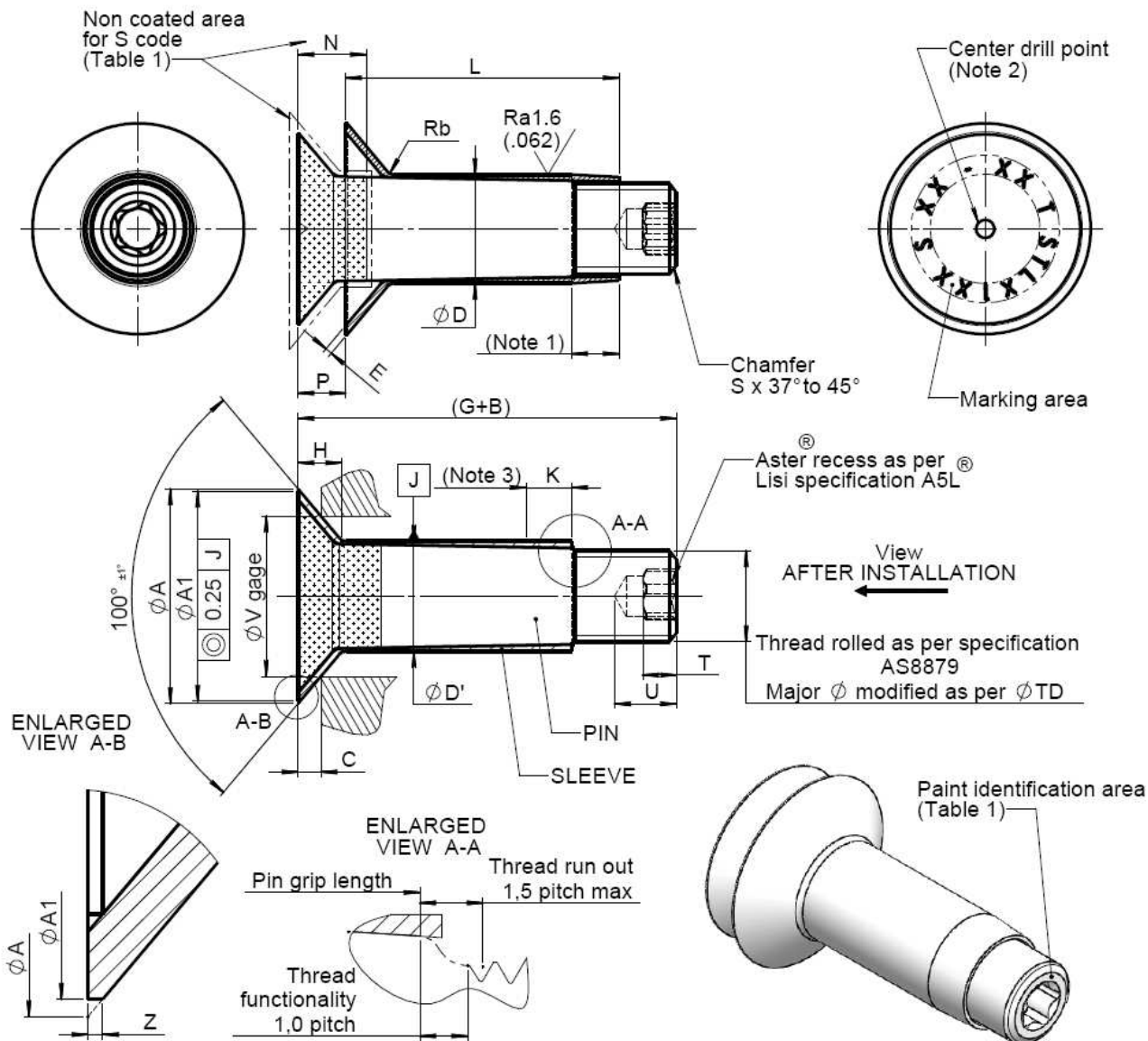




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**SLEEVE TAPER-HI-LITE®,
100° FLUSH HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
1st oversize**

STL1100



Note 1: $\varnothing D$ 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, $\varnothing$: 0.9mm (0.0354") Max. Depth: 0.254 mm (0.010") Max. Drill center concentric to $\varnothing A1$ 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.

