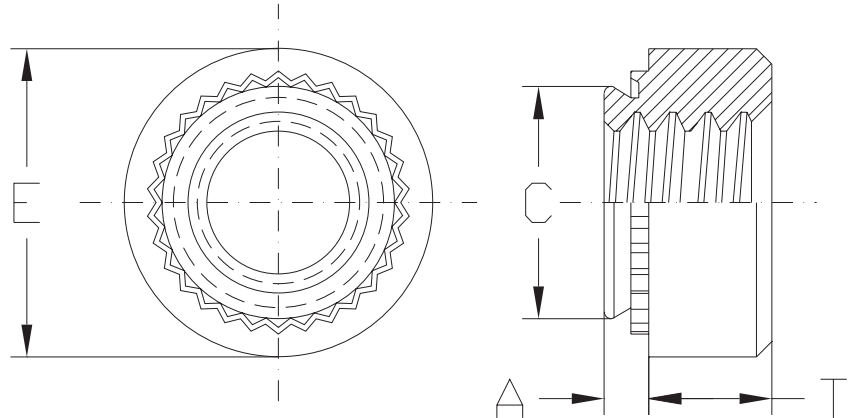
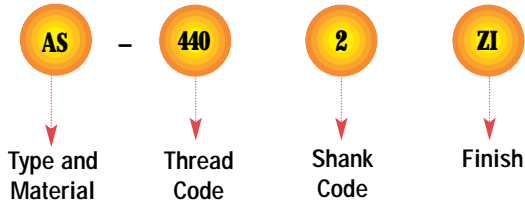


# SELF-CLINCHING NUTS



## STEEL AND STNUTS (Unified) – TYPES AS, ASS, ACLS, and ACLSS

### Part Number Designation



Thread Size	Type		Thread Code	Shank Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size In Sheet +.003 -.000	C Max.	E ±.010	T ±.010	Min. Dist. Hole C/L To Edge(1)
	Carbon Steel	Stainless Steel									
.086-56 (#2-56)	AS	ACLS	256	0	.030	.030	.166	.165	.25	.07	.19
				1	.038	.040					
				2	.054	.056					
.099-48 (#3-48)	AS	ACLS	348	0	.030	.030	.166	.165	.25	.07	.19
				1	.038	.040					
				2	.054	.056					
.112-40 (#4-40)	AS	ACLS	440	0	.030	.030	.166	.165	.25	.07	.19
				1	.038	.040					
				2	.054	.056					
				3	.087	.091					
.138-32 (#6-32)	AS	ACLS	632	0	.030	.030	.1875	.187	.28	.07	.22
				1	.038	.040					
				2	.054	.056					
				3	.087	.091					
.164-32 (#8-32)	AS	ACLS	832	0	.030	.030	.213	.212	.31	.09	.27
				1	.038	.040					
				2	.054	.056					
				3	.087	.091					
.190-24 (#10-24)	ASS	ACLSS	024	0	.030	.030	.250	.249	.34	.09	.28
				1	.038	.040					
				2	.054	.056					
				3	.087	.091					
.190-32 (#10-32)	ASS	ACLSS	032	0	.030	.030	.250	.249	.34	.09	.28
				1	.038	.040					
				2	.054	.056					
				3	.087	.091					
.216-24 (#12-24)	AS	ACLS	1224	1	.038	.040	.277	.276	.38	.13	.31
				2	.054	.056					
				3	.087	.091					
.250-20 (1/4-20)	AS	ACLS	0420	0	.045	.047	.344	.343	.44	.17	.34
				1	.054	.056					
				2	.087	.091					
				3	.120	.125					
.250-28 (1/4-28)	AS	ACLS	0428	1	.054	.056	.344	.343	.44	.17	.34
				2	.087	.091					
				3	.120	.125					
.313-18 (5/16-18)	AS	ACLS	0518	1	.054	.056	.413	.412	.50	.23	.38
				2	.087	.091					
				3	.120	.125					
.313-24 (5/16-24)	AS	ACLS	0524	1	.054	.056	.413	.412	.50	.23	.38
				2	.087	.091					
				3	.120	.125					
.375-16 (3/8-16)	AS	ACLS	0616	1	.087	.091	.500	.499	.56	.27	.44
				2	.120	.125					
				3	.235	.250					
.375-24 (3/8-24)	AS	ACLS	0624	1	.087	.091	.500	.499	.56	.27	.44
				2	.120	.125					
				3	.235	.250					
.500-13 (1/2-13)	AS	ACLS	0813	1	.120	.125	.656	.655	.81	.36	.63
				2	.235	.250					
.500-20 (1/2-20)	AS	ACLS	0820	1	.120	.125	.656	.655	.81	.36	.63
				2	.235	.250					

(1) For closer distances consult our Engineering Department.

