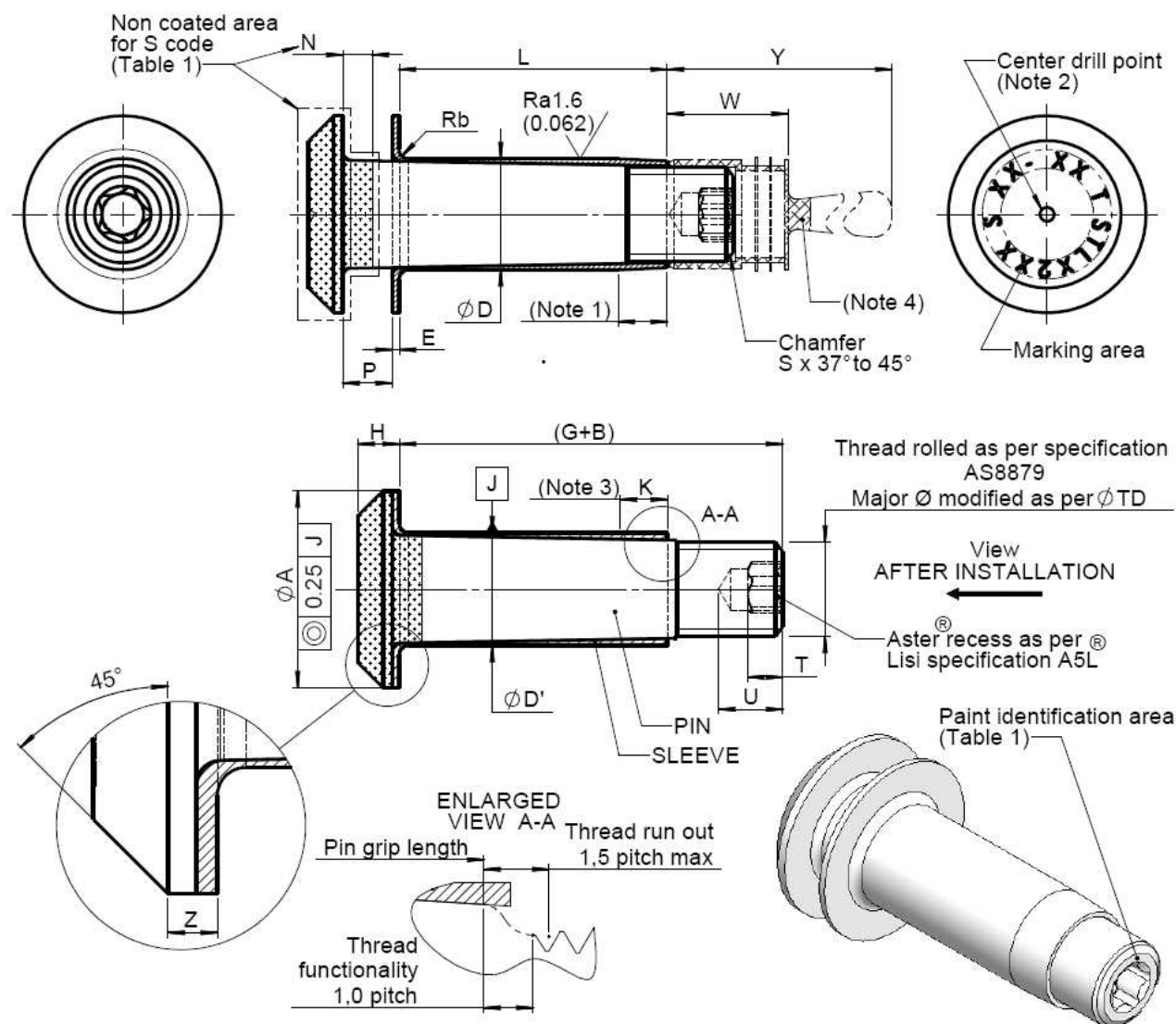




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**SLEEVE TAPER-HI-LITE[®],
PROTRUDING HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200



Note 1: Ø D is not applicable on the non supported sleeve extremity on the length equal to K Max.

Note 2: Drill center dimple in top of head, Ø: 0.9mm (0.0354") Max. Depth: 0.254 mm (0.010") Max. Drill center concentric to ØA within 0.203mm (0.008").

Note 3: The expanded D' diameter shall be in accordance with values specified on table 2, except on sleeve extremity on the length equal to K max. In this area, max diameter may be 0.025mm (.001) greater than D'max, min diameter is identical to D'min.

Note 4: Unserviceable part, to be removed during fastener installation (see installation specification).

FIGURE 1

NOTES:

UNLESS OTHERWISE SPECIFIED

I. Units:

Dimensions and tolerances are in millimeters (inch). Dimensions to be met after finish

II. Surface Texture:

Ra3.2 ($\sqrt{125}$) per ASME B46.1 before coating

III. Break sharp edges:

0.05/0.2mm (.002/.008inch). Bolt and sleeve shall be free from burrs

IV. Thread:

Per AS8879 except reduced major Ø as tabulated

Technical Center	Prepared by	Signature	Approved by	Signature	Date	Revision
PAGE 1/12	A. BERTHOU		B.REGNARD		5 th – APR – 12	C

**SLEEVE TAPER-HI-LITE[®],
 PROTRUDING HEAD
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 3/32 grip variation
 Nominal size**

STL200

1. APPLICATION

This product standard specifies the dimensions, tolerances and properties of a titanium SLEEVE TAPER-HI-LITE[®] fastener system designed to target 0,6% minimum interference fit for use in composite / composite or composite / aluminum aerospace structure.
 It applies to nominal size only. Repairs are covered by STL1200 for first oversize (+1/64") and STL2200 for second oversize (+1/32").
 Maximum operating temperature is 235°C (455°F).

