



SELF-CLINCHING

NUTS

BULLETIN



CL 706

PEM® SELF-CLINCHING NUTS

For load-bearing threads in thin sheets – aluminum, steel, and other ductile materials.

Proved Performance

For over 60 years, PEM brand self-clinching fasteners have satisfied production and fastening requirements wherever load-bearing threads are required in thin metal sections too thin to tap.

Quick, convenient assembly using standard tools

Installation of PEM brand self-clinching nuts is simple, quick, and convenient. Just insert them in punched or drilled holes, then apply a squeezing force to embed the clinching ring completely in the sheet metal.

High pushout & torque-out resistance

The clinching ring locks the displaced metal behind the tapered shank, ensuring high pushout resistance. High torque-out resistance is ensured when the knurled platform is embedded in the sheet metal.

Distortion-free installation

Proper installation forces will not distort or damage the threads in PEM nuts because the recommended shank length is always less than the minimum sheet thickness.

Reverse side remains flush

All clinching takes place on the fastener side of the sheet. The reverse side remains flush and smooth.

Self-clinching Locknuts

These locknuts (Type SL™) are designed with a unique and economical TRI-DENT® locking feature, which meets demanding locking performance requirements.

Thin Sheet Self-clinching Nuts

These nuts (Type SMPS™) feature a lower profile and can be mounted closer to the edge of a sheet than standard self-clinching nuts.

Self-clinching nuts for stainless steel

PEM 300® self-clinching nuts (Type SP™) are especially designed for permanent installation into stainless steel sheets as thin as .030" / 0.8 mm.

Machined from a specialty stainless steel, these fasteners are then heat-treated to a hardness higher than most 300 Series stainless steels. This feature enables PEM 300 fasteners to be installed into stainless steel sheets, employing the same self-clinching principle which has proved successful over the years in thousands of applications.



Look for the PEM® trademarks



The PEM 300® Identification Marks



Part Number Designation



Type and Material



Thread Code



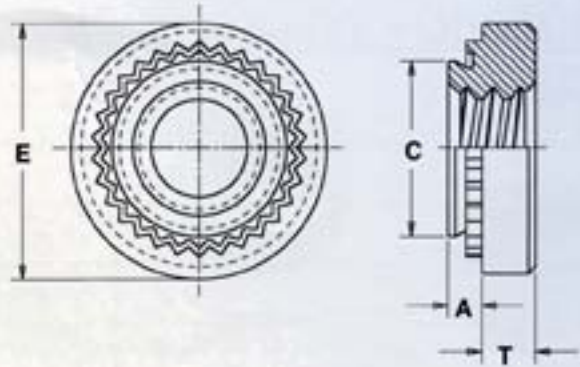
Shank Code



Finish

† Many PEM self-clinching nuts meet NASM45938/1 specifications. Consult our Marketing department for a complete Military Specifications and National Aerospace Standards guide (Bulletin NASM) or check our website.

STEEL AND STAINLESS STEEL NUTS (Unified) - TYPES S, SS, CLS, and CLSS



(Cinching profile may vary)

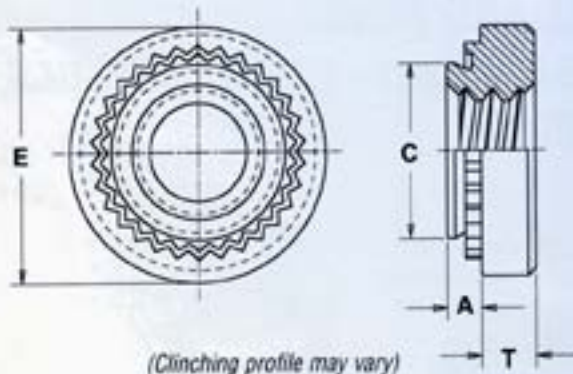
All dimensions are in inches.

