Aerospace series

Nut,
Self-locking, Hexagonal, Titanium

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Contents

1 Scope

This standard specifies the dimensions, tolerances, required characteristics and the mass of a titanium hexagonal self-locking nut for use in aerospace applications. This product was designed to fit lightweight pins with cylindrical shank and short threads for shear applications, nominal diameter and oversizes.

2 Normative references

This Airbus Standard incorporates by dated or undated reference provisions from other publications. All normative references cited at the appropriate places in the text are listed hereafter. For dated references, subsequent amendments to or revisions of any these publications apply to this Airbus Standard only when incorporated in it by amendment of revision. For undated references, the latest issue of the publication referred to shall be applied.

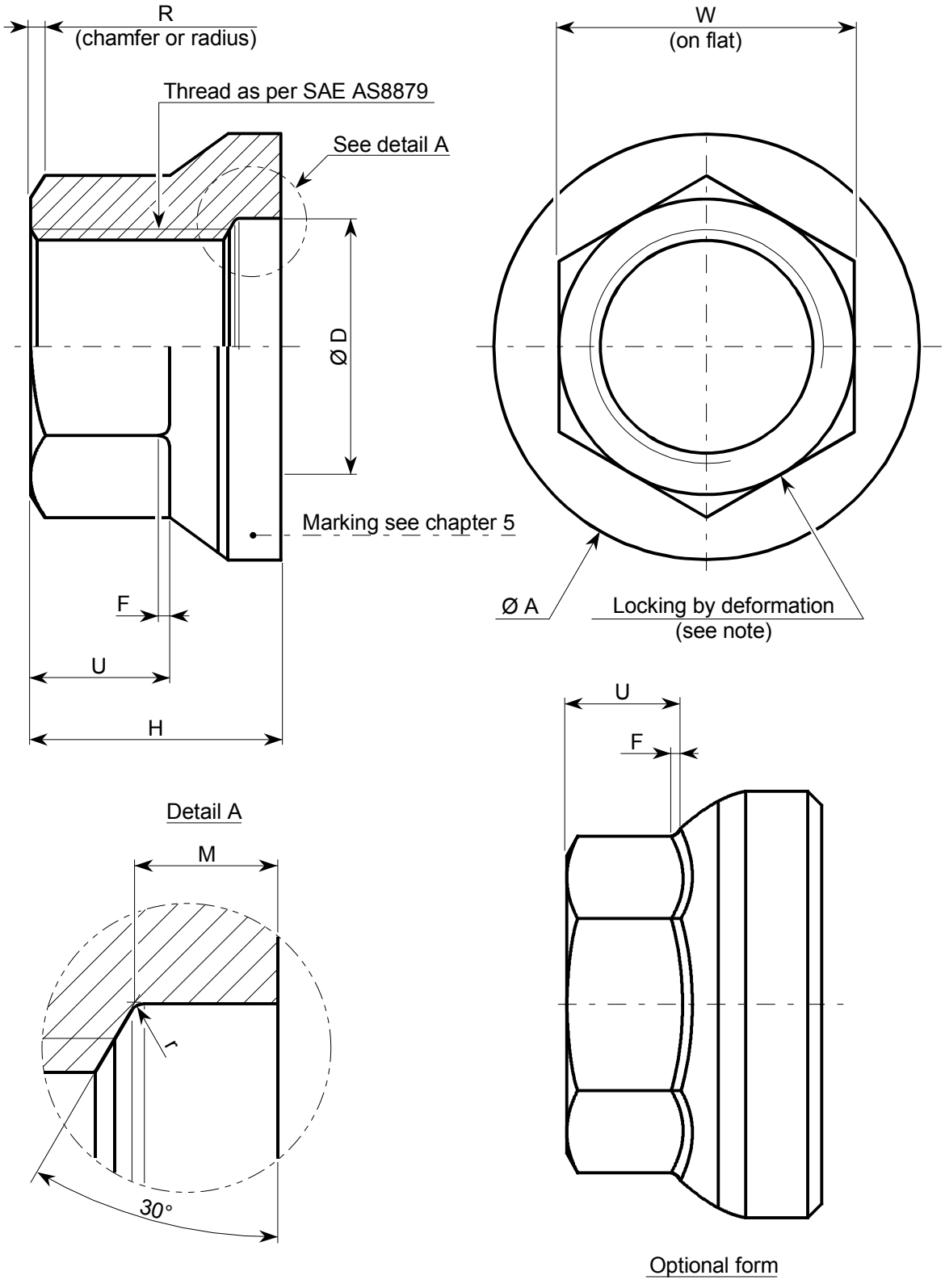
ISO2768-1	General tolerance; tolerance for linear and angular dimensions without individual tolerance indications.
ISO2768-2	General tolerances - Geometrical tolerance for features without individual tolerance indication.
EN9133	Aerospace series – Quality management systems Quality Procedure for Aerospace Standards Parts. [1]
EN2424	Aerospace series - Marking of aerospace products. [1]
EN4473	Non Chromated Aluminium pigmented coating. [1]
ABS1757	Technical specification - Self-locking, nut, hexagonal, titanium
AMS4928	Titanium alloys bars, wire, forgings, and rings 6AL-4V annealed. [2]
AMS4965	Titanium alloys bars, wire, forgings, and rings 6AL-4V solution heat treated and aged. [2]
AMS4967	Titanium alloys bars, wire, forgings, and rings 6AL-4V annealed, heat treatable. [2]
ASME B46-1	Surface texture (Surface roughness, waviness and lay)
SAE AS8879	Screw threads, controlled radius root with increased minor diameter. [2]