FIGURE 1

NOTES:

UNLESS OTHERWISE SPECIFIED

I. Units:

II. Surface Texture:

III. Break sharp edges:

IV. Thread:

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

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

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

Per AS8879 except reduced major $\varnothing$ as tabulated

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PAGE 1/12	A. BERTHOU		B. REGNARD		5 th – APR – 12	C



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STL1100

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 the first oversize STL1100 (+1/64") only. The next repair is covered by STL2100 for second oversize (+1/32"). The nominal size is STL100.
 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 and cetyl alcohol lube per Hi-Shear spec 305 Solvent base	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		



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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 A1	Ø A	B	C to ØV		Ø D	Ø D' after installation		E	H	N	P	S	T	U	Ø V	Z	Ø TD		Rb
		ref	ref	max	min	Max	± 0.0125 (± 0.0005)	min	Max	ref	ref	min	Max	ref	min	Max	gage	Max	min	Max	Max
6	.1900-32	13,40 (0.528)	14,06 (0.553)	15,88 (0.625)	2,116 (0.0833)	2,369 (0.0933)	6,722 (0.2646)	6,830 (0.2689)	6,865 (0.2703)	0,60 (0.024)	3,08 (0.121)	7,70 (0.303)	7,23 (0.285)	0,79 (0.031)	1,85 (0.073)	7,58 (0.298)	8,410 (0.3311)	0,32 (0.012)	4,597 (0.1810)	4,673 (0.1840)	1,25 (0.049)
7	.2160-28	14,74 (0.580)	15,39 (0.606)	16,54 (0.651)	2,122 (0.0835)	2,376 (0.0936)	7,515 (0.2958)	7,624 (0.3002)	7,659 (0.3015)	0,60 (0.024)	3,31 (0.130)	7,90 (0.311)	7,15 (0.281)	0,79 (0.031)	1,94 (0.076)	7,83 (0.308)	9,725 (0.3829)	0,32 (0.012)	5,258 (0.2070)	5,334 (0.2100)	1,25 (0.049)
8	.2500-28	16,37 (0.644)	17,03 (0.671)	17,43 (0.686)	2,289 (0.0901)	2,544 (0.1001)	8,705 (0.3427)	8,821 (0.3473)	8,856 (0.3487)	0,80 (0.031)	3,50 (0.138)	7,90 (0.311)	7,72 (0.304)	0,79 (0.031)	2,14 (0.084)	8,38 (0.330)	10,970 (0.4319)	0,32 (0.013)	6,121 (0.2410)	6,197 (0.2440)	1,45 (0.057)
10	.3125-24	19,00 (0.748)	19,68 (0.775)	21,94 (0.864)	2,259 (0.0889)	2,518 (0.0991)	10,293 (0.4052)	10,419 (0.4102)	10,455 (0.4116)	0,80 (0.031)	3,95 (0.155)	8,40 (0.331)	11,42 (0.450)	1,19 (0.047)	2,24 (0.088)	12,40 (0.488)	13,680 (0.5386)	0,33 (0.013)	7,670 (0.3020)	7,772 (0.3060)	1,90 (0.075)
12	.3750-24	22,51 (0.886)	23,22 (0.914)	23,70 (0.933)	2,467 (0.0971)	2,730 (0.1075)	12,277 (0.4833)	12,422 (0.4891)	12,459 (0.4905)	1,00 (0.039)	4,60 (0.181)	8,90 (0.350)	12,99 (0.511)	1,19 (0.047)	2,45 (0.096)	13,59 (0.535)	16,710 (0.6579)	0,34 (0.013)	9,245 (0.3640)	9,347 (0.3680)	1,90 (0.075)