2. REQUIREMENTS

Table 1: Material, finish and identification

FINISH CODE	MATERIAL		FINISH		IDENTIFICATION
	PIN	SLEEVE	PIN	SLEEVE	
S	Titanium alloy 6AL-4V as per AMS4928 or AMS4967, solution heat treated and aged.	321 CRES per AMS 5510 or AMS 5645	Non-chromated aluminum based coating: HI-KOTE [®] 1NC as per EN4473 type II except specified area (see figure 1) and Cetyl Alcohol lube per Hi-Shear spec 305 Solvent base	Passivate per AMS 2700. METHOD 1. TYPE 6 or 8. CLASS 3	White paint on pin extremity
P	Rc min = 650 MPa (95 ksi) Min. tensile strength: Rm min = 1100 MPa (160 ksi)		Non-chromated aluminum based coating: HI-KOTE [®] 1NC as per EN4473 type II and Cetyl Alcohol lube per Hi-Shear spec 305 Solvent base	and cetyl alcohol lube per Hi-Shear spec 305 Solvent base	



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Table 2: Dimensions and Tolerances

See figure 1

Ø code (1/32")	Thread as per AS8879 Ø TD modified UNJF 3A	Ø A Max	B Max	Ø D ± 0.0125 (±0.0005)	Ø D' after installation		E ref	Z min	H ref	P Max	N min	S ref	T min	U Max	Ø TD		Rb Max
					min	Max									min	Max	
6	.1900-32	11,60 (0.457)	15,88 (0.625)	6,325 (0.2490)	6,433 (0.2532)	6,468 (0.2546)	0,60 (0.024)	1,05 (0.041)	2,65 (0.104)	6,83 (0.269)	5,00 (0.197)	0,79 (0.031)	1,85 (0.073)	7,58 (0.298)	4,597 (0.1810)	4,673 (0.1840)	1,25 (0.049)
7	.2160-28	13,10 (0.516)	16,54 (0.651)	7,118 (0.2802)	7,227 (0.2845)	7,262 (0.2859)	0,60 (0.024)	1,05 (0.041)	2,85 (0.112)	6,80 (0.268)	5,00 (0.197)	0,79 (0.031)	1,94 (0.076)	7,83 (0.308)	5,258 (0.2070)	5,334 (0.2100)	1,25 (0.049)
8	.2500-28	14,60 (0.575)	17,43 (0.686)	8,309 (0.3271)	8,425 (0.3317)	8,460 (0.3331)	0,80 (0.031)	1,25 (0.049)	3,45 (0.136)	7,38 (0.291)	5,00 (0.197)	0,79 (0.031)	2,14 (0.084)	8,38 (0.330)	6,121 (0.2410)	6,197 (0.2440)	1,45 (0.057)
10	.3125-24	17,30 (0.681)	21,94 (0.864)	9,897 (0.3896)	10,023 (0.3946)	10,059 (0.3960)	0,80 (0.031)	1,55 (0.061)	4,15 (0.163)	10,99 (0.433)	5,00 (0.197)	1,19 (0.047)	2,24 (0.088)	12,40 (0.488)	7,670 (0.3020)	7,772 (0.3060)	1,90 (0.075)
12	.3750-24	20,00 (0.787)	23,70 (0.933)	11,880 (0.4677)	12,025 (0.4734)	12,062 (0.4749)	1,00 (0.039)	1,75 (0.069)	5,25 (0.207)	12,59 (0.496)	5,00 (0.197)	1,19 (0.047)	2,45 (0.096)	13,59 (0.535)	9,245 (0.3640)	9,347 (0.3680)	1,90 (0.075)
14	.4375-20	22,30 (0.878)	24,26 (0.955)	13,853 (0.5454)	14,008 (0.5515)	14,045 (0.5530)	1,00 (0.039)	1,75 (0.069)	5,75 (0.226)	12,90 (0.508)	5,00 (0.197)	1,19 (0.047)	2,75 (0.108)	13,92 (0.548)	10,820 (0.4260)	10,947 (0.4310)	1,90 (0.075)
16	.5000-20	25,20 (0.992)	25,29 (0.996)	15,440 (0.6079)	15,606 (0.6144)	15,644 (0.6159)	1,00 (0.039)	1,95 (0.077)	6,55 (0.258)	13,56 (0.534)	5,00 (0.197)	1,19 (0.047)	3,11 (0.122)	14,11 (0.556)	12,395 (0.4880)	12,522 (0.4930)	2,15 (0.085)
18	.5625-18	27,40 (1.079)	26,60 (1.047)	17,027 (0.6703)	17,202 (0.6772)	17,240 (0.6787)	1,10 (0.043)	2,55 (0.100)	7,45 (0.293)	14,32 (0.564)	5,00 (0.197)	1,59 (0.063)	3,55 (0.140)	14,23 (0.560)	13,970 (0.5500)	14,097 (0.5550)	2,15 (0.085)
20	.6250-18	29,90 (1.177)	27,92 (1.099)	18,618 (0.7330)	18,812 (0.7406)	18,851 (0.7422)	1,10 (0.043)	2,85 (0.112)	8,25 (0.325)	15,56 (0.613)	5,00 (0.197)	1,59 (0.063)	4,13 (0.163)	14,09 (0.555)	15,545 (0.6120)	15,697 (0.6180)	2,25 (0.089)
24	.7500-16	34,70 (1.366)	30,30 (1.193)	22,188 (0.8735)	22,405 (0.8821)	22,445 (0.8837)	1,30 (0.051)	3,55 (0.140)	9,55 (0.376)	17,26 (0.680)	5,00 (0.197)	1,59 (0.063)	4,87 (0.192)	13,40 (0.528)	18,719 (0.7370)	18,872 (0.7430)	2,30 (0.091)
28	.8750-14	39,80 (1.567)	32,80 (1.291)	25,759 (1.0141)	25,999 (1.0236)	26,040 (1.0252)	1,30 (0.051)	3,75 (0.148)	10,55 (0.415)	18,72 (0.737)	5,00 (0.197)	1,98 (0.078)	5,46 (0.215)	14,65 (0.577)	21,869 (0.8610)	22,047 (0.8680)	2,55 (0.100)
32	1.0000-12	44,70 (1.760)	34,59 (1.362)	28,934 (1.1391)	29,193 (1.1493)	29,235 (1.1510)	1,30 (0.051)	4,65 (0.183)	12,25 (0.482)	19,96 (0.786)	5,00 (0.197)	1,98 (0.078)	6,26 (0.246)	15,97 (0.629)	25,044 (0.9860)	25,222 (0.9930)	2,90 (0.114)
36	1.1250-12	49,50 (1.949)	37,21 (1.465)	32,106 (1.2640)	32,398 (1.2755)	32,441 (1.2772)	1,30 (0.051)	5,15 (0.203)	13,55 (0.533)	22,19 (0.874)	5,00 (0.197)	1,98 (0.078)	7,14 (0.281)	17,91 (0.705)	28,194 (1.1100)	28,372 (1.1170)	3,15 (0.124)

