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STARLITE™ NUT

6AL-4V Titanium

Hexagonal, self-locking, for use with 3rd oversized HI-LOK™ pins

STR310

Patent Pending

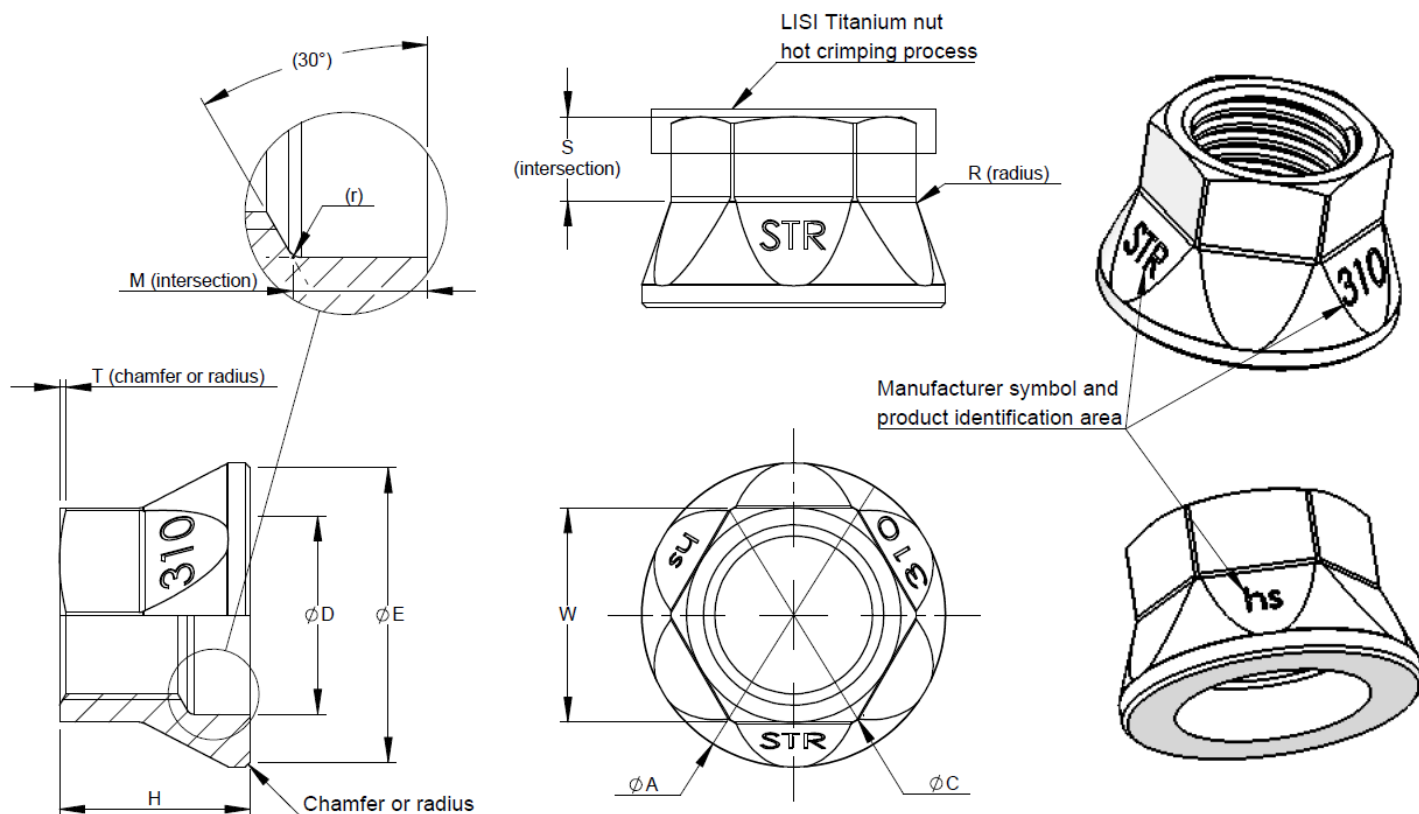


FIGURE 1: CONFIGURATION

NOTES:

UNLESS OTHERWISE SPECIFIED

- I. **Units** Dimensions and tolerances are in millimeters (inches).
Reference unit for dimensions and tolerances is millimeter (Inches values are for information).
Reference unit for loads is Newton (Lbf values are for information).
Dimensions apply after finish.
- II. **Surface texture** As per ASME B- before coating.
- $R_a \text{ max.} = 3,2\mu\text{m} \left(\sqrt[125]{ } \right)$.
- Tool mark or distortion permissible in the locking area.
- III. **Tread** UNJF-3B as per SAE AS8879, except diameter code 5 (UNJC-3B)

Technical Center	Written by	Signature	Approved by	Signature	Date	Revision
PAGE 1/6	INNOVATEAM		J. GOYER		2015-09-25	A



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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 350°F (177°C).
 The STR310 nut of STARLITE™ product line is designed to fit third oversized HI-LOK™ pins (with short threads and cylindrical shank).

2. REQUIREMENTS

Table 1: Material, finish and identification

FINISH CODE	MATERIAL	FINISH
K	Titanium alloy 6AL-4V as per chemistry of AMS4928, AMS4965 or AMS4967, solution heat treated and aged. Min. shear strength : Rc min = 95 KSI (655 MPa) Min. tensile strength : Rm min =160 KSI (1103 MPa)	HI-KOTE™ 4NC non-chromated aluminum based coating per EN4473 type IV , HS294 or NAS4006 Class NC.