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									
066-56 (#2-56)	S	CLS	256	0	030	030	166	165	25	07	19
				1	038	040					
				2	054	056					
099-48 (#3-48)	S	CLS	348 ^{NS}	0	030	030	166	165	25	07	19
				1	038	040					
				2	054	056					
112-40 (#4-40)	S	CLS	440	0	030	030	166	165	25	07	19
				1	038	040					
				2	054	056					
				3	087	091					
138-32 (#6-32)	S	CLS	632	0	030	030	1875	187	28	07	22
				1	038	040					
				2	054	056					
				3	087	091					
164-32 (#8-32)	S	CLS	832	0	030	030	213	212	31	09	27
				1	038	040					
				2	054	056					
				3	087	091					
190-24 (#10-24)	SS	CLSS	024	0	030	030	250	249	34	09	28
				1	038	040					
				2	054	056					
				3	087	091					
190-32 (#10-32)	SS	CLSS	032	0	030	030	250	249	34	09	28
				1	038	040					
				2	054	056					
				3	087	091					
216-24 (#12-24)	S	CLS	1224	1 ^{NS}	038	040	277	276	37	13	31
				2	054	056					
				3	087	091					
250-20 (1/4-20)	S	CLS	0420	0	045	047	344	343	44	17	34
				1	054	056					
				2	087	091					
				3	120	125					
250-28 (1/4-28)	S	CLS	0428	1	054	056	344	343	44	17	34
				2	087	091					
				3 ^{NS}	120	125					
				3	120	125					
313-18 (5/16-18)	S	CLS	0518	1	054	056	413	412	50	23	38
				2	087	091					
				3	120	125					
313-24 (5/16-24)	S	CLS	0524 ^{NS}	1	054	056	413	412	50	23	38
				2	087	091					
				3	120	125					
375-16 (3/8-16)	S	CLS	0616	1	087	091	500	499	56	27	44
				2	120	125					
				3	235	250					
375-24 (3/8-24)	S	CLS	0624 ^{NS}	1	087	091	500	499	56	27	44
				2	120	125					
				3	235	250					
500-13 (1/2-13)	S	CLS ^{NS}	0813	1	120	125	656	655	81	36	63
				2	235	250					
500-20 (1/2-20)	S	CLS ^{NS}	0820	1	120	125	656	655	81	36	63
				2	235	250					

(1) For closer distances consult our Engineering Department.

(NS) Not Stocked, available on special order.

STEEL AND STAINLESS STEEL NUTS (Metric) - TYPES S, SS, CLS, and CLSS



All dimensions are in millimeters.

METRIC	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)
		Fastener Material										
		Carbon Steel	Stainless Steel									
M2 x 0.4	S	CLS ^{NS}	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 x 0.45	S	CLS	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 x 0.5	S	CLS	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 x 0.6	S	CLS	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 x 0.7	S	CLS	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 x 0.8	SS	CLSS	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 x 1	S	CLS	M6	00	0.89	0.92	8.75	8.72	11.05	4.08	8.6	
				0	1.15	1.2						
				1	1.38	1.4						
				2	2.21	2.3						
M8 x 1.25	S	CLS ^{NS}	M8	1	1.38	1.4	10.5	10.47	12.65	5.47	9.7	
				2	2.21	2.3						
M10 x 1.5	S	CLS	M10 ^{NS}	1	2.21	2.31	14	13.97	17.35	7.48	13.5	
				2	3.05	3.18						

ALUMINUM SELF-CLINCHING NUTS (Unified) - TYPE CLA

(See drawing at top of page) All dimensions are in inches.

UNIFIED	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)
		Fastener Material Aluminum									
086-56 (#2-56)	CLA	256 ^{NS}	1	038	040	166	165	25	07	19	
			2	054	056						
112-40 (#4-40)	CLA	440	1	038	040	187.5	187	25	09	22	
			2	054	056						
138-32 (#6-32)	CLA	632	1	038	040	213	212	28	09	27	
			2	054	056						
164-32 (#8-32)	CLA	832	1	038	040	234	233	31	13	28	
			2	054	056						
190-24 (#10-24)	CLA	024 ^{NS}	1	038	040	296	295	37	16	31	
			2	054	056						
190-32 (#10-32)	CLA	032	1	038	040	296	295	37	16	31	
			2	054	056						
250-20 (1/4-20)	CLA	0420	1	054	056	344	343	44	17	34	
			2	087	091						
			3	120	125						

(1) For closer distances consult our Engineering Department.