14	.4375-20	25,34 (0.997)	26,18 (1.031)	24,26 (0.955)	3,045 (0.1199)	3,312 (0.1304)	14,250 (0.5610)	14,405 (0.5671)	14,442 (0.5686)	1,00 (0.039)	5,01 (0.197)	9,30 (0.366)	13,20 (0.520)	1,19 (0.047)	2,75 (0.108)	13,92 (0.548)	18,282 (0.7198)	0,39 (0.016)	10,820 (0.4260)	10,947 (0.4310)	1,90 (0.075)
16	.5000-20	28,49 (1.122)	29,36 (1.156)	25,29 (0.996)	3,145 (0.1238)	3,417 (0.1345)	15,837 (0.6235)	16,003 (0.6300)	16,041 (0.6315)	1,00 (0.039)	5,68 (0.224)	10,00 (0.394)	13,90 (0.547)	1,19 (0.047)	3,11 (0.122)	14,11 (0.556)	21,210 (0.8350)	0,41 (0.016)	12,395 (0.4880)	12,522 (0.4930)	2,15 (0.085)
18	.5625-18	31,66 (1.246)	32,55 (1.282)	26,60 (1.047)	3,115 (0.1226)	3,393 (0.1336)	17,424 (0.6860)	17,599 (0.6929)	17,637 (0.6944)	1,10 (0.043)	6,35 (0.250)	10,50 (0.413)	14,64 (0.576)	1,59 (0.063)	3,55 (0.140)	14,23 (0.560)	24,466 (0.9632)	0,42 (0.016)	13,970 (0.5500)	14,097 (0.5550)	2,15 (0.085)
20	.6250-18	34,68 (1.365)	35,60 (1.402)	27,92 (1.099)	4,389 (0.1728)	4,672 (0.1839)	19,015 (0.7486)	19,209 (0.7563)	19,248 (0.7578)	1,10 (0.043)	6,96 (0.274)	11,10 (0.437)	15,88 (0.625)	1,59 (0.063)	4,13 (0.163)	14,09 (0.555)	24,466 (0.9632)	0,43 (0.017)	15,545 (0.6120)	15,697 (0.6180)	2,25 (0.089)
24	.7500-16	41,32 (1.627)	42,29 (1.665)	30,30 (1.193)	3,669 (0.1445)	3,962 (0.1560)	22,584 (0.8891)	22,801 (0.8977)	22,841 (0.8992)	1,30 (0.051)	8,27 (0.326)	12,20 (0.480)	17,56 (0.691)	1,59 (0.063)	4,87 (0.192)	13,40 (0.528)	32,850 (1.2933)	0,45 (0.018)	18,719 (0.7370)	18,872 (0.7430)	2,30 (0.091)
28	.8750-14	47,02 (1.851)	48,04 (1.891)	32,80 (1.291)	5,362 (0.2111)	5,663 (0.2230)	26,155 (1.0297)	26,395 (1.0392)	26,436 (1.0408)	1,30 (0.051)	9,19 (0.362)	13,10 (0.516)	19,00 (0.748)	1,98 (0.078)	5,46 (0.215)	14,65 (0.577)	34,540 (1.3598)	0,47 (0.018)	21,869 (0.8610)	22,047 (0.8680)	2,55 (0.100)
32	1.0000-12	53,07 (2.089)	54,13 (2.131)	34,59 (1.362)	3,521 (0.1386)	3,832 (0.1509)	29,331 (1.1547)	29,590 (1.1650)	29,632 (1.1666)	1,30 (0.051)	10,41 (0.410)	14,30 (0.563)	20,22 (0.796)	1,98 (0.078)	6,26 (0.246)	15,97 (0.629)	45,000 (1.7717)	0,49 (0.019)	25,044 (0.9860)	25,222 (0.9930)	2,90 (0.114)
36	1.1250-12	59,79 (2.354)	60,92 (2.399)	37,21 (1.465)	6,355 (0.2502)	6,680 (0.2630)	32,503 (1.2796)	32,795 (1.2911)	32,838 (1.2928)	1,30 (0.051)	11,93 (0.470)	15,80 (0.622)	22,46 (0.884)	1,98 (0.078)	7,14 (0.281)	17,91 (0.705)	45,000 (1.7717)	0,52 (0.020)	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®	K Max
6	.1900-32	A5L06	7,86 (0.310)
7	.2160-28	A5L07	7,83 (0.308)
8	.2500-28	A5L08	8,55 (0.337)
10	.3125-24	A5L10	12,23 (0.482)
12	.3750-24	A5L12	13,98 (0.551)
14	.4375-20	A5L14	14,60 (0.575)
16	.5000-20	A5L16	15,36 (0.605)
18	.5625-18	A5L18	15,91 (0.627)
20	.6250-18	A5L20	17,28 (0.680)
24	.7500-16	A5L24	19,03 (0.749)
28	.8750-14	A5L28	20,50 (0.807)
32	1.0000-12	A5L32	21,71 (0.855)
36	1.1250-12	A5L36	24,01 (0.945)

