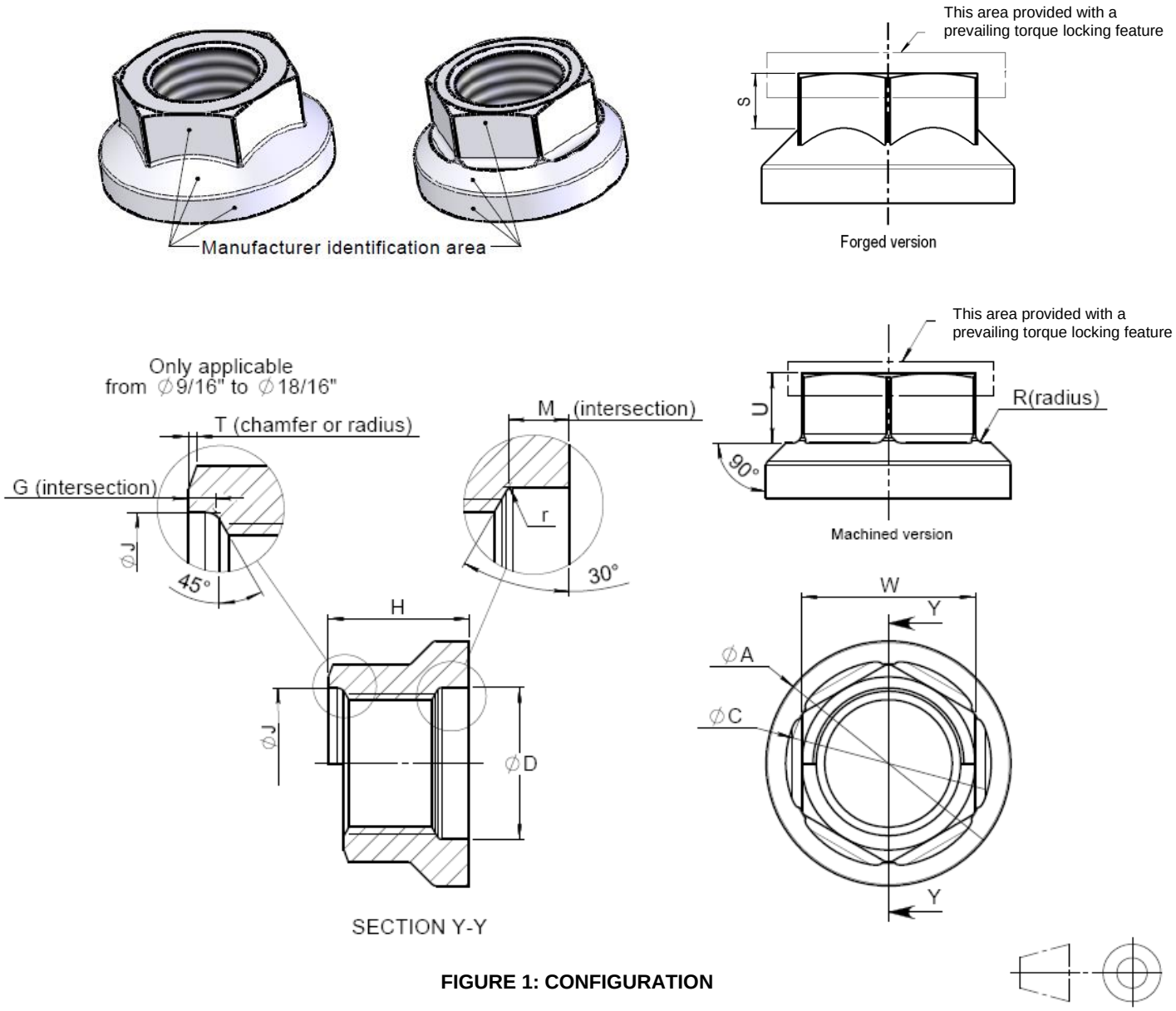

FIGURE 1: CONFIGURATION

NOTES:

UNLESS OTHERWISE SPECIFIED

I. Units — Dimensions and tolerances are in millimeters (inch).
Dimensions apply after finish.

II. Surface Texture — As per ASME B46-1 before coating.

- R_a max. = 3,2µm ($\overset{125}{\nabla}$).
- Tool mark or distortion permissible in the locking area.

III. Threads — UNJF-3B as per SAE AS8879, except dia. code 2 (UNJC-3B)

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1. APPLICATION

This product standard specifies the dimensions, tolerances and properties of a titanium nut for use in aerospace application at a maximum operating temperature of 235°C (455°F).
This nut was designed to fit EN6114, EN6115 and HI-LITE™ pins (with short threads and cylindrical shank), nominal diameter and oversizes.