Ø code (1/32")	Thread as per AS8879 Ø TD modified UNJF 3A	Recess size code as per LISI specification A5L [®]	W (for information)	Y (for information)	K
			Max	Max	Max
6	.1900-32	A5L06	21 (0.8)	37 (1.5)	7,86 (0.310)
7	.2160-28	A5L07	22 (0.9)	38 (1.5)	7,83 (0.308)
8	.2500-28	A5L08	23 (0.9)	39 (1.5)	8,55 (0.337)
10	.3125-24	A5L10	25 (1.0)	41 (1.6)	12,23 (0.482)
12	.3750-24	A5L12	26 (1.0)	47 (1.9)	13,98 (0.551)
14	.4375-20	A5L14	28 (1.1)	49 (1.9)	14,60 (0.575)
16	.5000-20	A5L16	30 (1.2)	51 (2.0)	15,36 (0.605)
18	.5625-18	A5L18	33 (1.3)	54 (2.1)	15,91 (0.627)
20	.6250-18	A5L20	35 (1.4)	56 (2.2)	17,28 (0.680)
24	.7500-16	A5L24	42 (1.7)	63 (2.5)	19,03 (0.749)
28	.8750-14	A5L28	47 (1.9)	68 (2.7)	20,50 (0.807)
32	1.0000-12	A5L32	52 (2.0)	73 (2.9)	21,71 (0.855)
36	1.1250-12	A5L36	57 (2.2)	78 (3.1)	24,01 (0.945)

Technical Center

Revision

PAGE 3/12

C



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PROTRUDING HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200

Table 3: Grip length limitations

-Ø	Grip length	
	min	Max
6	4	12
7	5	14
8	5	20
10	6	25
12	7	30
14	8	31
16	9	37
18	10	41
20	11	42
24	14	53
28	15	59
32	16	65
36	18	69

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Revision

PAGE 4/12

C

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**SLEEVE TAPER-HI-LITE® ,
PROTRUDING HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200