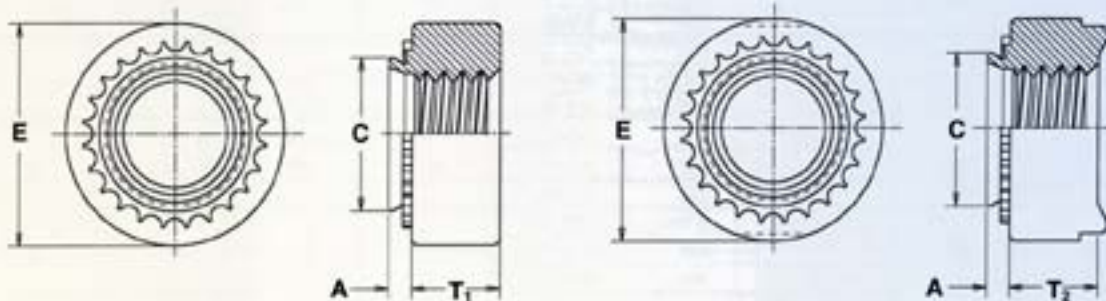
(NS) Not Stocked, available on special order.

ALUMINUM SELF-CLINCHING NUTS (Metric) - TYPE CLA

(See drawing at top of page CL-4) All dimensions are in millimeters.

METRIC	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)
		Fastener Material Aluminum									
M2 x 0.4	CLA	M2 ^{NS}	1	0.98	1	4.25	4.22	6.3	1.5	4.8	
			2	1.38	1.4						
M3 x 0.5	CLA	M3	1	0.98	1	4.75	4.73	6.3	2	5.6	
			2	1.38	1.4						
M3.5 x 0.6	CLA	M3.5 ^{NS}	1	0.98	1	5.4	5.38	7.1	2	6.9	
			2	1.38	1.4						
M4 x 0.7	CLA	M4	1	0.98	1	6	5.97	7.9	3	7.1	
			2	1.38	1.4						
M5 x 0.8	CLA	M5 ^{NS}	1	0.98	1	7.5	7.47	9.5	3.8	7.9	
			2	1.38	1.4						
M6 x 1	CLA	M6 ^{NS}	1	1.38	1.4	8.75	8.72	11.05	4.08	8.6	
			2	2.21	2.3						

STEEL, SELF-LOCKING AND NON-LOCKING NUTS - TYPES H, HN, HNL



All dimensions are in inches.

UNIFIED	Thread Size	Type		Thread Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size in Sheet +.005 - .000	C Max.	E ±.010	T ₁	T ₂	Min. Dist. Hole C/L To Edge (1)
		Non-Locking	Self-Locking*							Non-locking	Self-locking	
										±.005	±.010	
250-20 (1/4-20)	NA	HNL	0420	0.58	0.58	344	343	500	189		380	
313-18 (5/16-18)	NA	HNL	0518	0.58	0.58	413	412	575	240		420	
375-16 (3/8-16)	H HN	HNL	0616	0.58	0.58	500	499	650	300		480	

All dimensions are in millimeters.

METRIC	Thread Size x Pitch	Type		Thread Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size in Sheet +0.13	C Max.	E ±0.25	T ₁	T ₂	Min. Dist. Hole C/L To Edge (1)
		Non-Locking	Self-Locking*							Non-locking	Self-locking	
										±0.13	±0.25	
M6 x 1	NA	HNL	M6	1.48	1.48	8.75	8.72	12.7	5		10	
M8 x 1.25	NA	HNL	M8	1.48	1.48	10.5	10.47	14.6	6.3		11	
M10 x 1.5	H HN	HNL	M10	1.48	1.48	12.7	12.67	16.5	7.9		12	

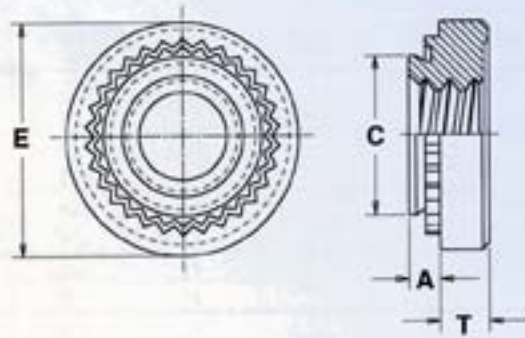
(1) For closer distances consult our Engineering Department.