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3/32 grip variation
1st oversize**

STL1100

Table 3: Grip length limitations

-Ø	Grip length	
	min	Max
6	6	13
7	7	15
8	7	21
10	8	27
12	9	32
14	10	33
16	11	39
18	14	44
20	15	45
24	17	57
28	20	63
32	21	70
36	24	75

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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				40	61,12 (2.406)	63,50 (2.500)	63,50 (2.500)
5				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	108,75 (4.281)	111,12 (4.375)	111,12 (4.375)
35	53,19 (2.094)	55,56 (2.187)	55,56 (2.187)	71	110,34 (4.344)	112,71 (4.437)	112,71 (4.437)
36	54,77 (2.156)	57,15 (2.250)	57,15 (2.250)	72	111,92 (4.406)	114,30 (4.500)	114,30 (4.500)
37	56,36 (2.219)	58,73 (2.312)	58,73 (2.312)	73	113,51 (4.469)	115,88 (4.562)	115,88 (4.562)
38	57,95 (2.281)	60,32 (2.375)	60,32 (2.375)	74	115,10 (4.531)	117,47 (4.625)	117,47 (4.625)
39	59,54 (2.344)	61,91 (2.437)	61,91 (2.437)	75	116,69 (4.594)	119,06 (4.687)	119,06 (4.687)

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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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
6	25,40 (1.000)												
7	26,99 (1.063)	27,65 (1.089)	28,54 (1.124)										
8	28,58 (1.125)	29,24 (1.151)	30,13 (1.186)	34,64 (1.364)									
9	30,16 (1.187)	30,82 (1.213)	31,71 (1.248)	36,22 (1.426)	37,98 (1.495)								
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)							
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)						
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)						
13	36,51 (1.437)	37,17 (1.463)	38,06 (1.498)	42,57 (1.676)	44,33 (1.745)	44,89 (1.767)	45,92 (1.808)						
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)					
15		40,35 (1.589)	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)				
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)				
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)			
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)			
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)			
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)		
21			50,76 (1.998)	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)	
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)	
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)	
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				63,21 (2.489)	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				64,80 (2.551)	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					72,91 (2.870)	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					74,50 (2.933)	75,06 (2.955)	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						76,64 (3.017)	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)
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							85,61 (3.370)	86,92 (3.422)	88,24 (3.474)	90,62 (3.568)	93,12 (3.666)	94,91 (3.737)	97,53 (3.840)
39							87,20 (3.433)	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)

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100° FLUSH HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
1st oversize**

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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
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								93,27 (3.672)	94,59 (3.724)	96,97 (3.818)	99,47 (3.916)	101,26 (3.987)	103,88 (4.090)
43								94,86 (3.735)	96,18 (3.787)	98,56 (3.880)	101,06 (3.979)	102,85 (4.049)	105,47 (4.152)
44								96,45 (3.797)	97,77 (3.849)	100,15 (3.943)	102,65 (4.041)	104,44 (4.112)	107,06 (4.215)
45									99,35 (3.911)	101,73 (4.005)	104,23 (4.104)	106,02 (4.174)	108,64 (4.277)
46										103,32 (4.068)	105,82 (4.166)	107,61 (4.237)	110,23 (4.340)
47										104,91 (4.130)	107,41 (4.229)	109,20 (4.299)	111,82 (4.402)
48										106,50 (4.193)	109,00 (4.291)	110,79 (4.362)	113,41 (4.465)
49										108,08 (4.255)	110,58 (4.354)	112,37 (4.424)	114,99 (4.527)
50										109,67 (4.318)	112,17 (4.416)	113,96 (4.487)	116,58 (4.590)
51										111,26 (4.380)	113,76 (4.479)	115,55 (4.549)	118,17 (4.652)
52										112,85 (4.443)	115,35 (4.541)	117,14 (4.612)	119,76 (4.715)
53										114,43 (4.505)	116,93 (4.604)	118,72 (4.674)	121,34 (4.777)
54										116,02 (4.568)	118,52 (4.666)	120,31 (4.737)	122,93 (4.840)
55										117,61 (4.630)	120,11 (4.729)	121,90 (4.799)	124,52 (4.902)
56										119,20 (4.693)	121,70 (4.791)	123,49 (4.862)	126,11 (4.965)
57										120,78 (4.755)	123,28 (4.854)	125,07 (4.924)	127,69 (5.027)
58											124,87 (4.916)	126,66 (4.987)	129,28 (5.090)
59											126,46 (4.979)	128,25 (5.049)	130,87 (5.152)
60											128,05 (5.041)	129,84 (5.112)	132,46 (5.215)
61											129,63 (5.104)	131,42 (5.174)	134,04 (5.277)
62											131,22 (5.166)	133,01 (5.237)	135,63 (5.340)
63											132,81 (5.229)	134,60 (5.299)	137,22 (5.402)
64												136,19 (5.362)	138,81 (5.465)
65												137,77 (5.424)	140,39 (5.527)
66												139,36 (5.487)	141,98 (5.590)
67												140,95 (5.549)	143,57 (5.652)
68												142,54 (5.612)	145,16 (5.715)
69												144,12 (5.674)	146,74 (5.777)
70												145,71 (5.737)	148,33 (5.840)
71													149,92 (5.902)
72													151,51 (5.965)
73													153,09 (6.027)
74													154,68 (6.090)
75													156,27 (6.152)