Table 4: Dimensions, grip, and sleeve length

Length Code 1/16"	Assembly Thickness		L ref	Length Code 1/16"	Assembly Thickness		L ref
	min	Max			min	Max	
4	3,97 (0.156)	6,35 (0.250)	6,35 (0.250)	40	61,12 (2.406)	63,50 (2.500)	63,50 (2.500)
5	5,56 (0.219)	7,93 (0.312)	7,93 (0.312)	41	62,71 (2.469)	65,08 (2.562)	65,08 (2.562)
6	7,15 (0.281)	9,52 (0.375)	9,52 (0.375)	42	64,30 (2.531)	66,67 (2.625)	66,67 (2.625)
7	8,74 (0.344)	11,11 (0.437)	11,11 (0.437)	43	65,89 (2.594)	68,26 (2.687)	68,26 (2.687)
8	10,32 (0.406)	12,70 (0.500)	12,70 (0.500)	44	67,47 (2.656)	69,85 (2.750)	69,85 (2.750)
9	11,91 (0.469)	14,28 (0.562)	14,28 (0.562)	45	69,06 (2.719)	71,43 (2.812)	71,43 (2.812)
10	13,50 (0.531)	15,87 (0.625)	15,87 (0.625)	46	70,65 (2.781)	73,02 (2.875)	73,02 (2.875)
11	15,09 (0.594)	17,46 (0.687)	17,46 (0.687)	47	72,24 (2.844)	74,61 (2.937)	74,61 (2.937)
12	16,67 (0.656)	19,05 (0.750)	19,05 (0.750)	48	73,82 (2.906)	76,20 (3.000)	76,20 (3.000)
13	18,26 (0.719)	20,63 (0.812)	20,63 (0.812)	49	75,41 (2.969)	77,78 (3.062)	77,78 (3.062)
14	19,85 (0.781)	22,22 (0.875)	22,22 (0.875)	50	77,00 (3.031)	79,37 (3.125)	79,37 (3.125)
15	21,44 (0.844)	23,81 (0.937)	23,81 (0.937)	51	78,59 (3.094)	80,96 (3.187)	80,96 (3.187)
16	23,02 (0.906)	25,40 (1.000)	25,40 (1.000)	52	80,17 (3.156)	82,55 (3.250)	82,55 (3.250)
17	24,61 (0.969)	26,98 (1.062)	26,98 (1.062)	53	81,76 (3.219)	84,13 (3.312)	84,13 (3.312)
18	26,20 (1.031)	28,57 (1.125)	28,57 (1.125)	54	83,35 (3.281)	85,72 (3.375)	85,72 (3.375)
19	27,79 (1.094)	30,16 (1.187)	30,16 (1.187)	55	84,94 (3.344)	87,31 (3.437)	87,31 (3.437)
20	29,37 (1.156)	31,75 (1.250)	31,75 (1.250)	56	86,52 (3.406)	88,90 (3.500)	88,90 (3.500)
21	30,96 (1.219)	33,33 (1.312)	33,33 (1.312)	57	88,11 (3.469)	90,48 (3.562)	90,48 (3.562)
22	32,55 (1.281)	34,92 (1.375)	34,92 (1.375)	58	89,70 (3.531)	92,07 (3.625)	92,07 (3.625)
23	34,14 (1.344)	36,51 (1.437)	36,51 (1.437)	59	91,29 (3.594)	93,66 (3.687)	93,66 (3.687)
24	35,72 (1.406)	38,10 (1.500)	38,10 (1.500)	60	92,87 (3.656)	95,25 (3.750)	95,25 (3.750)
25	37,31 (1.469)	39,68 (1.562)	39,68 (1.562)	61	94,46 (3.719)	96,83 (3.812)	96,83 (3.812)
26	38,90 (1.531)	41,27 (1.625)	41,27 (1.625)	62	96,05 (3.781)	98,42 (3.875)	98,42 (3.875)
27	40,49 (1.594)	42,86 (1.687)	42,86 (1.687)	63	97,64 (3.844)	100,01 (3.937)	100,01 (3.937)
28	42,07 (1.656)	44,45 (1.750)	44,45 (1.750)	64	99,22 (3.906)	101,60 (4.000)	101,60 (4.000)
29	43,66 (1.719)	46,03 (1.812)	46,03 (1.812)	65	100,81 (3.969)	103,18 (4.062)	103,18 (4.062)
30	45,25 (1.781)	47,62 (1.875)	47,62 (1.875)	66	102,40 (4.031)	104,77 (4.125)	104,77 (4.125)
31	46,84 (1.844)	49,21 (1.937)	49,21 (1.937)	67	103,99 (4.094)	106,36 (4.187)	106,36 (4.187)
32	48,42 (1.906)	50,80 (2.000)	50,80 (2.000)	68	105,57 (4.156)	107,95 (4.250)	107,95 (4.250)
33	50,01 (1.969)	52,38 (2.062)	52,38 (2.062)	69	107,16 (4.219)	109,53 (4.312)	109,53 (4.312)
34	51,60 (2.031)	53,97 (2.125)	53,97 (2.125)	70			
35	53,19 (2.094)	55,56 (2.187)	55,56 (2.187)	71			
36	54,77 (2.156)	57,15 (2.250)	57,15 (2.250)	72			
37	56,36 (2.219)	58,73 (2.312)	58,73 (2.312)	73			
38	57,95 (2.281)	60,32 (2.375)	60,32 (2.375)	74			
39	59,54 (2.344)	61,91 (2.437)	61,91 (2.437)	75			

Note: Given assembly thickness are the one compatible with the fastener system once installed. Structure creep if any shall be taken into account before fastener grip selection in the table.

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Revision

PAGE 5/12

C

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3/32 grip variation
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STL200