2. REQUIREMENTS

Table 1 – Material and finish

MATERIAL	FINISH
Titanium alloy 6AL-4V as per chemistry of AMS4928, AMS4965 or AMS4967, Solution heat treated and aged. Min. shear strength : Rc min = 650 MPa (95 KSI) Min. tensile strength : Rm min = 1100 MPa (160 KSI)	Non-chromated aluminum pigmented coating: HI-KOTE™ 4NC As per EN4473 type IV

Table 2 - Dimensions and tolerances (See figure 1)

Dia. Code	Thread UNJF-3B	Ø A ±0,05 (±.002)	Ø C ref.	Ø D min.	G ±0,1 (±.004)	H ±0,1 (±.004)	J min.	M min.	r min.	S min.	U min.	R Max.	T ref.	W ref.
2	.1640-32(1)	7,33 (.289)	6,30 (.248)	4,33 (.170)	-	5,31 (.209)	-	2,30 (.091)	0,4 (.016)	1,34 (.053)	2,40 (.094)	0,8 (.031)	0,14 (.006)	5,52 (.217)
3	.1900-32	8,89 (.350)	7,17 (.282)	5,33 (.210)	-	6,01 (.237)	-	2,45 (.096)	0,4 (.016)	1,66 (.065)	2,78 (.109)	0,8 (.031)	0,16 (.006)	6,28 (.247)
3A	.2160-28	9,95 (.392)	8,06 (.317)	6,12 (.241)	-	6,50 (.256)	-	2,50 (.098)	0,4 (.016)	1,87 (.074)	3,04 (.120)	0,8 (.031)	0,18 (.007)	7,07 (.278)
4	.2500-28	11,43 (.450)	8,94 (.352)	7,31 (.288)	-	6,88 (.271)	-	2,40 (.094)	0,4 (.016)	2,04 (.080)	3,26 (.128)	0,8 (.031)	0,20 (.008)	7,85 (.309)
5	.3125-24	13,99 (.551)	10,77 (.424)	8,90 (.350)	-	7,99 (.315)	-	2,51 (.099)	0,4 (.016)	2,57 (.101)	3,90 (.154)	0,8 (.031)	0,24 (.009)	9,45 (.372)
6	.3750-24	16,81 (.662)	14,38 (.566)	10,49 (.413)	-	9,01 (.355)	-	2,51 (.099)	0,4 (.016)	3,03 (.119)	4,78 (.188)	1,0 (.039)	0,32 (.013)	12,63 (.497)
7	.4375-20	19,15 (.754)	16,16 (.636)	12,07 (.475)	-	10,36 (.408)	-	2,67 (.105)	0,4 (.016)	3,79 (.149)	5,64 (.222)	1,0 (.039)	0,36 (.014)	14,20 (.559)
8	.5000-20	22,11 (.870)	17,96 (.707)	13,66 (.538)	-	11,37 (.448)	-	2,66 (.105)	0,4 (.016)	4,17 (.164)	6,16 (.243)	1,0 (.039)	0,41 (.016)	15,73 (.619)
9	.5625-18	24,69 (.972)	19,79 (.779)	15,24 (.600)	1,41 (.056)	14,09 (.555)	15,10 (.594)	2,77 (.109)	0,4 (.016)	6,35 (.250)	8,35 (.329)	1,0 (.039)	0,45 (.018)	17,33 (.682)
10	.6250-18	26,39 (1.039)	22,43 (.883)	17,62 (.694)	1,41 (.056)	14,21 (.559)	16,69 (.657)	3,03 (.119)	0,4 (.016)	6,37 (.251)	8,54 (.336)	1,0 (.039)	0,51 (.020)	19,64 (.773)
12	.7500-16	31,34 (1.234)	26,98 (1.062)	20,79 (.819)	1,59 (.063)	16,51 (.650)	20,00 (.787)	3,18 (.125)	0,5 (.020)	7,56 (.298)	10,01 (.394)	1,0 (.039)	0,61 (.024)	23,63 (.930)
14	.8750-14	36,39 (1.433)	30,56 (1.203)	23,97 (.944)	1,8 (.071)	18,60 (.732)	23,22 (.914)	3,39 (.133)	0,5 (.020)	8,54 (.336)	11,20 (.441)	1,0 (.039)	0,69 (.027)	26,78 (1.054)
16	1.0000-12	41,37 (1.629)	34,22 (1.347)	27,14 (1.069)	2,12 (.083)	21,55 (.848)	26,55 (1.045)	3,66 (.144)	0,5 (.020)	10,08 (.397)	12,97 (.511)	1,0 (.039)	0,77 (.030)	29,98 (1.180)
18	1.1250-12	46,62 (1.835)	37,70 (1.484)	30,32 (1.194)	2,12 (.083)	25,43 (1.001)	29,73 (1.170)	3,66 (.144)	0,5 (.020)	12,13 (.478)	15,24 (.600)	1,0 (.039)	0,85 (.033)	33,02 (1.300)

(1) Dia. code 2: UNJC-3B thread as per SAE AS8879.