(NS) Not Stocked, available on special order.

(NA) Not Available - Use Type S instead.

* During installation, the projections on the heads of Type HNL self-locking nuts may be flattened. This is not detrimental in any way and will not affect self-locking or self-clinching performance.

PEM 300® SELF-CLINCHING NUTS FOR STAINLESS STEEL TYPE SP™



All dimensions are in inches.

UNIFIED	Thread Size	Type	Thread Code	Shank Code	A (Shank) Max.	Sheet Thickness ⁽²⁾	Hole Size in Sheet $+.003-.000$ ⁽²⁾	C Max.	E $\pm .010$	T $\pm .010$	Min. Dist. Hole C/L To Edge ⁽¹⁾
	112-40 (#4-40)	SP	440	0	030	030-039	166	165	25	07	19
			1	038	040-055						
			2	054	056 Min						
138-32 (#6-32)	SP	632	0	030	030-039	187.5	187	28	07	22	
			1	038	040-055						
			2	054	056 Min						
164-32 (#8-32)	SP	832	0	030	030-039	213	212	31	09	27	
			1	038	040-055						
			2	054	056 Min						
190-32 (#10-32)	SP	032	0	030	030-039	250	249	34	09	28	
			1	038	040-055						
			2	054	056 Min						
250-20 (1/4-20)	SP	0420	1	054	056 Min	344	343	44	17	34	

All dimensions are in millimeters.

METRIC	Thread Size x Pitch	Type	Thread Code	Shank Code	A (Shank) Max.	Sheet Thickness ⁽²⁾	Hole Size in Sheet $+0.08$ ⁽²⁾	C Max.	E ± 0.25	T ± 0.25	Min. Dist. Hole C/L To Edge ⁽¹⁾
	M3 x 0.5	SP	M3	0	0.77	0.8-1	4.25	4.22	6.3	1.5	4.8
1				0.97	1.01-1.39						
2				1.38	1.4 Min						
M4 x 0.7	SP	M4	0	0.77	0.8-1	5.4	5.38	7.9	2	6.9	
			1	0.97	1.01-1.39						
			2	1.38	1.4 Min						
M5 x 0.8	SP	M5	0	0.77	0.8-1	6.4	6.38	8.7	2	7.1	
			1	0.97	1.01-1.39						
			2	1.38	1.4 Min						
M6 x 1	SP	M6	1	1.38	1.4 Min	8.75	8.72	11.1	4.1	8.6	

(1) For closer distances consult our Engineering Department

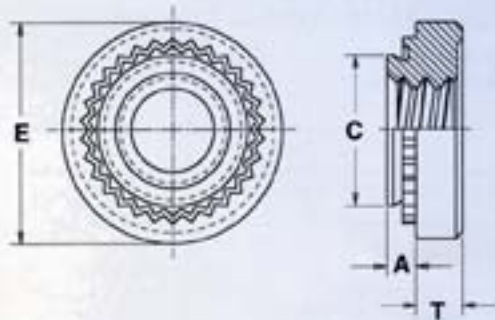
(2) Sheets thinner than .060" / 1.5mm may work harden during installation and cause reduced performance

(3) Hole punch diameter must be maintained at $+.001$ " / .025mm over mounting hole diameter. Hole punch should be kept sharp to minimize local work hardening around hole. Fasteners should be installed in the punch side of the hole.

TRI-DENT® SELF-CLINCHING LOCKNUTS TYPE SL™



PEM TRI-DENT
Locking Feature



All dimensions are in inches.

UNIFIED	Thread Size	Type	Thread Code	Shank Code	A (Shank) Max.	Min. Sheet Thickness	Hole Size in Sheet +0.003 -0.000	C Max.	E ±0.010	T ±0.010	Min. Dist. Hole C/L To Edge
	112-40 (#4-40)	SL	440	1	038	040	166	165	250	070	190
				2	054	056					
	138-32 (#6-32)	SL	632	1	038	040	1875	187	280	070	220
				2	054	056					
	164-32 (#8-32)	SL	832	1	038	040	213	212	310	090	270
				2	054	056					
	190-32 (#10-32)	SL	032	1	038	040	250	249	340	090	280
				2	054	056					
	250-20 (1/4-20)	SL	0420	1	054	056	344	343	440	170	340
				2	087	091					

All dimensions are in millimeters.