Table 5: overall length

Length Code (1/16")	(G+B) Max												
	Ø code (1/32")												
	6	7	8	10	12	14	16	18	20	24	28	32	36
4	22,23 (0.875)												
5	23,81 (0.937)	24,47 (0.963)	25,36 (0.998)										
6	25,40 (1.000)	26,06 (1.026)	26,95 (1.061)	31,46 (1.239)									
7	26,99 (1.063)	27,65 (1.089)	28,54 (1.124)	33,05 (1.301)	34,81 (1.370)								
8	28,58 (1.125)	29,24 (1.151)	30,13 (1.186)	34,64 (1.364)	36,40 (1.433)	36,96 (1.455)							
9	30,16 (1.187)	30,82 (1.213)	31,71 (1.248)	36,22 (1.426)	37,98 (1.495)	38,54 (1.517)	39,57 (1.558)						
10	31,75 (1.250)	32,41 (1.276)	33,30 (1.311)	37,81 (1.489)	39,57 (1.558)	40,13 (1.580)	41,16 (1.620)	42,47 (1.672)					
11	33,34 (1.313)	34,00 (1.339)	34,89 (1.374)	39,40 (1.551)	41,16 (1.620)	41,72 (1.643)	42,75 (1.683)	44,06 (1.735)	45,38 (1.787)				
12	34,93 (1.375)	35,59 (1.401)	36,48 (1.436)	40,99 (1.614)	42,75 (1.683)	43,31 (1.705)	44,34 (1.746)	45,65 (1.797)	46,97 (1.849)				
13		37,17 (1.463)	38,06 (1.498)	42,57 (1.676)	44,33 (1.745)	44,89 (1.767)	45,92 (1.808)	47,23 (1.859)	48,55 (1.911)				
14		38,76 (1.526)	39,65 (1.561)	44,16 (1.739)	45,92 (1.808)	46,48 (1.830)	47,51 (1.870)	48,82 (1.922)	50,14 (1.974)	52,52 (2.068)			
15			41,24 (1.624)	45,75 (1.801)	47,51 (1.870)	48,07 (1.893)	49,10 (1.933)	50,41 (1.985)	51,73 (2.037)	54,11 (2.130)	56,61 (2.229)		
16			42,83 (1.686)	47,34 (1.864)	49,10 (1.933)	49,66 (1.955)	50,69 (1.996)	52,00 (2.047)	53,32 (2.099)	55,70 (2.193)	58,20 (2.291)	59,99 (2.362)	
17			44,41 (1.748)	48,92 (1.926)	50,68 (1.995)	51,24 (2.017)	52,27 (2.058)	53,58 (2.109)	54,90 (2.161)	57,28 (2.255)	59,78 (2.354)	61,57 (2.424)	
18			46,00 (1.811)	50,51 (1.989)	52,27 (2.058)	52,83 (2.080)	53,86 (2.120)	55,17 (2.172)	56,49 (2.224)	58,87 (2.318)	61,37 (2.416)	63,16 (2.487)	65,78 (2.590)
19			47,59 (1.874)	52,10 (2.051)	53,86 (2.120)	54,42 (2.143)	55,45 (2.183)	56,76 (2.235)	58,08 (2.287)	60,46 (2.380)	62,96 (2.479)	64,75 (2.549)	67,37 (2.652)
20			49,18 (1.936)	53,69 (2.114)	55,45 (2.183)	56,01 (2.205)	57,04 (2.246)	58,35 (2.297)	59,67 (2.349)	62,05 (2.443)	64,55 (2.541)	66,34 (2.612)	68,96 (2.715)
21				55,27 (2.176)	57,03 (2.245)	57,59 (2.267)	58,62 (2.308)	59,93 (2.359)	61,25 (2.411)	63,63 (2.505)	66,13 (2.604)	67,92 (2.674)	70,54 (2.777)
22				56,86 (2.239)	58,62 (2.308)	59,18 (2.330)	60,21 (2.370)	61,52 (2.422)	62,84 (2.474)	65,22 (2.568)	67,72 (2.666)	69,51 (2.737)	72,13 (2.840)
23				58,45 (2.301)	60,21 (2.370)	60,77 (2.393)	61,80 (2.433)	63,11 (2.485)	64,43 (2.537)	66,81 (2.630)	69,31 (2.729)	71,10 (2.799)	73,72 (2.902)
24				60,04 (2.364)	61,80 (2.433)	62,36 (2.455)	63,39 (2.496)	64,70 (2.547)	66,02 (2.599)	68,40 (2.693)	70,90 (2.791)	72,69 (2.862)	75,31 (2.965)
25				61,62 (2.426)	63,38 (2.495)	63,94 (2.517)	64,97 (2.558)	66,28 (2.609)	67,60 (2.661)	69,98 (2.755)	72,48 (2.854)	74,27 (2.924)	76,89 (3.027)
26					64,97 (2.558)	65,53 (2.580)	66,56 (2.620)	67,87 (2.672)	69,19 (2.724)	71,57 (2.818)	74,07 (2.916)	75,86 (2.987)	78,48 (3.090)
27					66,56 (2.620)	67,12 (2.643)	68,15 (2.683)	69,46 (2.735)	70,78 (2.787)	73,16 (2.880)	75,66 (2.979)	77,45 (3.049)	80,07 (3.152)
28					68,15 (2.683)	68,71 (2.705)	69,74 (2.746)	71,05 (2.797)	72,37 (2.849)	74,75 (2.943)	77,25 (3.041)	79,04 (3.112)	81,66 (3.215)
29					69,73 (2.745)	70,29 (2.767)	71,32 (2.808)	72,63 (2.859)	73,95 (2.911)	76,33 (3.005)	78,83 (3.104)	80,62 (3.174)	83,24 (3.277)
30					71,32 (2.808)	71,88 (2.830)	72,91 (2.870)	74,22 (2.922)	75,54 (2.974)	77,92 (3.068)	80,42 (3.166)	82,21 (3.237)	84,83 (3.340)
31						73,47 (2.893)	74,50 (2.933)	75,81 (2.985)	77,13 (3.037)	79,51 (3.130)	82,01 (3.229)	83,80 (3.299)	86,42 (3.402)
32							76,09 (2.996)	77,40 (3.047)	78,72 (3.099)	81,10 (3.193)	83,60 (3.291)	85,39 (3.362)	88,01 (3.465)
33							77,67 (3.058)	78,98 (3.109)	80,30 (3.161)	82,68 (3.255)	85,18 (3.354)	86,97 (3.424)	89,59 (3.527)
34							79,26 (3.120)	80,57 (3.172)	81,89 (3.224)	84,27 (3.318)	86,77 (3.416)	88,56 (3.487)	91,18 (3.590)
35							80,85 (3.183)	82,16 (3.235)	83,48 (3.287)	85,86 (3.380)	88,36 (3.479)	90,15 (3.549)	92,77 (3.652)
36							82,44 (3.246)	83,75 (3.297)	85,07 (3.349)	87,45 (3.443)	89,95 (3.541)	91,74 (3.612)	94,36 (3.715)

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PAGE 6/12

Revision

C

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**SLEEVE TAPER-HI-LITE® ,
PROTRUDING HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200

Table 5: overall length (continued)