Table 3 – Tensile strength, mass and wrench size

Dia. Code	Thread UNJF-3B	Min. Axial Tensile Strength[2] N (Lbf)	Mass kg/1000 parts (lb/1000 parts) For information only	Wrench Size (inch)
2	.1640-32[1]	8 800 (1,978)	0,503 (1.110)	7/32
3	.1900-32	12 400 (2,788)	0,761 (1.680)	1/4
3A	.2160-28	17 000 (3,822)	1,011 (2.232)	9/32
4	.2500-28	23 500 (5,283)	1,274 (2.812)	5/16
5	.3125-24	36 000 (8,093)	2,090 (4.614)	3/8
6	.3750-24	58 000 (13,039)	4,111 (9.075)	1/2
7	.4375-20	76 000 (17,085)	5,796 (12.795)	9/16
8	.5000-20	102 000 (22,931)	7,952 (17.554)	5/8
9	.5625-18	129 000 (29,000)	11,099 (24.501)	11/16
10	.6250-18	142 340 (31,999)	12,992 (28.680)	25/32
12	.7500-16	208 650 (46,906)	21,737 (47.985)	15/16
14	.8750-14	281 230 (63,223)	31,060 (68.565)	1-1/16
16	1.0000-12	381 100 (85,654)	44,692 (98.658)	1-3/16
18	1.1250-12	541 000 (121,622)	64,105 (141.512)	1-5/16

(1) Dia. code 2: UNJC-3B thread as per SAE AS8879
(2) Mechanical properties apply at room temperature.

3. DESIGNATION

BA1500-(_)

Dia. Code N°
Basic part number

Example:
BA1500-8: Titanium alloy 6AL-4V nut, dia. code ½ inch, with HI-KOTE™ 4NC coating.

4. MARKING

Manufacturer symbol on the hexagon or the flange area (see Figure 1).

5. PROCUREMENT SPECIFICATION

The BA1500 nuts must meet all the inspection requirements of LISI AEROSPACE Product Specification STRQA-01.

RECORD OF REVISIONS

Revision	Date	Modification	Justification
A	2008-10-20	Initial release.	
B	2008-12-11	Figure 1 page 1 : Add LISI internal specification number for hot crimping process. Change “R” to “R1” and add “R2”	Creation of process specification
		Table 4 page 5: Add stress durability test for parts reception and qualification.	Updated product validation plan
C	2009-10-23	Figure 1 page 1: Drawing updated with design modification for dia. codes 9 to 18	Increase hex. height while preserving same threaded length: add extra material on nut top extremity.
		Figure 1 page 1: R1 changed to T	In conformance with Engineering drawing
		Add US customary units in all specification.	-
		Decrease max. operating temp. to 235°C	In conformance with NASM25027
		Notes page 1: “on drawing” mention withdrawal	-
		Table 1 page 2: “see figure 1” mention withdrawal, add AMS4965 and EN4473 type IV	-
		Table 2 page 3: Increase H and S/U min by +0,3mm for dia. codes 2 to 6.	Modification of nut design in order to increase min. UTS & hex. height on small dia. codes.
		Table 2 page 3: Increase M for dia. codes 10 to 18.	Murphy proofing on larger diameters.
		Table 2 page 3: Add dim. G and ØJ and increase H and S/Umin for dia. codes 9 to 18.	Design modification (add extra material)
		Table 2 page 3: Add tolerances on ØA and G. replace r ref by r min and update values, replace R1 by T and update S/U min. values.	In accordance with customer requirement and Engineering drawing
		Table 3 page 4: Add note 2: “Mechanical properties apply at room temperature.”	-
		Section 3 page 4: Add part designation example.	-
		Update masses	Design changes
		Section 5: replace technical requirements by a link to product technical specification STRTS01	Specification completion
D	2009-11-24	Figure 1 page 1: Replace R1 by T and R2 by R and Table 2 updated according to it.	In accordance with Engineering drawing.
		BA1500-16 min. UTS updated.	Typing error
E	2010-10-06	Figure1 page 1: New dimensioning for top counterbore “G”	Same dimensioning for both “M” and “G”
		Figure1 page 1: New dimensioning for “U min” (machined version)	Same dimensioning for all STR® nuts
		Table 2 page 3: New values for both “G” and “U min”	-
		Table 3 page 4: Rounding of ø16 Min Axial Tensile Strength: 381100 N instead of 381010 N.	-
F	2020-09-10	Page 1: Spec N°13818 removed on drawing Page 2 table 1: “based” replaced by “pigmented” Table 2 page 3: ØA tolerances and values modified to ensure cross references. G values replaced to match ED. “Hi-kote®” replaced by “HI-KOTE™” in all document.	Allow cross references.