# SELF-CLINCHING NUTS



## STEEL AND STNUTS (Unified) – TYPES AS, ASS, ACLS, and ACLSS

Thread Size x Pitch	Type		Thread Code	Shank Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size In Sheet +0.08	C Max.	E ±0.25	T ±0.25	Min. Dist. Hole C/L To Edge(1)
	Carbon Steel	Stainless Steel									
M2 x0.4	AS	ACLS	M2	0	0.77	0.8-1	4.25	4.22	6.3	1.5	4.8
				1	0.97	1					
				2	1.38	1.4					
M2.5 x0.45	AS	ACLS	M2.5	0	0.77	0.8-1	4.25	4.22	6.3	1.5	4.8
				1	0.97	1					
				2	1.38	1.4					
M3 x0.5	AS	ACLS	M3	0	0.77	0.8-1	4.25	4.22	6.3	1.5	4.8
				1	0.97	1					
				2	1.38	1.4					
M3.5 x0.6	AS	ACLS	M3.5	0	0.77	0.8-1	4.75	4.73	7.1	1.5	5.6
				1	0.97	1					
				2	1.38	1.4					
M4 x0.7	AS	ACLS	M4	0	0.77	0.8-1	5.4	5.38	7.9	2	6.9
				1	0.97	1					
				2	1.38	1.4					
M5 x0.8	ASS	ACLSS	M5	0	0.77	0.8-1	6.4	6.38	8.7	2	7.1
				1	0.97	1					
				2	1.38	1.4					
M6 x1	AS	ACLS	M6	0	1.15	1.2	8.75	8.72	11.05	4.08	8.6
				1	1.38	1.4					
				2	2.21	2.3					
M8 x1.25	AS	ACLS	M8	1	1.38	1.4	10.5	10.47	12.65	5.47	9.7
				2	2.21	2.3					
M10 x1.5	AS	ACLS	M10	1	2.21	2.31	14	13.97	17.35	7.48	13.5
				2	3.05	3.18					

(1) Installation, pushout and torque-out values reported are averages when all installation specifications and procedures are followed. Variations in mounting hole size, sheet material and installation procedure will affect this data. Performance testing of this product in your application is recommended. We will be happy to provide samples for this purpose.

## PERFORMANCE DATA<sup>(1)</sup>

Type	Thread Code	Shank Code	Test Sheet Material	Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.)			
AS ACLS	256 348 440	0 1 2 3	5052-H34 Aluminum	1500-2000	63	8			
					90	10			
					170	13			
			AS ACLS	632	0 1 2 3	5052-H34 Aluminum	2500-3000	170	13
								105	13
								125	15
AS ACLS	832	0 1 2 3				5052-H34 Aluminum	2500-3000	230	18
								230	18
								230	18
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	63	16
								95	17
								190	22
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	190	22
								110	16
								130	20
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	275	28
								275	28
								275	28
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	68	21
								105	23
								220	35
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	220	35
								220	35
								220	35
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	110	26
								145	35
								285	45
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	285	45
								285	45
								285	45
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	68	26
								110	32
								190	50
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	225	50
								120	32
								180	40
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	250	60
								320	60
								320	60
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	120	63
								285	70
								285	70
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	200	74
								350	80
								350	80
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	350	80
								350	80
								350	80
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	220	70
								360	90
								360	125
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	315	115
								400	150
								400	150
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	380	120
								380	160
								380	160
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	420	165
								420	180
								420	180
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	400	270
								400	270
								400	270
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	400	270
								460	320
								460	320
AS ACLS	1224	0 1 2 3				5052-H34 Aluminum	2500-3000	475	350
								475	350
								475	350
			AS ACLS	1224	0 1 2 3	5052-H34 Aluminum	2500-3000	1050	735
								1050	735
								1050	735