Length Code (1/16")	(G+B) Max												
	Ø code (1/32")												
	6	7	8	10	12	14	16	18	20	24	28	32	36
37							84,02 (3.308)	85,33 (3.359)	86,65 (3.411)	89,03 (3.505)	91,53 (3.604)	93,32 (3.674)	95,94 (3.777)
38								86,92 (3.422)	88,24 (3.474)	90,62 (3.568)	93,12 (3.737)	94,91 (3.840)	97,53 (3.840)
39								88,51 (3.485)	89,83 (3.537)	92,21 (3.630)	94,71 (3.729)	96,50 (3.799)	99,12 (3.902)
40								90,10 (3.547)	91,42 (3.599)	93,80 (3.693)	96,30 (3.791)	98,09 (3.862)	100,71 (3.965)
41								91,68 (3.609)	93,00 (3.661)	95,38 (3.755)	97,88 (3.854)	99,67 (3.924)	102,29 (4.027)
42								94,59 (3.724)	96,97 (3.818)	99,47 (3.916)	101,26 (3.987)	103,88 (4.090)	106,50 (4.215)
43									98,56 (3.880)	101,06 (3.979)	103,56 (4.078)	106,06 (4.177)	108,56 (4.276)
44									100,15 (3.943)	102,65 (4.041)	105,15 (4.139)	107,65 (4.237)	110,15 (4.335)
45									101,73 (4.005)	104,23 (4.104)	106,73 (4.202)	109,23 (4.300)	111,73 (4.398)
46									103,32 (4.068)	105,82 (4.166)	108,32 (4.264)	110,82 (4.362)	113,32 (4.460)
47									104,91 (4.130)	107,41 (4.229)	109,91 (4.327)	112,41 (4.425)	114,91 (4.523)
48									106,50 (4.193)	109,00 (4.291)	111,50 (4.389)	114,00 (4.487)	116,50 (4.585)
49									108,08 (4.255)	110,58 (4.354)	113,08 (4.452)	115,58 (4.550)	118,08 (4.648)
50									109,67 (4.318)	112,17 (4.416)	114,67 (4.514)	117,17 (4.612)	119,67 (4.710)
51									111,26 (4.380)	113,76 (4.479)	116,26 (4.577)	118,76 (4.675)	121,26 (4.773)
52									112,85 (4.443)	115,35 (4.541)	117,85 (4.639)	120,35 (4.737)	122,85 (4.835)
53									114,43 (4.505)	116,93 (4.604)	119,43 (4.702)	121,93 (4.800)	124,43 (4.898)
54									118,52 (4.666)	121,02 (4.764)	123,52 (4.862)	126,02 (4.960)	128,52 (5.058)
55									120,11 (4.729)	122,61 (4.827)	125,11 (4.925)	127,61 (5.023)	130,11 (5.121)
56									121,70 (4.791)	124,20 (4.889)	126,70 (4.987)	129,20 (5.085)	131,70 (5.183)
57									123,28 (4.854)	125,78 (4.952)	128,28 (5.050)	130,78 (5.148)	133,28 (5.246)
58									124,87 (4.916)	127,37 (5.014)	129,87 (5.112)	132,37 (5.210)	134,87 (5.308)
59									126,46 (4.979)	128,96 (5.077)	131,46 (5.175)	133,96 (5.273)	136,46 (5.371)
60										129,54 (5.112)	132,04 (5.210)	134,54 (5.308)	137,04 (5.406)
61										131,42 (5.174)	133,92 (5.272)	136,42 (5.370)	138,92 (5.468)
62										133,01 (5.237)	135,51 (5.335)	138,01 (5.433)	140,51 (5.531)
63										134,60 (5.299)	137,10 (5.397)	139,60 (5.495)	142,10 (5.593)
64										136,19 (5.362)	138,69 (5.460)	141,19 (5.558)	143,69 (5.656)
65										137,77 (5.424)	140,27 (5.522)	142,77 (5.620)	145,27 (5.718)
66											141,98 (5.590)	144,48 (5.688)	146,98 (5.786)
67											143,57 (5.652)	146,07 (5.750)	148,57 (5.848)
68											145,16 (5.715)	147,66 (5.813)	150,16 (5.911)
69											146,74 (5.777)	149,24 (5.875)	151,74 (5.973)

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PAGE 7/12

C



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**SLEEVE TAPER-HI-LITE[®],
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TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200

Table 6: Tensile strength, fatigue load, shear strength

Ø code (1/32")	Min. Axial Tensile Strength N (lbf)	Max Tension Fatigue Load N (lbf)	Double Shear Strength N (lbf)
6	13 470 (3,028)	4 715 (1,060)	33 110 (7,443)
7	17 380 (3,907)	6 083 (1,368)	42 300 (9,509)
8	24 520 (5,512)	8 582 (1,929)	56 370 (12,672)
10	39 140 (8,799)	13 699 (3,080)	83 230 (18,711)
12	59 210 (13,311)	20 724 (4,659)	119 790 (26,930)
14	80 030 (17,991)	28 011 (6,297)	162 580 (36,549)
16	107 830 (24,241)	37 741 (8,484)	204 990 (46,084)
18	136 840 (30,763)	47 894 (10,767)	253 940 (57,088)
20	172 560 (38,793)	60 396 (13,578)	308 640 (69,385)
24	237 270 (53,340)	83 045 (18,669)	414 530 (93,190)
28	314 750 (70,759)	110 163 (24,766)	547 330 (123,045)
32	397 030 (89,256)	138 961 (31,240)	679 940 (152,857)
36	496 150 (111,539)	173 653 (39,039)	825 340 (185,544)

Notes: - Mechanical properties applied at room temperature.
- Tensile strength and fatigue load values are valid for fastener pin only. Global fastener performances depend on associated nut mechanical characteristics.

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PAGE 8/12

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**SLEEVE TAPER-HI-LITE[®],
 PROTRUDING HEAD
 TITANIUM pin shear 95 ksi min
 3/32 grip variation
 Nominal size**