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TITANIUM pin shear 95 ksi min
3/32 grip variation
1st oversize**

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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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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
6	3,42 (7.54)												
7	3,73 (8.22)	4,69 (10.34)	6,51 (14.36)										
8	4,07 (8.96)	5,07 (11.18)	7,03 (15.50)	10,21 (22.51)									
9	4,38 (9.67)	5,51 (12.14)	7,55 (16.64)	10,91 (24.06)	16,40 (36.15)								
10	4,69 (10.35)	5,90 (13.00)	8,07 (17.80)	11,63 (25.63)	17,41 (38.39)	23,53 (51.87)							
11	5,10 (11.25)	6,28 (13.84)	8,60 (18.96)	12,34 (27.21)	18,44 (40.64)	24,86 (54.81)	32,37 (71.36)						
12	5,41 (11.93)	6,79 (14.97)	9,33 (20.57)	13,07 (28.80)	19,46 (42.90)	26,21 (57.79)	34,01 (74.97)						
13	5,73 (12.63)	7,17 (15.81)	9,85 (21.71)	14,16 (31.22)	20,48 (45.15)	27,56 (60.77)	35,65 (78.58)						
14		7,56 (16.66)	10,37 (22.87)	14,87 (32.79)	21,51 (47.43)	28,93 (63.77)	37,29 (82.22)	47,66 (105.06)					
15		7,95 (17.52)	10,90 (24.03)	15,59 (34.36)	23,16 (51.05)	30,29 (66.77)	38,95 (85.88)	49,63 (109.42)	61,68 (135.98)				
16			11,43 (25.19)	16,31 (35.96)	24,18 (53.31)	32,40 (71.43)	40,61 (89.53)	51,61 (113.77)	64,01 (141.12)				
17			11,95 (26.36)	17,03 (37.54)	25,20 (55.56)	33,76 (74.43)	43,03 (94.86)	53,60 (118.17)	66,35 (146.28)	101,66 (224.12)			
18			12,49 (27.54)	17,75 (39.13)	26,24 (57.84)	35,11 (77.41)	44,68 (98.50)	55,60 (122.57)	68,70 (151.45)	104,94 (231.35)			
19			13,02 (28.70)	18,48 (40.75)	27,27 (60.12)	36,47 (80.41)	46,34 (102.15)	57,59 (126.97)	71,06 (156.66)	108,22 (238.57)			
20			13,56 (29.89)	19,21 (42.35)	28,30 (62.40)	37,84 (83.41)	47,99 (105.79)	59,61 (131.42)	73,42 (161.86)	111,50 (245.82)	154,05 (339.63)		
21			14,09 (31.07)	19,94 (43.97)	29,34 (64.67)	39,20 (86.41)	49,64 (109.45)	61,62 (135.86)	75,79 (167.09)	114,80 (253.09)	158,40 (349.20)	209,47 (461.80)	
22				20,68 (45.58)	30,38 (66.97)	40,57 (89.44)	51,31 (113.12)	63,64 (140.30)	78,18 (172.35)	118,11 (260.39)	162,75 (358.80)	214,87 (473.70)	
23				21,41 (47.20)	31,42 (69.27)	41,94 (92.46)	52,98 (116.80)	65,95 (145.39)	80,56 (177.60)	121,43 (267.70)	167,11 (368.42)	220,27 (485.62)	
