



SLOVENSKI STANDARD

SIST EN 6101:2016

01-november-2016

Aeronavtika - Zakovica, 100° srednje poglobljena glava, ozka toleranca - Colska izvedba

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

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

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 6101:2016

<https://standards.iteh.ai/catalog/standards/sist/a002416a-3b3a-46e8-8ed7-62a182c68539/sist-en-6101-2016>

ICS:

49.030.60 Kovice Rivets

SIST EN 6101:2016 **en,fr,de**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 6101:2016

<https://standards.iteh.ai/catalog/standards/sist/a002416a-3b3a-46e8-8ed7-62a182c68539/sist-en-6101-2016>

EUROPEAN STANDARD

EN 6101

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2016

ICS 49.030.60

English Version

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

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

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

This European Standard was approved by CEN on 11 March 2016.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/a002416a-3b3a-46e8-8ed7-62a182c68539/sist-en-6101-2016>



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents		Page
European foreword.....		3
1	Scope	4
2	Normative references	4
3	Requirements.....	5
3.1	Configuration, dimensions, tolerances and mass	5
3.2	Material and surface treatment.....	5
4	Designation.....	9
5	Marking	10
5.1	Material identification.....	10
5.2	Manufacturers identification	11
5.3	Identification of oversize rivets	11
6	Technical specification.....	11
6.1	Aluminium alloy rivet.....	11
6.2	Heat resisting alloy NiCu31 rivets	11
6.3	Titanium alloy rivet.....	11

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 6101:2016

<https://standards.iteh.ai/catalog/standards/sist/a002416a-3b3a-46e8-8ed7-62a182c68539/sist-en-6101-2016>

European foreword

This document (EN 6101:2016) 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 March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

ITEH STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 6101:2016

<https://standards.iteh.ai/catalog/standards/sist/a002416a-3b3a-46e8-8ed7-62a182c68539/sist-en-6101-2016>

EN 6101:2016 (E)**1 Scope**

This European Standard specifies the dimensions, tolerances and mass of rivets with 100° medium flush head, close tolerance, inch series, for aerospace application.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2114, *Aluminium 1050A-H14 — Wire for solid rivets — $D \leq 10$ mm*¹⁾

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*

EN 6104, *Aerospace series — Rivets, solid, in aluminium or aluminium alloy — Inch series — Technical specification*

EN 6118, *Aerospace series — Process specification — Aluminium base protection for fasteners*¹⁾

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

SAE AMS 4982, *Titanium alloy wire 44.5 Cb*²⁾

SAE AMS-QQ-P-416, *Plating, cadmium (electrodeposited)*²⁾

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

MIL-C-5541, *Chemical conversion coatings on aluminium and aluminium alloys*³⁾

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 for*⁴⁾

¹⁾ Published as ASD-STAN Prestandard at the date of publication of this standard (www.asd-stan.org).

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

³⁾ Published by: Department of Defense(DoD), the Pentagon, Washington, D.C. 20301.

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

3 Requirements

3.1 Configuration, dimensions, tolerances and mass

The configuration shall conform with Figure 1.

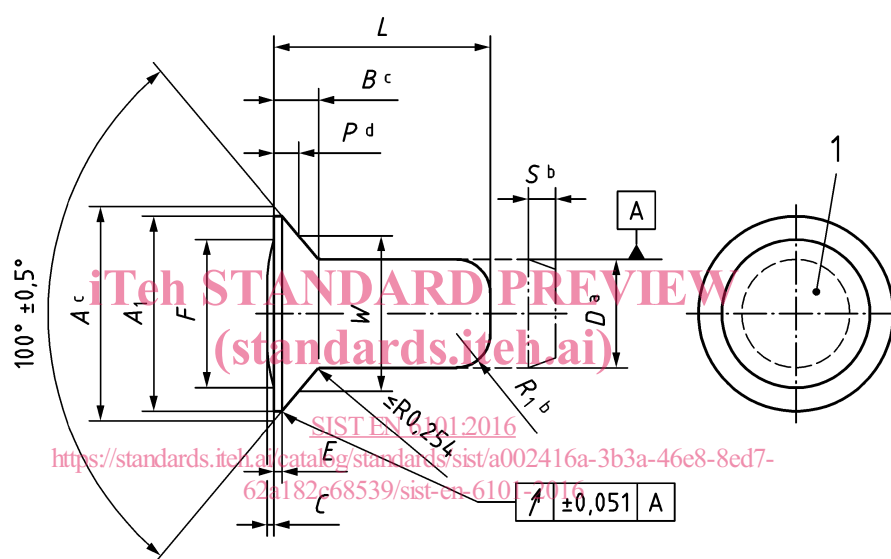
The dimensions, tolerances and mass shall conform with Figure 1 and Tables 1 and 3.

The dimensions and tolerances of oversizes (for repair purposes only) shall conform with Figure 1 and Tables 2 and 3.

Dimensions and tolerances are expressed in millimetres.

3.2 Material and surface treatment

See Table 4.