STL200

Table 7: mass

Length Code (1/16")	Mass kg/1000 parts (lb/1000 parts) For information only												
	Ø code (1/32")												
	6	7	8	10	12	14	16	18	20	24	28	32	36
4	3,10 (6.83)												
5	3,38 (7.45)	4,40 (9.70)	6,43 (14.18)										
6	3,68 (8.11)	4,80 (10.58)	6,91 (15.23)	10,70 (23.59)									
7	3,96 (8.73)	5,15 (11.35)	7,39 (16.29)	11,37 (25.07)	17,49 (38.56)								
8	4,25 (9.37)	5,50 (12.13)	7,88 (17.37)	12,04 (26.54)	18,46 (40.70)	24,92 (54.94)							
9	4,64 (10.23)	5,99 (13.21)	8,37 (18.45)	12,71 (28.02)	19,43 (42.84)	26,20 (57.76)	35,10 (77.38)						
10	4,93 (10.87)	6,34 (13.98)	9,08 (20.02)	13,77 (30.36)	20,40 (44.97)	27,49 (60.61)	36,68 (80.87)	47,74 (105.25)					
11	5,21 (11.49)	6,69 (14.75)	9,57 (21.10)	14,44 (31.83)	21,38 (47.13)	28,79 (63.47)	38,27 (84.37)	49,64 (109.44)	62,87 (138.60)				
12	5,50 (12.13)	7,04 (15.52)	10,06 (22.18)	15,11 (33.31)	22,37 (49.32)	30,09 (66.34)	39,86 (87.88)	51,55 (113.65)	65,12 (143.57)				
13		7,40 (16.31)	10,55 (23.26)	15,78 (34.79)	23,94 (52.78)	31,40 (69.23)	41,46 (91.40)	53,46 (117.86)	67,38 (148.55)				
14		7,76 (17.11)	11,04 (24.34)	16,45 (36.27)	24,91 (54.92)	32,71 (72.11)	43,07 (94.95)	55,38 (122.09)	69,64 (153.53)	107,26 (236.47)			
15			11,53 (25.42)	17,13 (37.77)	25,89 (57.08)	34,03 (75.02)	44,68 (98.50)	57,31 (126.35)	71,92 (158.56)	110,45 (243.50)	155,69 (343.24)		
16			12,03 (26.52)	17,81 (39.26)	26,87 (59.24)	35,35 (77.93)	46,30 (102.07)	59,24 (130.60)	74,20 (163.58)	113,65 (250.56)	159,93 (352.59)	217,88 (480.34)	
17			12,53 (27.62)	18,50 (40.79)	27,85 (61.40)	37,33 (82.30)	47,92 (105.65)	61,18 (134.88)	76,49 (168.63)	116,86 (257.63)	164,18 (361.95)	223,16 (491.98)	
18			13,03 (28.73)	19,18 (42.28)	28,83 (63.56)	38,63 (85.16)	50,06 (110.36)	63,44 (139.86)	78,78 (173.68)	120,08 (264.73)	168,45 (371.37)	228,46 (503.67)	300,97 (663.53)
19			13,53 (29.83)	19,87 (43.81)	29,82 (65.74)	39,94 (88.05)	51,66 (113.89)	65,35 (144.07)	81,09 (178.77)	123,31 (271.85)	172,72 (380.78)	233,76 (515.35)	307,43 (677.77)
20			14,04 (30.95)	20,56 (45.33)	30,81 (67.92)	41,26 (90.96)	53,26 (117.42)	67,27 (148.30)	83,31 (183.67)	126,54 (278.97)	177,00 (390.22)	239,08 (527.08)	313,91 (692.05)
21				21,25 (46.85)	31,81 (70.13)	42,57 (93.85)	54,86 (120.95)	69,19 (152.54)	85,58 (188.67)	129,29 (285.04)	181,30 (399.70)	244,41 (538.83)	320,40 (706.36)
22				22,31 (49.19)	32,80 (72.31)	43,89 (96.76)	56,47 (124.50)	71,12 (156.79)	87,85 (193.68)	132,49 (292.09)	185,60 (409.18)	249,75 (550.60)	326,91 (720.71)
23				22,99 (50.68)	33,80 (74.52)	45,21 (99.67)	58,08 (128.04)	73,05 (161.05)	90,13 (198.70)	135,69 (299.15)	189,06 (416.81)	255,11 (562.42)	333,43 (735.09)
24				23,67 (52.18)	35,39 (78.02)	46,54 (102.60)	59,69 (131.59)	74,99 (165.32)	92,41 (203.73)	138,89 (306.20)	193,30 (426.15)	260,47 (574.24)	339,97 (749.51)
25				24,35 (53.68)	36,37 (80.18)	47,87 (105.54)	61,31 (135.17)	76,93 (169.60)	94,70 (208.78)	142,11 (313.30)	197,55 (435.52)	264,92 (584.05)	346,52 (763.95)
26					37,36 (82.36)	49,20 (108.47)	62,93 (138.74)	78,87 (173.88)	97,00 (213.85)	145,32 (320.38)	201,80 (444.89)	270,22 (595.73)	353,08 (778.41)
27					38,34 (84.53)	50,54 (111.42)	64,56 (142.33)	80,82 (178.18)	99,29 (218.90)	148,55 (327.50)	206,06 (454.28)	275,52 (607.42)	358,31 (789.94)
28					39,33 (86.71)	51,88 (114.38)	66,19 (145.92)	82,77 (182.48)	101,60 (223.99)	151,78 (334.62)	210,33 (463.70)	280,83 (619.12)	364,78 (804.20)
29					40,32 (88.89)	53,23 (117.35)	67,83 (149.54)	84,73 (186.80)	103,91 (229.08)	155,02 (341.76)	214,61 (473.13)	286,15 (630.85)	371,26 (818.49)
30					41,31 (91.07)	54,57 (120.31)	69,47 (153.16)	86,69 (191.12)	106,22 (234.18)	158,26 (348.90)	218,90 (482.59)	291,48 (642.60)	377,74 (832.77)
31						55,93 (123.30)	71,11 (156.77)	88,66 (195.46)	108,54 (239.29)	161,51 (356.07)	223,19 (492.05)	296,81 (654.35)	384,24 (847.10)
32							72,76 (160.41)	90,63 (199.80)	110,86 (244.40)	164,76 (363.23)	227,49 (501.53)	302,16 (666.15)	390,74 (861.43)
33							74,41 (164.05)	92,61 (204.17)	113,19 (249.54)	168,02 (370.42)	231,79 (511.01)	307,51 (677.94)	397,26 (875.81)
34							76,07 (167.71)	94,59 (208.54)	115,53 (254.70)	171,29 (377.63)	236,11 (520.53)	312,87 (689.76)	403,78 (890.18)
35							77,72 (171.34)	96,57 (212.90)	117,86 (259.84)	174,56 (384.84)	240,43 (530.06)	318,24 (701.60)	410,31 (904.58)
36							79,39 (175.02)	99,87 (220.18)	122,37 (269.78)	177,84 (392.07)	244,75 (539.58)	323,61 (713.44)	416,85 (919.00)