24				22,47 (49.55)	32,47 (71.59)	43,32 (95.51)	54,65 (120.48)	67,94 (149.78)	82,86 (182.68)	124,75 (275.02)	171,49 (378.06)	225,69 (497.56)	295,80 (652.14)
25				23,19 (51.12)	33,52 (73.89)	44,70 (98.55)	56,33 (124.18)	69,94 (154.18)	85,21 (187.86)	128,08 (282.38)	175,88 (387.75)	231,13 (509.55)	302,40 (666.67)
26				23,92 (52.74)	34,57 (76.21)	46,09 (101.60)	58,01 (127.88)	71,93 (158.58)	87,57 (193.05)	131,43 (289.76)	180,27 (397.44)	236,58 (521.56)	309,01 (681.24)
27				24,65 (54.34)	36,26 (79.95)	47,48 (104.67)	59,69 (131.58)	73,94 (163.00)	89,93 (198.26)	134,78 (297.14)	184,69 (407.17)	242,03 (533.60)	315,63 (695.84)
28					37,31 (82.25)	48,87 (107.74)	61,37 (135.31)	75,95 (167.45)	92,29 (203.47)	137,37 (302.84)	189,10 (416.90)	247,50 (545.65)	322,26 (710.46)
29					38,34 (84.52)	50,26 (110.80)	63,06 (139.03)	77,97 (171.89)	94,66 (208.70)	140,66 (310.11)	193,53 (426.67)	252,99 (557.75)	328,91 (725.13)
30					39,38 (86.82)	51,66 (113.89)	64,76 (142.77)	79,98 (176.34)	97,04 (213.93)	143,97 (317.41)	197,02 (434.35)	258,48 (569.85)	335,57 (739.81)
31					40,42 (89.12)	53,06 (116.98)	66,46 (146.52)	82,01 (180.80)	99,42 (219.18)	147,28 (324.70)	201,38 (443.97)	263,99 (581.99)	342,25 (754.52)
32					41,48 (91.44)	54,46 (120.07)	68,17 (150.29)	84,05 (185.29)	101,81 (224.45)	150,60 (332.01)	205,76 (453.61)	268,25 (591.40)	348,94 (769.27)
33						55,88 (123.19)	69,88 (154.05)	86,08 (189.78)	104,20 (229.73)	153,92 (339.33)	210,13 (463.26)	273,67 (603.34)	355,65 (784.07)
34							71,59 (157.82)	88,12 (194.26)	106,60 (235.00)	157,24 (346.66)	214,51 (472.92)	279,11 (615.33)	362,36 (798.87)
35							73,30 (161.61)	90,16 (198.77)	109,00 (240.30)	160,58 (354.02)	218,91 (482.61)	284,55 (627.32)	369,09 (813.71)
36							75,02 (165.40)	92,21 (203.28)	111,40 (245.60)	163,92 (361.38)	223,30 (492.29)	289,99 (639.33)	373,96 (824.45)
37							76,75 (169.21)	94,25 (207.79)	113,81 (250.91)	167,27 (368.76)	227,71 (502.02)	295,44 (651.34)	380,59 (839.05)
38							78,47 (173.00)	96,31 (212.32)	116,23 (256.23)	170,62 (376.14)	232,12 (511.73)	300,91 (663.39)	387,22 (853.67)
39							80,21 (176.83)	98,37 (216.88)	118,65 (261.57)	173,97 (383.55)	236,54 (521.48)	306,38 (675.45)	393,85 (868.29)
40								101,74 (224.30)	123,11 (271.41)	177,34 (390.97)	240,96 (531.23)	311,86 (687.52)	400,50 (882.95)