3 Requirements

3.1 Configuration, dimensions, tolerances and mass

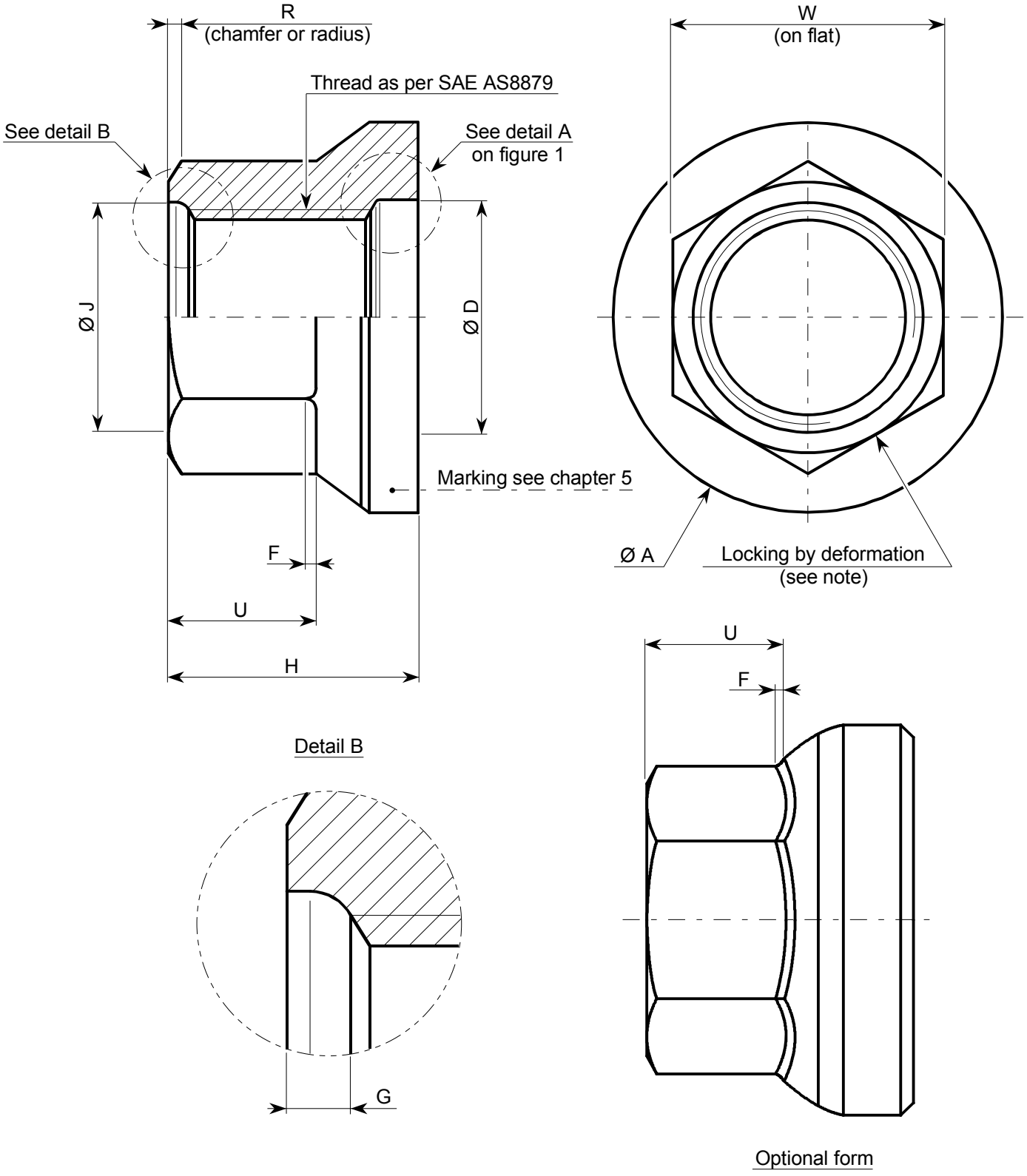
The configuration, dimensions, tolerances and mass shall be in accordance with figures 1 and 2, and table 1.
Dimensions apply after finish except in locking areas (dimensions concerned asterisked in Table 1).
Tolerances not specified, shall be in accordance with ISO2768-mk.