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Table 2 : Dimensions and tolerances

Dia. code	Thread UNJF- 3B	Ø A	Ø C	Ø D	Ø E	H	M	r	R	S	T	W ⁽¹⁾	
		Max	min	±.003 (±0,08)	min	Max	min	ref	Max	min	Max	min	Max
6	.1900- 32	.352 (8,93)	.268 (6,81)	.254 (6,45)	.332 (8,42)	.282 (7,16)	.149 (3,79)	.020 (0,51)	.030 (0,77)	.081 (2,05)	.012 (0,30)	.245 (6,22)	.249 (6,32)
8	.2500- 28	.454 (11,52)	.339 (8,61)	.317 (8,05)	.434 (11,01)	.332 (8,44)	.154 (3,92)	.020 (0,51)	.030 (0,77)	.099 (2,51)	.012 (0,31)	.307 (7,80)	.311 (7,90)
10	.3125- 24	.555 (14,11)	.410 (10,41)	.380 (9,65)	.535 (13,60)	.387 (9,83)	.162 (4,10)	.020 (0,51)	.030 (0,77)	.124 (3,16)	.013 (0,34)	.370 (9,40)	.374 (9,50)
12	.3750- 24	.668 (16,97)	.552 (14,02)	.446 (11,33)	.648 (16,46)	.431 (10,95)	.161 (4,08)	.020 (0,51)	.040 (1,02)	.187 (4,74)	.019 (0,48)	.495 (12,57)	.499 (12,67)
14	.4375- 20	.769 (19,53)	.623 (15,82)	.509 (12,93)	.749 (19,02)	.507 (12,89)	.171 (4,35)	.020 (0,51)	.040 (1,02)	.219 (5,56)	.021 (0,54)	.557 (14,15)	.561 (14,25)
16	.5000- 20	.880 (22,36)	.694 (17,63)	.572 (14,53)	.860 (21,85)	.556 (14,11)	.171 (4,35)	.020 (0,51)	.040 (1,02)	.235 (5,98)	.024 (0,61)	.617 (15,67)	.621 (15,77)
18	.5625- 18	.983 (24,97)	.765 (19,43)	.634 (16,11)	.963 (24,46)	.577 (14,67)	.178 (4,53)	.020 (0,51)	.040 (1,02)	.248 (6,30)	.025 (0,64)	.680 (17,27)	.684 (17,37)
20	.6250- 18	1.041 (26,44)	.879 (22,33)	.697 (17,70)	1.021 (25,93)	.562 (14,29)	.178 (4,53)	.020 (0,51)	.040 (1,02)	.251 (6,37)	.028 (0,71)	.771 (19,58)	.775 (19,69)
24	.7500- 16	1.245 (31,63)	1.049 (26,66)	.828 (21,03)	1.225 (31,12)	.636 (16,15)	.185 (4,71)	.020 (0,51)	.040 (1,02)	.309 (7,86)	.031 (0,80)	.928 (23,57)	.932 (23,67)

(1) Deformed for self-locking. Dimensions apply before deformation.

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Table 3: Tensile strength, mass and wrench size

Dia. Code	Thread UNJF-3B	Min. Axial Tensile Strength⁽¹⁾ Lbf (N)	Mass Lb/1000 parts (Kg/1000parts)	Wrench Size (inch)
6	.1900-32	2 750 (12 233)	1.77 (0,80)	1/4
8	.2500-28	5 000 (22 241)	3.32 (1,50)	5/16
10	.3125-24	8 300 (36 920)	5.56 (2,52)	3/8
12	.3750-24	12 700 (56 492)	9.96 (4,52)	1/2
14	.4375-20	19 000 (84 516)	14.89 (6,76)	9/16
16	.5000-20	25 500 (113 430)	20.08 (9,11)	5/8
18	.5625-18	29 000 (128 998)	24.61 (11,16)	11/16
20	.6250-18	32 000 (142 343)	27.69 (12,56)	25/32
24	.7500-16	42 000 (186 825)	44.54 (20,20)	15/16

(1) Mechanical properties apply at room temperature.

Tensile value is valid for nut only.

See pin standards for pin strengths.

Lower strength (pin or nut) determines system strength.

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3. DESIGNATION

STR310 K ()

Dia. code number in 1/32nds inch

Finish code (table 1)

Basic part number

Example:

STR310K16: STR™ 310 nut for 3rd oversized HI-LOK™ pins fastener systems, Titanium alloy 6AL-4V coated with non-chromated coating HI-KOTE™ 4NC, dia. size ½ inch.

4. MARKING

Manufacturer symbol and basic part number “STR310” on the flange area.
Marking shall be positioned as indicated on Figure 1.

5. QUALIFICATION AND ACCEPTANCE

The STR310 nuts shall meet all the inspection requirements of LISI AEROSPACE Qualification and Acceptance Specification STR-QA-03.

6. INSTALLATION

Refer to LISI AEROSPACE Installation Specification STR-IS02.

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Revision	Date	Modifications	Justification
A	2015-09-25	First release	

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