

**Nut, Lightweight, 6AL-4V Titanium,
Hexagonal, Self-locking,
Up to 2nd pin shank oversize
(for use with HI-LITE™ pins)**

STR23

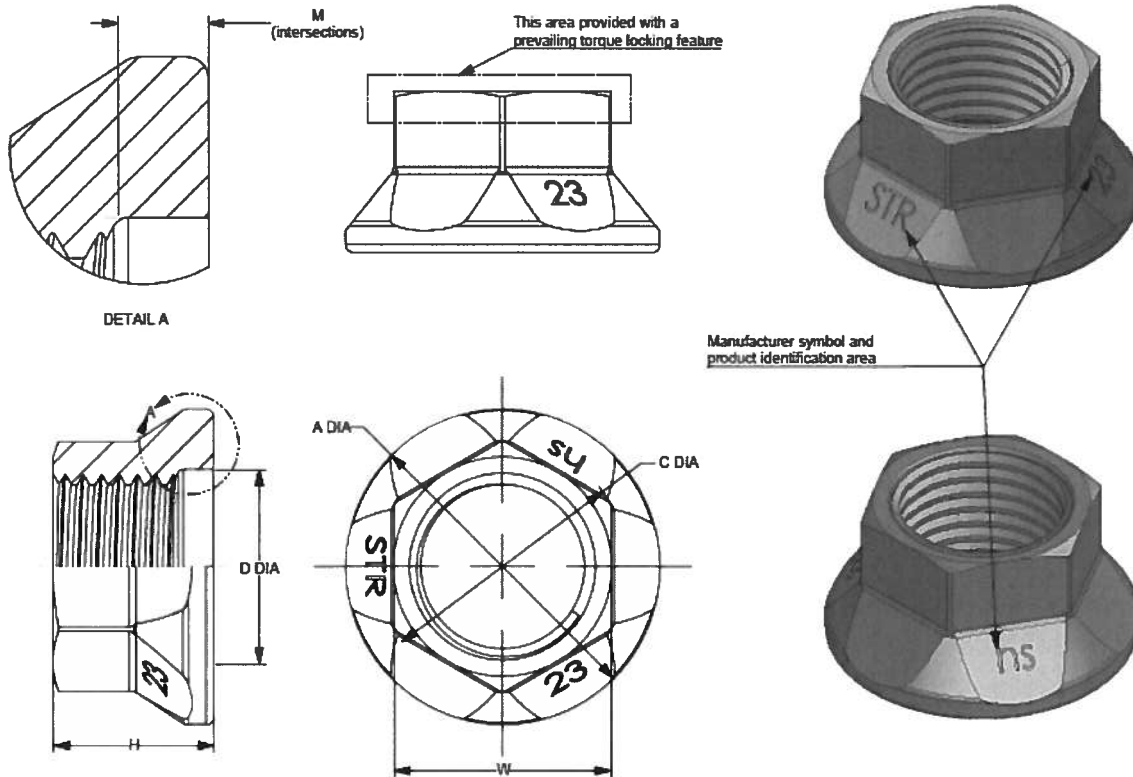


FIGURE 1: CONFIGURATION

NOTES:

UNLESS OTHERWISE SPECIFIED

- | | | |
|------|------------------------|---|
| I. | Units | <p>Dimensions and tolerances are in inches (millimeters).</p> <p>Loads are in Lbf (Newton).</p> <p>Dimensions apply after finish, before application of solid film lube..</p> |
| II. | Surface texture | <p>As per ASME B46.1 before coating.</p> <p>- $R_a \text{ max.} = \sqrt[125]{ } (3,2\mu\text{m})$.</p> <p>- Tool mark or distortion permissible in the locking area.</p> |
| III. | Thread | <p>UNJF-3B as per SAE AS8879, except diameter code 5 (UNJC-3B).</p> <p>Go thread gage penetration shall be 3/4 of one revolution minimum after thread lock.</p> |

Technical Center	Written by	Signature	Approved by	Signature	Date	Issue
PAGE 1/6	F. CARINGELLA		J. LO		2019-07-24	D



CENTRAL SEINE
46 – 50 Quai de la Rapée
75583 PARIS CEDEX 12
Phone 33 (0)1 40 19 82 00
Fax 33 (0)1 40 19 82 01 33 (0)1
44 67 88 76

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1. APPLICATION

This product standard specifies the dimensions, tolerances and properties of a STARLITE™ titanium nut, for use in aerospace application at a maximum operating temperature of 450°F (232°C).

The nut is designed to fit HI-LITE™ pins (with short threads and cylindrical shank), nominal diameter, first and second oversize. It can be used to fasten structures with a sloped surface from 0° to 1°.

2. REQUIREMENTS

Table 1: Material, finish and identification

FINISH CODE	MATERIAL	HEAT TREAT	LUBRICATION
TA	Titanium alloy 6AL-4V as per chemistry of AMS4928, AMS4965 or AMS4967	Solution treated and aged per AMS-H-81200 unless material procured to AMS4965	Surface preparation per Hi- Shear Ti-Shield III and HI- KOTE™ 2 solid film lube per Hi-Shear Spec. 292, and cetyl alcohol lube per Hi- Shear Spec. 305

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Table 2 : Dimensions and tolerances