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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	
41							103,76 (228.74)	125,48 (276.64)	180,71 (398.40)	245,40 (541.01)	317,34 (699.62)	407,15 (897.62)	
42							105,78 (233.21)	127,86 (281.87)	184,09 (405.84)	249,84 (550.81)	322,84 (711.74)	413,81 (912.30)	
43							107,81 (237.67)	130,24 (287.13)	187,47 (413.29)	254,28 (560.60)	328,35 (723.89)	420,49 (927.01)	
44							109,83 (242.14)	132,62 (292.38)	190,86 (420.78)	258,75 (570.44)	333,86 (736.03)	427,18 (941.76)	
45							135,01 (297.65)	194,25 (428.25)	263,20 (580.26)	339,37 (748.19)	433,87 (956.52)		
46								199,36 (439.51)	267,68 (590.12)	344,90 (760.38)	440,56 (971.27)		
47								202,69 (446.85)	272,15 (599.99)	350,44 (772.59)	447,27 (986.07)		
48								206,03 (454.21)	276,63 (609.87)	355,99 (784.82)	453,99 (1,000.89)		
49								209,37 (461.59)	281,13 (619.78)	361,54 (797.05)	460,72 (1,015.70)		
50								212,72 (468.97)	285,62 (629.68)	367,09 (809.30)	467,46 (1,030.57)		
51								216,07 (476.35)	290,12 (639.61)	372,66 (821.58)	474,20 (1,045.43)		
52								219,43 (483.75)	294,64 (649.56)	378,24 (833.87)	480,96 (1,060.34)		
53								222,79 (491.16)	299,15 (659.51)	383,82 (846.17)	487,72 (1,075.24)		
54								226,14 (498.56)	303,67 (669.49)	389,41 (858.51)	494,49 (1,090.17)		
55								229,51 (505.99)	308,21 (679.48)	395,01 (870.85)	501,28 (1,105.12)		
56								232,89 (513.43)	313,37 (690.86)	400,62 (883.22)	508,07 (1,120.10)		
57								236,26 (520.86)	317,81 (700.66)	406,24 (895.60)	514,87 (1,135.09)		
58									322,25 (710.43)	411,86 (907.99)	521,67 (1,150.09)		
59									326,70 (720.25)	416,39 (917.99)	525,23 (1,157.94)		
60									331,14 (730.05)	421,90 (930.13)	531,92 (1,172.69)		
61									335,61 (739.89)	427,42 (942.30)	538,62 (1,187.44)		
62									340,06 (749.71)	432,94 (954.46)	545,32 (1,202.22)		
63									344,54 (759.57)	438,46 (966.65)	552,03 (1,217.02)		
64										443,99 (978.83)	558,74 (1,231.81)		
65										449,53 (991.04)	565,46 (1,246.63)		
66										455,08 (1,003.2)	572,18 (1,261.45)		
67										460,63 (1,015.5)	578,92 (1,276.29)		
68										466,18 (1,027.7)	585,66 (1,291.15)		
69										471,74 (1,040.0)	592,40 (1,306.02)		
70										477,31 (1,052.2)	599,15 (1,320.90)		
71											605,90 (1,335.79)		
72											612,66 (1,350.69)		
73											619,44 (1,365.62)		
74											626,22 (1,380.57)		
75											633,00 (1,395.52)		

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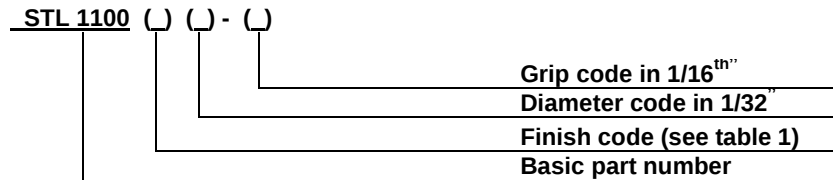


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**SLEEVE TAPER-HI-LITE® ,
100° FLUSH HEAD
TITANIUM pin shear 95 ksi min
3/32 grip variation
1st oversize**

STL1100

3. DESIGNATION



Example:

STL1100P10 – 34 : SLEEVE TAPER-HI-LITE® fastener system countersunk head 1st oversize (+1/64" diameter), 0.6% of minimum interference fit, titanium pin with HK1NC + cetyl alcohol lube and stainless steel passivated sleeve, diameter code 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.

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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 views A-A & A-B Exchange of dia. A & dia. A1 dia. A, dia. A1 & H changed in ref. C and ØV dim changed table (G+B) added	Improvement for better understanding (no design change)
C	APR 5 th 2012	P dim corrected ASTER [®] codification modified dia A & dia A1 inverted in table 2	To be in accordance with definition drawings

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