METRIC	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
	M3 x 0.5	SL	M3	1	0.98	1	4.25	4.22	6.3	1.5	4.8
				2	1.38	1.4					
	M3.5 x 0.6	SL	M3.5	1	0.98	1	4.75	4.73	7.1	1.5	5.6
				2	1.38	1.4					
	M4 x 0.7	SL	M4	1	0.98	1	5.4	5.38	7.9	2	6.9
				2	1.38	1.4					
	M5 x 0.8	SL	M5	1	0.98	1	6.4	6.38	8.7	2	7.1
				2	1.38	1.4					
	M6 x 1	SL	M6	1	1.38	1.4	8.75	8.72	11.05	4.06	8.6
				2	2.21	2.3					

PERFORMANCE DATA (Continued)

TYPE SL

UNIFIED	Type	Thread Code	Shank Code	Locking Specifications (1)		Test Sheet Material					
				Max. Torque (1st thru 3rd) (in. lbs.)	Min. Torque (1st thru 3rd) (in. lbs.)	5052-H34 Aluminum			Cold-rolled Steel		
						Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.)	Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.)
SL	440	1	5.75	0.4	1500 - 2000	90	10	2500 - 3500	125	15	
		2				170	13		230	18	
SL	632	1	10.5	0.8	2500 - 3000	95	17	3000 - 6000	130	20	
		2				190	22		275	28	
SL	832	1	18	1.2	2500 - 3000	105	23	4000 - 6000	145	35	
		2				220	35		285	45	
SL	032	1	21	1.65	2500 - 3000	110	32	4000 - 9000	180	40	
		2				190	50		250	60	
SL	0420	1	35	3.75	4000 - 7000	360	90	6000 - 9000	400	150	
		2				360	125		400	150	

METRIC	Type	Thread Code	Shank Code	Locking Specifications (1)		Test Sheet Material					
				Max. Torque (1st thru 3rd) (N•m)	Min. Torque (1st thru 3rd) (N•m)	5052-H34 Aluminum			Cold-rolled Steel		
						Installation (kN)	Pushout (N)	Torque-out (N•m)	Installation (kN)	Pushout (N)	Torque-out (N•m)
SL	M3	1	0.67	0.04	6.7 - 8.9	400	1.13	11.2 - 15.6	550	1.7	
		2				750	1.47		1010	2.03	
SL	M3.5	1	1.2	0.08	11.2 - 13.5	400	1.92	13.4 - 26.7	570	2.3	
		2				840	2.5		1210	2.3	
SL	M4	1	2.1	0.13	11.2 - 13.4	470	2.6	18 - 27	645	4	
		2				970	4		1250	5.1	
SL	M5	1	2.4	0.18	11.2 - 15.6	480	3.6	18 - 38	800	4.5	
		2				845	5.7		1112	6.8	
SL	M6	1	4	0.30	18 - 32	1580	10.2	27 - 38	1760	17	
		2				1580	14.1		1760	17	

(1) 3 cycle locking performance. PEM spec PRS-C90 Max. on / Min. off torque for 1st thru 3rd cycles.

TYPE SP

UNIFIED	Type	Thread Code	Shank Code	Test Sheet Material	Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.)							
								SP	440	0	304 Stainless Steel	3000-5000	130	14
										1			165	17
2	290	18												
SP	632	0	304 Stainless Steel	4000-7000	140	18								
		1			170	24								
		2			340	28								
SP	832	0	304 Stainless Steel	4000-7000	145	30								
		1			180	37								
		2			360	45								
SP	032	0	304 Stainless Steel	6000-9000	180	35								
		1			230	45								
		2			400	60								
SP	0420	1	304 Stainless Steel	9000-11000	450	150								