[1] Published as AECMA Standard at the date of publication of this standard
[2] Published by: Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001, USA



Note: Tool mark or distortion permissible in the locking area.

Figure 1 : Configuration and dimensions for diameter codes 2 to 8



Note: Tool mark or distortion permissible in the locking area.

Figure 2 : Configuration and dimensions for diameter codes 9 to 18

Table 1 : Dimensions, tolerances and mass

Dimensions in millimeters (continued)

Dia code No	Thread as per SAE AS8879	Ø A Min	Ø A Max	Ø D Min	F Max	G* ±0,1	H* ±0,1	J Min	M Min
2	.1640-32 UNJC-3B	7,03	7,63	4,33	0,8	-	5,31	-	2,30
3	.1900-32 UNJF-3B	8,59	9,19	5,33	0,8	-	6,01	-	2,45
3A	.2160-28 UNJF-3B	9,65	10,25	6,12	0,8	-	6,50	-	2,50
4	.2500-28 UNJF-3B	11,13	11,73	7,31	0,8	-	6,88	-	2,40
5	.3125-24 UNJF-3B	13,69	14,29	8,90	0,8	-	7,99	-	2,51
6	.3750-24 UNJF-3B	16,51	17,11	10,49	1,0	-	9,01	-	2,51
7	.4375-20 UNJF-3B	18,85	19,45	12,07	1,0	-	10,36	-	2,67
8	.5000-20 UNJF3B	21,81	22,41	13,66	1,0	-	11,37	-	2,66
9	.5625-18 UNJF-3B	24,39	24,99	15,24	1,0	1,41	14,09	15,10	2,77
10	.6250-18 UNJF-3B	26,09	26,69	17,62	1,0	1,41	14,21	16,69	3,03
12	.7500-16 UNJF-3B	31,04	31,64	20,79	1,0	1,59	16,51	20,00	3,18
14	.8750-14 UNJF-3B	36,09	36,69	23,97	1,0	1,8	18,6	23,22	3,39
16	1.0000-12 UNJF-3B	41,07	41,67	27,14	1,0	2,12	21,55	26,55	3,66
18	1.1250-12 UNJF-3B	46,32	46,92	30,32	1,0	2,12	25,43	29,73	3,66

Table 1 : Dimensions, tolerances and mass (concluded)

Dimensions in millimeters.