Key

- 1 Angular misalignment of rivet head to rivet shank axis $0,5^\circ$ max.
- 2 Marking (see clause 5)
- 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 to the R_1 dimensions or a 20° 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

Figure 1 — Configuration

Table 1 — Dimensions and tolerances

Diameter code	D Nominal diameter +0,03 -0,03	A		A ₁	B	C	E	F	P		R ₁	S	W	
		max.	min.	min.	Ref.	+0,05 0	Ref.	±0,13	max.	min.	±0,25	±0,25	max.	min.
2	1,58	2,90	2,80	2,44	0,53	0,08	0,08 to 0,15	2,07	0,287	0,238	0,48	0,41	2,228	2,223
3	2,38	4,55	4,45	4,09	0,89			3,29	0,471	0,419	0,74	0,58	3,443	3,438
4	3,18	5,70	5,60	5,24	1,04			4,14	0,545	0,492	0,99	0,79	4,418	4,413
5	3,97	7,18	7,10	6,74	1,33			5,25	0,861	0,810	1,24	0,99	5,151	5,146
6	4,76	8,43	8,35	7,99	1,52			6,20	0,946	0,894	1,50	1,19	6,200	6,195
7	5,56	9,67	9,59	9,23	1,70			7,15	1,001	0,948	1,75	1,37	7,310	7,305
8	6,36	11,02	10,92	10,56	1,93			8,15	1,103	1,040	1,98	1,57	8,420	8,415
10	7,93	13,75	13,65	13,29	2,42			10,15	1,471	1,402	2,49	1,98	10,279	10,274
12	9,53	16,42	16,32	15,96	2,87	12,15	1,734	1,660	2,97	2,39	12,329	12,324		

Table 2 — Dimensions and tolerances for oversize rivets

Diameter code	D Nominal diameter +0,03 -0,03	A		A ₁	B	C	E	F	P		R ₁	S	W	
		max.	min.	min.	Ref.	+0,05 0	Ref.	±0,13	max.	min.	±0,25	±0,25	max.	min.
3X	2,78	4,55	4,45	4,09	0,72	0,08 to 0,15	0,08 to 0,15	3,29	0,471	0,419	0,74	0,58	3,443	3,438
4X	3,58	5,70	5,60	5,24	0,87			4,14	0,545	0,492	0,99	0,79	4,418	4,413
5X	4,37	7,18	7,10	6,74	1,16			5,25	0,861	0,810	1,24	0,99	5,151	5,146
6X	5,16	8,43	8,35	7,99	1,36			6,20	0,946	0,894	1,50	1,19	6,200	6,195
7X	5,96	9,67	9,59	9,23	1,54			7,15	1,001	0,948	1,75	1,37	7,310	7,305

Table 3 — Length code and masses

Length ^{ab}		Diameter code								
		2	3	4	5	6	7	8	10	12
code	$L \pm 0,254$	Mass ^c kg/ 1 000 parts								
03	4,76	0,02	0,07	-	-	-	-	-	-	-
04	6,35	0,04	0,09	0,16	0,26	-	-	-	-	-
05	7,94	0,05	0,11	0,20	0,32	0,46	-	-	-	-
06	9,53	0,05	0,13	0,23	0,37	0,54	0,74	-	-	-
07	11,11	0,06	0,15	0,27	0,43	0,62	0,85	1,13	-	-
08	12,70	0,07	0,17	0,30	0,48	0,70	0,96	1,27	-	-
09	14,29	0,08	0,19	0,34	0,54	0,78	1,07	1,41	2,26	-
10	15,88	0,09	0,21	0,37	0,59	0,85	1,17	1,55	2,47	3,65
11	17,46	0,10	0,23	0,41	0,64	0,93	1,28	1,69	2,69	3,96
12	19,05	0,11	0,25	0,44	0,70	1,01	1,39	1,83	2,91	4,28
13	20,64	0,12	0,27	0,48	0,75	1,09	1,50	1,97	3,13	4,59
14	22,23	0,12	0,29	0,51	0,81	1,17	1,60	2,11	3,35	4,91
15	23,81	0,13	0,31	0,55	0,86	1,25	1,71	2,25	3,57	5,22
16	25,40	0,14	0,33	0,58	0,92	1,33	1,82	2,40	3,79	5,54
17	26,99	-	0,35	0,62	0,97	1,41	1,93	2,54	4,00	5,86
18	28,58	-	0,37	0,65	1,03	1,49	2,03	2,68	4,22	6,17
20	31,75	-	0,41	0,72	1,14	1,64	2,25	2,96	4,66	6,80
22	34,93	-	0,45	0,79	1,25	1,80	2,46	3,24	5,10	7,44
24	38,10	-	-	0,86	1,36	1,96	2,68	3,52	5,53	8,07

^a 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).

^b 1/32 inch (0,79 mm) length increments may be obtained by adding code 5 after 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 Mass based on aluminium alloy with a density of 2,79 kg/dm³, refer to Table 4 for conversion factors.