METRIC	Type	Thread Code	Shank Code	Test Sheet Material	Installation (kN)	Pushout (N)	Torque-out (N•m)							
								SP	M3	0	304 Stainless Steel	13-22	575	1.58
										1			725	1.92
2	1290	2.03												
SP	M4	0	304 Stainless Steel	22-31	645	3.38								
		1			800	4.18								
		2			1600	5.08								
SP	M5	0	304 Stainless Steel	26-40	800	3.95								
		1			1025	5.08								
		2			1725	6.77								
SP	M6	1	304 Stainless Steel	40-48	2000	17								

TYPE SMPS

UNIFIED	Type	Thread Code	Test Sheet Material		
			Cold-rolled Steel		
			Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.)
SMPS	256	1500	35	8	
SMPS	440	1800	60	12	
SMPS	632	2000	65	14	

METRIC	Type	Thread Code	Test Sheet Material		
			Cold-rolled Steel		
			Installation (kN)	Pushout (N)	Torque-out (N•m)
SMPS	M2.5	7.5	155	1.13	
SMPS	M3	8	267	1.35	
SMPS	M3.5	8.8	289	1.58	

INSTALLATION

Types S, SL, SMPS, SS, CLS, CLSS, CLA, H, HN, and HNL

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.



PEMSERTER® PRESSES

For best results we recommend using a PEMSERTER® press for either manual or automatic installation of PEM type S, SL, SMPS, SS, CLS, CLSS, CLA, H, HN, HNL, and SP nuts. For more information on our line of presses call 1-800-523-5321, or check our web site

Type SP⁽¹⁾

PEM Type SP nuts are installed by placing them in punched or drilled holes in the sheet material and squeezing them into place with any standard press. A special punch with a pilot pin to align the nut and a special anvil with a pilot pin to align the sheet and a raised ring is required to create a proper installation. The raised ring acts as a second displacer of the stainless sheet material, thereby ensuring that the annular groove of the nut is filled.

INSTALLATION REQUIREMENTS

1. Sheet hardness must be less than 90 on the Rockwell "B" scale.
2. Hole punch should be kept sharp to minimize work hardening around hole.
3. Nuts should be installed in punch side of hole.
4. Nuts should not be installed near bends or other highly cold worked areas where sheet hardness may be greater than 90 on the Rockwell "B" scale.

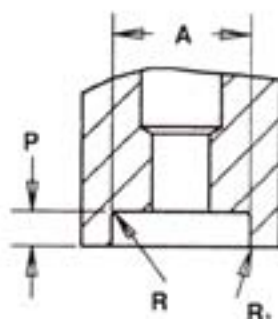
UNIFIED	Thread Code	Punch Dimensions (in.)				Punch Part No.
		A ±.002	P ±.001	R Max.	R ₁ ±.005	
	440	.255	.066	.010	.005	8002691
	632	.286	.066	.010	.005	8002692
	832	.317	.089	.010	.005	8002693
	032	.348	.089	.010	.005	8002694

METRIC	Thread Code	Punch Dimensions (mm)				Punch Part No.
		A ±0.05	P ±0.03	R Max.	R ₁ ±0.13	
	M3	6.48	1.42	0.25	0.13	8002695
	M3.5	7.26	1.42	0.25	0.13	8002696
	M4	8.05	1.93	0.25	0.13	8002697
	M5	8.84	1.93	0.25	0.13	8002698

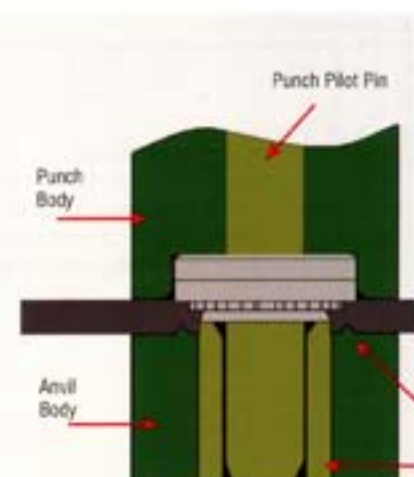
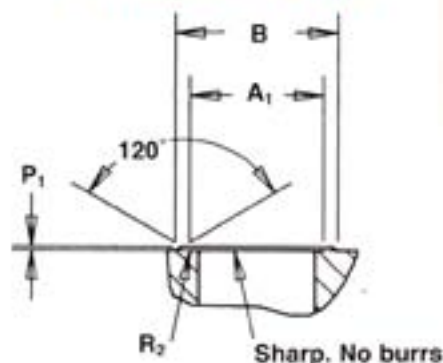
UNIFIED	Thread Code	Anvil Dimensions (in.)				Anvil Part No.
		A ₁ ±.002 - .000	B Nom.	P ₁ (Z) ±.001 - .000	R ₂ Max.	
	440	.199	.261	.009	.003	8002687
	632	.218	.280	.009	.003	8002688
	832	.243	.305	.009	.003	8002689
	032	.288	.350	.009	.003	8002690

