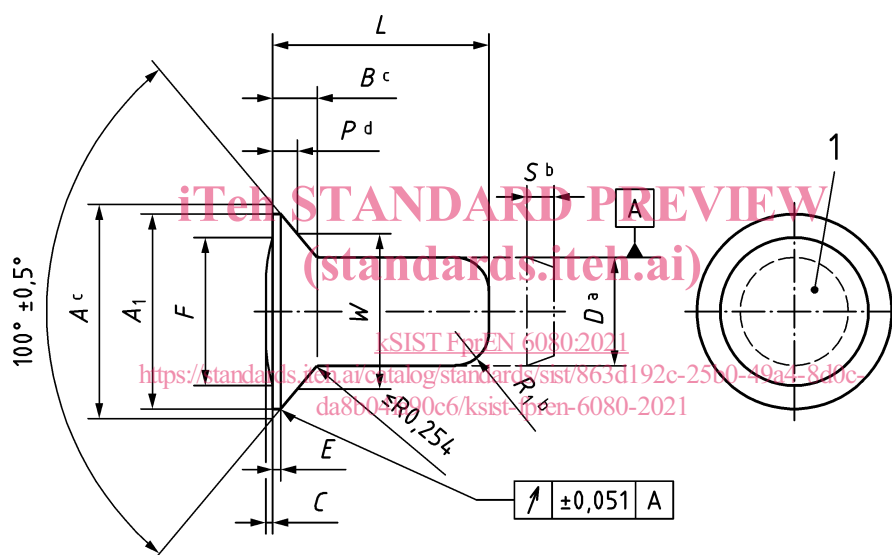
4 Requirements

4.1 Configuration, dimensions, tolerances and masses

The configuration shall conform with Figure 1.

The dimensions, tolerances and masses shall conform with Figure 1 and Table 1, Table 2, and Table 3.

Dimensions and tolerances are expressed in millimetres.



Key

- 1 Marking (see Clause 6)
- a 0,025 mm increase of shank diameter is permissible within 2,54 mm of the base of the head
- b Chamfered ends with radius R_1 dimensions or a 20° chamfer to dimensions "S"
- c Maximum head diameters are to theoretical sharp corners as measured by projection
- d Head protrusion shall be tested in accordance with NAS 9800

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

Figure 1 — Configuration

Table 1 — Dimensions and tolerances

Diameter code	<i>D</i>	<i>A</i>		<i>A</i> ₁	<i>B</i>	<i>C</i>	<i>E</i>	<i>F</i>	<i>P</i>		<i>R</i> ₁	<i>S</i>	<i>W</i>	
	Nominal Diameter ±0,03	max.	min.	min.	Ref.	+0,05 0	Ref.	±0,13	max.	min.	±0,25	±0,25	max.	min.
2	Use rivets according to EN 6101													
3														
4														
5	3,97	7,25	7,15	6,79	1,35	0,08	0,08 to 0,15	5,29	0,706	0,650	1,24	0,99	5,588	5,583
6	4,76	8,95	8,85	8,49	1,74	0,10		6,55	0,899	0,839	1,50	1,19	6,833	6,827
7	5,56	10,55	10,45	10,09	2,07			7,73	1,068	1,005	1,75	1,37	8,033	8,027
8	6,36	12,10	12,00	11,64	2,39			8,88	1,227	1,161	1,98	1,57	9,208	9,202
10	7,93	14,35	14,25	13,89	2,67			10,54	1,371	1,302	2,49	1,98	11,119	11,111
12	9,53	17,65	17,55	17,19	3,39			13,05	1,682	1,608	2,97	2,39	13,684	13,676

Table 2 — Dimensions and tolerances for oversize rivets

Diameter code	<i>D</i>	<i>A</i>		<i>A</i> ₁	<i>B</i>	<i>C</i>	<i>E</i>	<i>F</i>	<i>P</i>		<i>R</i> ₁	<i>S</i>	<i>W</i>	
	Nominal diameter ±0,03	max.	min.	min.	Ref.	+0,05 0	Ref.	±0,13	max.	min.	±0,25	±0,25	max.	min.
5X	4,37	7,25	7,15	6,79	1,19	0,8	0,08 to 0,15	5,29	0,706	0,650	1,24	0,99	5,588	5,583
6X	5,16	8,95	8,85	8,49	1,57	0,008		6,55	0,889	0,839	1,50	1,19	6,833	6,827
6Y	5,56	8,95	8,85	8,49	1,40	0,10		6,55	0,889	0,839	1,50	1,19	6,833	6,827
7X	5,96	10,55	10,45	10,09	1,91			7,73	1,068	1,005	1,75	1,37	8,033	8,027
8Y	7,14	12,10	12,00	11,64	2,06			8,88	1,227	1,161	1,98	1,57	9,208	9,202

Table 3 — Length code and masses

Length ^{a, b}		Diameter code								
		2	3	4	5 5X	6 6X 6Y ^c	7 7X	8 8Y	10	12
code	$L \pm 0,254$	Mass ^d kg/ 1 000 parts								
03	4,76				-	-	-	-	-	-
04	6,35				0,26	-	-	-	-	-
05	7,94				0,32	0,47	-	-	-	-
06	9,53				0,37	0,55	0,77	-	-	-
07	11,11				0,43	0,63	0,88	1,17	-	-
08	12,70				0,49	0,71	0,99	1,32	-	-
09	14,29				0,54	0,79	1,10	1,46	2,31	-
10	15,88				0,60	0,87	1,21	1,60	2,53	3,82
12	19,05				0,71	1,03	1,42	1,88	2,98	4,46
14	22,23				0,82	1,19	1,64	2,17	3,42	5,10
16	25,40				0,93	1,35	1,86	2,45	3,86	5,74
18	28,58				1,04	1,51	2,08	2,74	4,30	6,38
20	31,75				1,15	1,67	2,29	3,02	4,74	7,02
22	34,93				1,26	1,83	2,51	3,30	5,18	7,66
24	38,10				1,38	1,99	2,73	3,59	5,62	8,30
28	44,45				1,60	2,31	3,16	4,16	6,50	9,58
32	50,80				1,82	2,63	3,60	4,72	7,38	10,86
40	63,50				-	-	4,47	5,86	9,16	13,42
48	76,20				-	-	-	7,00	10,91	15,98

Use rivets according to EN 6101

<https://standards.itech.ai/catalog/standards/sic/3631191c-2110-49a2-740c-da8b04fa90c6/ksist-pr-en-6080-2021>
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^a Length 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).

^b 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).

^c Not for new design.

^d Mass based on aluminium alloy with a density of 2,79 kg/dm³, refer to Table 4 for conversion factors.