Øcode (1/32")	THREAD UNJF-3B	ØA REF	ØC REF	ØD		H REF	M REF	W ⁽²⁾ ± .002 (± 0,05)
				MIN	MAX			
5	.1640-32 ⁽¹⁾	.284 (7,22)	.248 (6,30)	.174 (4,41)	.180 (4,57)	.224 (5,69)	.099 (2,50)	.217 (5,51)
6	.1900-32	.340 (8,64)	.282 (7,17)	.229 (5,81)	.233 (5,91)	.236 (5,98)	.094 (2,39)	.247 (6,27)
7	.2160-28	.383 (9,73)	.317 (8,06)	.244 (6,20)	.250 (6,35)	.258 (6,55)	.100 (2,54)	.278 (7,06)
8	.2500-28	.454 (11,52)	.352 (8,94)	.291 (7,40)	.297 (7,55)	.273 (6,93)	.096 (2,45)	.309 (7,85)
10	.3125-24	.556 (14,12)	.424 (10,77)	.354 (9,00)	.360 (9,15)	.317 (8,04)	.101 (2,56)	.372 (9,45)
12	.3750-24	.667 (16,94)	.566 (14,38)	.417 (10,60)	.423 (10,75)	.357 (9,06)	.101 (2,55)	.497 (12,62)
14	.4375-20	.773 (19,63)	.636 (16,16)	.480 (12,20)	.486 (12,35)	.410 (10,41)	.107 (2,71)	.559 (14,20)
16	.5000-20	.884 (22,45)	.707 (17,96)	.543 (13,79)	.549 (13,94)	.450 (11,42)	.107 (2,71)	.619 (15,72)
18	.5625-18	.988 (25,08)	.779 (19,79)	.606 (15,38)	.612 (15,53)	.500 (12,69)	.110 (2,80)	.682 (17,32)
20	.6250-18	1.045 (26,53)	.883 (22,43)	.668 (16,96)	.674 (17,11)	.495 (12,56)	.110 (2,80)	.773 (19,63)
24	.7500-16	1.245 (31,63)	1.062 (26,98)	.794 (20,16)	.800 (20,31)	.578 (14,68)	.115 (2,93)	.930 (23,62)
28	.8750-14	1.426 (36,21)	1.203 (30,56)	.919 (23,35)	.925 (23,50)	.653 (16,57)	.122 (3,10)	1.054 (26,77)
32	1.0000-12	1.620 (41,16)	1.347 (34,22)	1.045 (26,55)	1.051 (26,71)	.755 (19,19)	.130 (3,31)	1.180 (29,97)

- (1) Dia. code 5: UNJC-3B thread as per SAE AS8879
(2) Dimensions apply before application of locking feature

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Table 3: Tensile strength, mass and wrench size

Øcode (1/32")	THREAD UNJF-3B	Min. Axial Tensile Strength ⁽²⁾ Lbf (N)	Mass Lb / 1000 parts (Kg / 1000 parts)	Wrench Size (inch)
5	.1640-32 ⁽¹⁾	2 302 (10 240)	1.073 (0,487)	7/32
6	.1900-32	2 788 (12 400)	1.443 (0,654)	1/4
7	.2160-28	3 822 (17 000)	2.015 (0,914)	9/32
8	.2500-28	5 283 (23 500)	2.709 (1,229)	5/16
10	.3125-24	8 302 (36 930)	4.384 (1,989)	3/8
12	.3750-24	13 039 (58 000)	8.445 (3,831)	1/2
14	.4375-20	19 008 (84 550)	12.286 (5,573)	9/16
16	.5000-20	25 509 (113 470)	17.055 (7,736)	5/8
18	.5625-18	29 012 (129 050)	22.455 (10,186)	11/16
20	.6250-18	32 013 (142 400)	26.145 (11,859)	25/32
24	.7500-16	46 906 (208 650)	43.201 (19,596)	15/16
28	.8750-14	63 223 (281 230)	60.936 (27,640)	1-1/16
32	1.0000-12	85 654 (381 010)	87.387 (39,638)	1-3/16

(1) Dia. code 5: UNJC-3B thread as per SAE AS8879

(2) Mechanical properties apply at room temperature

Tensile value is valid for nut only.

See pin standards for pin strengths.

Lower strength (fastener) determines system strength.

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46 – 50 Quai de la Rapée
75583 PARIS CEDEX 12
Phone 33 (0)1 40 19 82 00
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3. DESIGNATION

STR23 TA ()

Dia. code number in 1/32nds inch

Finish code (table 1)

Basic part number

Example:

STR23TA16: STR23 nut for HI-LITE™ pins fastener systems, titanium alloy 6AL-4V coated with solid film lube coating HI-KOTE™ 2 and cetyl alcohol lube, dia. code ½ inch.

4. MARKING

Manufacturer symbol and basic part number on the flange area (except Ø5/32", manufacturer symbol only).

Marking shall be oriented and positioned approximately as shown in Figure 1, arrangement optional.

5. QUALIFICATION AND ACCEPTANCE

The nuts shall meet all the inspection requirements of LISI AEROSPACE Qualification and Acceptance Specification STR-QA05, except locking torque, breakaway tests, to be performed, using preload releasing fixture.

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Issue	Date	Modifications	Justification
REV. B	2018-12-13	1) Changed Revision Format: From Numerical to Alpha (previous revision was Rev. 1). 2) Changed Drawing Format: From Hi-Shear Corporation Format to Technical Center	Incorrect initial release
REV. C	2019-04-01	1) Updated figure 1 to reflect A DIA, C DIA & D DIA. 2) Updated AMS2801 To AMS-H-81200	1) Incorrect initial release 2) Spec AMS2801 does not allow for standard industry practice with respect to loading.
REV. D	2019-07-24	1) Section 4: WAS: Marking shall be positioned as indicated on Figure 1.	1) Allow for arrangement of marking at manufacturing option

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