Type	Thread Code	Shank Code	Test Sheet Material	Installation (kN)	Pushout (N)	Torque-out (N·m)			
AS ACLS	M2 M2.5 M3	0 1 2	5052-H34 Aluminum	6.7-8.9	280	0.9			
					400	1.13			
					750	1.47			
			AS ACLS	M2 M2.5 M3	0 1 2	Cold-rolled Steel	11.2-15.6	470	1.47
								550	1.7
								1010	2.03
AS ACLS	M3.5	0 1 2				5052-H34 Aluminum	11.2-13.5	280	1.8
								400	1.92
								840	2.5
			AS ACLS	M3.5	0 1 2	Cold-rolled Steel	13.4-26.7	480	1.8
								570	2.3
								1210	2.3
AS ACLS	M4	0 1 2				5052-H34 Aluminum	11.2-13.4	300	2.37
								470	2.6
								970	4
			AS ACLS	M4	0 1 2	Cold-rolled Steel	18-27	490	2.95
								645	4
								1250	5.1
AS ACLS	M5	0 1 2				5052-H34 Aluminum	11.2-15.6	300	3
								480	3.6
								845	5.7
			AS ACLS	M5	0 1 2	Cold-rolled Steel	18-38	530	3.6
								800	4.5
								1112	6.8
AS ACLS	M6	0 1 2				5052-H34 Aluminum	18-32	970	7.9
								1580	10.2
								1380	14.1
			AS ACLS	M6	0 1 2	Cold-rolled Steel	27-36	1380	13
								1760	17
								1760	17
AS ACLS	M8	1 2				5052-H34 Aluminum	18-32	1570	13.6
								1570	13.1
								1870	18.7
			AS ACLS	M8	1 2	Cold-rolled Steel	27-36	1870	20.3
								1870	20.3
								1870	20.3
AS ACLS	M10	1 2				5052-H34 Aluminum	22-36	1760	32.7
								1760	32.7
								2020	36.2
			AS ACLS	M10	1 2	Cold-rolled Steel	32-50	2020	36.2
								2020	36.2
								2020	36.2

(1) Installation, pushout and torque-out values reported are averages when all installation specifications and procedures are followed. Variations in mounting hole size, sheet material and installation procedure will affect this data. Performance testing of this product in your application is recommended. We will be happy to provide samples for this purpose.

# SELF-CLINCHING NUTS

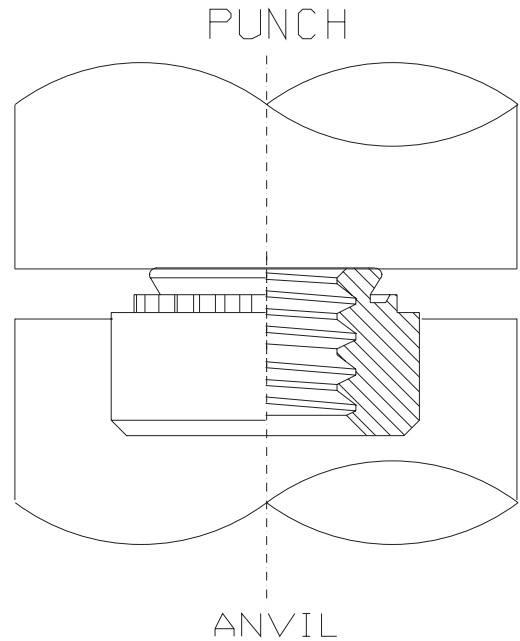


## STEEL AND STNUTS (Unified) – TYPES AS, ASS, ACLS, and ACLSS

### INSTALLATION

#### Types AS, ASS, ACLS, ACLSS

1. Punch or drill properly sized mounting hole in sheet. Do not perform any secondary operations such as deburring.
2. Place fastener into the anvil hole and place the mounting hole over the shank of the fastener as shown in diagram to the right.
3. With punch and anvil surfaces parallel, apply squeezing force until the head of the nut comes into contact with the sheet material.



### MATERIAL & FINISH SPECIFICATIONS

Type	Threads			Fastener Materials					Standard Finishes					Optional Finish (1)	For Use in Sheet Hardness:				
	Internal, ANSI B1.1 2B/ANSI/ASME B1.13M, 6H	Meets Torque Requirements for IFI 100/107 Grade B (unified) and ANSI B18.16.1M (metric) Locknuts	3 Cycle Locking Performance PEM spec PRS-C90	Heat Treated Carbon Steel	#302/303 Stainless Steel	2024-T4 Aluminum	Carbon Steel	Precipitation Hardening Grade Stainless Steel	Passivated and/or Tested per ASTM A380	Zinc per ASTM B 633 SC1 (5µm), Type III, Colorless	Cadmium Spec SAE AMS-QQ-P-416, Type 1, Class 3, Plus Clear Chromate Passivation	No Finish (2) (3)	Zinc per ASTM B 633 SC1 (5µm), Type II, Yellow	90 or Less on the Rockwell "B" Scale	80 or Less on the Rockwell "B" Scale	70 or Less on the Rockwell "B" Scale	60 or Less on the Rockwell "B" Scale	50 or Less on the Rockwell "B" Scale	
AS	•			•					•				•						
ASS	•			•					•				•			•			
ACLS	•				•				•							•			
ACLSS	•				•				•							•			
Part number codes for finishes									None	ZI	CI	X	C						

- (1) Special order with additional charge.
- (2) Part numbers for aluminum nuts have no plating suffix.
- (3) Unplated threads are sized to accept a basic go gauge after .00025" plating.