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PAGE 9/12

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TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200

Table 7: mass (continued)

Length Code (1/16")	Mass kg/1000 parts (lb/1000 parts) For information only												
	Ø code (1/32")												
	6	7	8	10	12	14	16	18	20	24	28	32	36
37							81,81 (180.36)	101,81 (224.45)	124,67 (274.85)	181,12 (399.30)	249,09 (549.15)	329,00 (725.32)	423,40 (933.44)
38								103,76 (228.75)	126,97 (279.92)	184,41 (406.55)	253,43 (558.72)	334,39 (737.20)	429,96 (947.90)
39								105,70 (233.03)	129,27 (284.99)	187,71 (413.83)	257,78 (568.31)	339,79 (749.11)	436,53 (962.38)
40								107,66 (237.35)	131,57 (290.06)	192,54 (424.48)	262,13 (577.90)	345,20 (761.04)	443,11 (976.89)
41								109,61 (241.65)	133,88 (295.15)	195,77 (431.60)	266,49 (587.51)	350,61 (772.96)	449,69 (991.40)
42									136,20 (300.27)	199,01 (438.74)	270,86 (597.14)	356,04 (784.93)	456,29 (1,005.95)
43										202,25 (445.88)	275,24 (606.80)	361,47 (796.90)	462,89 (1,020.50)
44										205,49 (453.03)	279,62 (616.46)	366,91 (808.90)	469,50 (1,035.07)
45										208,74 (460.19)	284,01 (626.13)	372,36 (820.91)	476,13 (1,049.69)
46										211,99 (467.36)	288,41 (635.84)	377,81 (832.93)	482,76 (1,064.30)
47										215,25 (474.55)	292,82 (645.56)	383,27 (844.97)	489,40 (1,078.94)
48										218,51 (481.73)	297,23 (655.28)	388,75 (857.05)	496,05 (1,093.60)
49										221,78 (488.94)	301,64 (665.00)	394,23 (869.13)	502,70 (1,108.26)
50										225,05 (496.15)	306,70 (676.16)	399,71 (881.21)	509,37 (1,122.97)
51										228,32 (503.36)	311,03 (685.70)	405,21 (893.34)	512,46 (1,129.78)
52										231,60 (510.59)	315,36 (695.25)	409,62 (903.06)	519,00 (1,144.20)
53										234,88 (517.82)	319,69 (704.80)	415,00 (914.92)	525,54 (1,158.62)
54											324,03 (714.36)	420,39 (926.80)	532,10 (1,173.08)
55											328,37 (723.93)	425,79 (938.71)	538,66 (1,187.54)
56											332,72 (733.52)	431,18 (950.59)	545,22 (1,202.00)
57											337,07 (743.11)	436,59 (962.52)	551,79 (1,216.49)
58											341,43 (752.72)	442,00 (974.44)	558,37 (1,231.00)
59											345,79 (762.34)	447,41 (986.37)	564,96 (1,245.52)
60												452,84 (998.34)	571,55 (1,260.05)
61												458,26 (1,010.29)	578,14 (1,274.58)
62												463,70 (1,022.28)	584,75 (1,289.15)
63												469,13 (1,034.25)	591,35 (1,303.70)
64												474,58 (1,046.27)	597,97 (1,318.30)
65												480,03 (1,058.28)	604,59 (1,332.89)
66													611,22 (1,347.51)
67													617,85 (1,362.13)
68													624,49 (1,376.76)
69													631,14 (1,391.43)

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PAGE 10/12

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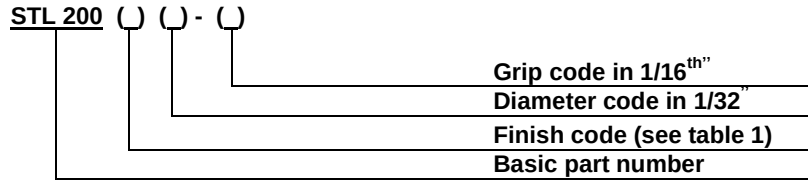


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3. DESIGNATION



Example:

STL200P10 – 34: SLEEVE TAPER-HI-LITE[®] fastener system protruding head, 0.6% minimum interference fit, titanium pin with HK1NC + cetyl alcohol lube and stainless steel passivated sleeve, diameter 10/32" and 34/16" length.

4. MARKING

Designation and manufacturer identification per EN2424 style B with 0.25 mm (.01 inch) max depth, bolt only. Marking location as specified in Figure 1.

5. QUALIFICATION AND ACCEPTANCE

The fastener shall meet all the inspection requirements of LISI AEROSPACE Product Specification STL-TS01.

6. INSTALLATION

Refer to STL-IS10.

Technical Center

Revision

PAGE 11/12

C



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**SLEEVE TAPER-HI-LITE[®],
PROTRUDING HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
Nominal size**

STL200

Issue	Date	Modifications	Justification
A	SEPT 21 st 2010	First release	
B	MAR 21 st 2011	K added L dim changed in ref Modification of view A-A H changed in ref. table (G+B) added	Improvement for better understanding (no design change)
C	APR 5 th 2012	P dim corrected ASTER [®] codification modified	To be in accordance with definition drawings

Technical Center

Revision

PAGE 12/12

C