Dia code No	Thread as per SAE AS8879	r min	R Ref	U Min	W* Min	W* Max	Mass kg/1000 parts For information only
2	.1640-32 UNJC-3B	0,3	0,14	2,3	5,42	5,62	0,513
3	.1900-32 UNJF-3B	0,3	0,16	2,68	6,18	6,38	0,774
3A	.2160-28 UNJF-3B	0,3	0,18	2,94	6,97	7,17	1,030
4	.2500-28 UNJF-3B	0,3	0,20	3,16	7,75	7,95	1,291
5	.3125-24 UNJF-3B	0,3	0,24	3,8	9,32	9,55	2,122
6	.3750-24 UNJF-3B	0,3	0,32	4,68	12,50	12,75	4,177
7	.4375-20 UNJF-3B	0,4	0,36	5,44	14,05	14,32	5,887
8	.5000-20 UNJF3B	0,4	0,41	6,16	15,64	15,92	8,066
9	.5625-18 UNJF-3B	0,4	0,45	8,34	17,19	17,47	11,564
10	.6250-18 UNJF-3B	0,4	0,51	8,29	19,60	19,88	13,449
12	.7500-16 UNJF-3B	0,5	0,61	9,74	23,48	23,78	22,524
14	.8750-14 UNJF-3B	0,5	0,69	10,89	26,70	27,00	32,277
16	1.0000-12 UNJF-3B	0,5	0,77	12,61	29,90	30,23	46,663
18	1.1250-12 UNJF-3B	0,5	0,85	14,88	32,87	33,20	66,963

3.2 Material and surface treatment

The material and surface treatment shall be in accordance with table 2.

Table 2 : Material and surface treatment

Material code	Material	Surface finish	Lubricant
K	Titanium alloy as per chemistry of AMS4928 or AMS4967 or AMS4965 Solution heat treated and aged	Non-chromated aluminium pigmented coating as per EN4473	None

3.3 General requirements

Max. Operating temperature: +235 °C.
All surfaces ≤ Ra 3,2 µm, tool mark or distortion permissible in locking area.

3.4 Mechanical characteristics

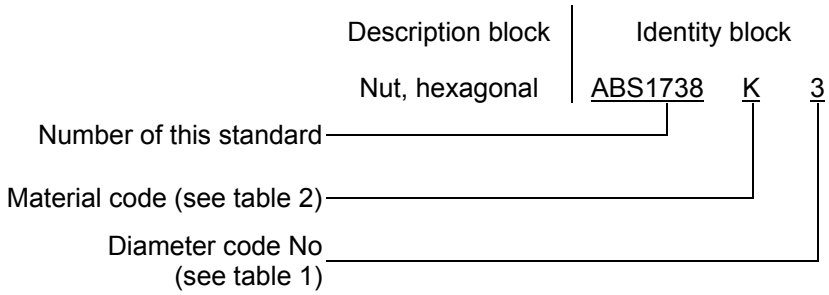
The mechanical characteristics shall be in accordance with table 3.

Table 3 : Mechanical characteristics – Tooling to use

Dia code No.	Thread as per SAE AS8879	Min. axial tensile strength (N)	Wrench size (inch)
2	.1640-32 UNJC-3B	8 800	7/32
3	.1900-32 UNJF-3B	12 400	1/4
3A	.2160-28 UNJF-3B	17 000	9/32
4	.2500-28 UNJF-3B	23 500	5/16
5	.3125-24 UNJF-3B	36 000	3/8
6	.3750-24 UNJF-3B	58 000	1/2
7	.4375-20 UNJF-3B	76 000	9/16
8	.5000-20 UNJF3B	102 000	5/8
9	.5625-18 UNJF-3B	129 000	11/16
10	.6250-18 UNJF-3B	142 340	25/32
12	.7500-16 UNJF-3B	208 650	15/16
14	.8750-14 UNJF-3B	281 230	1-1/16
16	1.0000-12 UNJF-3B	381 101	1-3/16
18	1.1250-12 UNJF-3B	541 000	1-5/16

4 Designation

This type of Standard nut shall be designated according to the philosophy of the following example:



5 Marking

Parts shall be marked as per EN2424, style F

6 Technical specification

ABS1757

RECORD OF REVISIONS

Issue	Clause modified	Description of modification
1 06/10		New standard.