METRIC	Thread Code	Anvil Dimensions (mm)				Anvil Part No.
		A ₁ ±.05	B Nom.	P ₁ (Z) ±.03	R ₂ Max.	
	M3	5.05	6.63	.23	.08	8002687
	M3.5	5.54	7.11	.23	.08	8002688
	M4	6.17	7.75	.23	.08	8002689
	M5	7.34	8.89	.23	.08	8002690

RECOMMENDED INSTALLATION PUNCH



RECOMMENDED INSTALLATION ANVIL



- (1) To meet the published performance data, we recommend using the installation punch and anvil shown. You may use a flat punch and anvil, but reduced performance may result.
- (2) We recommend replacing installation anvil when the height of the "P" dimension is reduced to .005" / 0.13mm due to wear. Reductions in performance may occur as the height of the protrusion wears. Variations in hole preparation, installation force, and sheet material type, thickness, and hardness will affect both performance and tooling life.

MATERIAL & FINISH SPECIFICATIONS

Type	Threads			Fastener Materials				Standard Finishes				Optional Finishes (1)		For Use in Sheet Hardness:					
	Internal ANSI B1.1 2B/ANSI/ASME B1.13M 6H	Meets Torque Requirements for IF1 100/107 Grade 8 (unified) and ANSI B18.15.1M (metric) Locknuts	3 Cycle Locking Performance PEM spec PPS-C90	Heat Treated Carbon Steel	300 Series Stainless Steel	2024-T4 Alumi-num	Carbon Steel	Precipitation Hardening Grade Stainless Steel	Passivated and/or Tested per ASTM A308	Zinc per ASTM B 633 SC1 (5µm), Type II, Colorless	Zinc per ASTM B 633 SC1 (5µm), Type III, Colorless Plus Sealant/Lubricant	No Finish (Z) (3)	Zinc per ASTM B 633 SC1 (5µm), Type II, Yellow	Cadmium Spec SAE AMS-00-P-416, Type I, Class 3, Plus Clear Chromate Passivation	90 or Less on the Rockwell "B" Scale (4) (5)	85 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
S	*			*					*				*						
SL	*		*	*					*						*				
SMPS	*				*				*							*			
SS	*			*					*				*						
CLS	*				*				*							*			
CLSS	*				*				*							*			
CLA	*					*					*								*
H	*			*					*		*				*				
HN	*						*		*		*							*	
HNL	*	*					*		*	*			*					*	
SP	*							*	*					*					
Part number codes for finishes								None	Z1	LZ	X	ZC	C1						

- (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.
- (4) Panel material should be in the annealed condition
- (5) Fasteners should not be installed adjacent to bends or other highly cold-worked areas

RoHS compliance information can be found on our website

Specifications subject to change without notice. Check our website for the most current version of this bulletin

PennEngineering



North America: Danboro, PA 18916 USA • E-mail info@pemnet.com • Tel +1-215-766-8853 • Fax +1-215-766-0143 • 800-237-4736 (USA Only)
U.K. And Europe: Doncaster, England • E-mail uk@pemnet.com Tel +44 (0)1302 765700 • Fax +44 (0)1302 367580
Asia/Pacific: Singapore • E-mail singapore@pemnet.com • Tel +65-6-745-0660 • Fax +65-6-745-2400
 Shanghai, China • E-mail china@pemnet.com • Tel +86-21-5868-3688 • Fax +86-21-5868-3968

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