

Self-Clinching Nuts

SELF CLINCHING NUTS

Self-clinching nuts provide load-bearing threads in thin sheets for use in aluminium, cold-rolled steel and other tough materials.

- **High performance**
Self-clinching nuts overcome the problem of the mounting sheets being too thin to tapping, which fully meet the requirements of production and fastening.
- **The installation is quick and easy after using a standard fixture**
The self-clinching nuts installation are simple, quick and easy. Place fastener into the anvil hole, apply squeezing force until the head of the nut comes into contact with the sheet material.
- **High pushout and torque-out resistance**
The ring of the self-clinching nuts and the metal panel are in close engagement to ensure that the products have high pushout and torque-out resistances.
- **The sheet back remains flat**
The products installation are completed from the mounting surface. The sheet back remains flush and smooth.
- **Self-lock nuts**
The self-lock nuts have a unique design of "three points", which can be used to require high performance of the fastening and locking.
- **Self-clinching nuts in thin sheets**
The nuts are characterized by a more compact design, and can be used closer to the edge of the sheet.

PT-S / PT-CLS

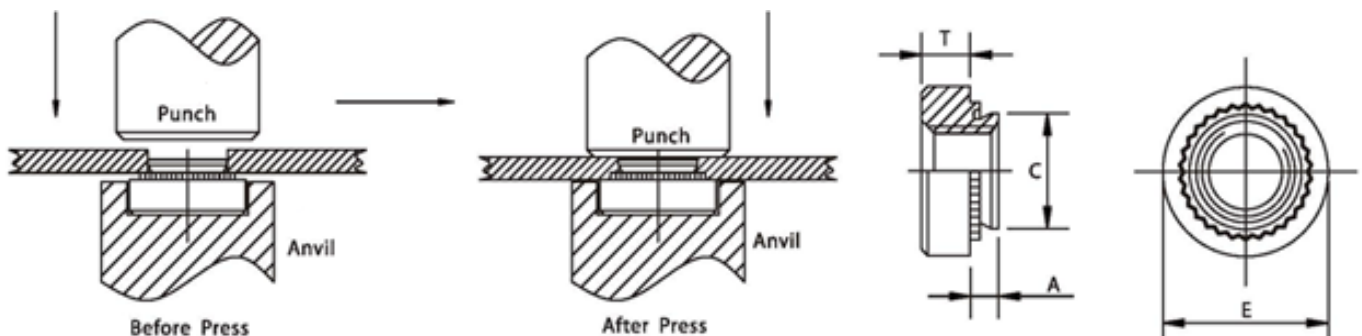
CARBON AND STAINLESS SELF-CLINCHING NUTS



All dimensions are in millimeters

THREAD SIZE X PITCH	TYPE		THREAD CODE	SHANK CODE	A MAX	MIN SHEET THICKNESS	HOLE SIZE IN SHEET +.080 -.000	C MAX	E ±0.25	T ±0.25	MIN DIST HOLE C/L TO EDGE
	CARBON STEEL	STAINLESS STEEL									
M2 X 0.4	PT-S	PT-CLS	M2	0	0.77	0.8 - 1	4.25	4.22	6.30	1.5	4.8
				1	0.97	1					
				2	1.38	1.4					
M2.5 X 0.45	PT-S	PT-CLS	M2.5	0	0.77	0.8 - 1	4.25	4.22	6.30	1.5	4.8
				1	0.97	1					
				2	1.38	1.4					
M3 X 0.5	PT-S	PT-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	PT-S	PT-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	PT-S	PT-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	PT-S	PT-CLS	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	PT-S	PT-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	PT-S	PT-CLS	M8	1	1.38	1.4	10.5	10.5	12.65	5.47	9.7
				2	2.21	2.3					
M10 X 1.5	PT-S	PT-CLS	M10	1	2.21	2.31	14	14	17.35	7.48	13.5
				2	3.05	3.18					

INSTALLATION



PT-SP

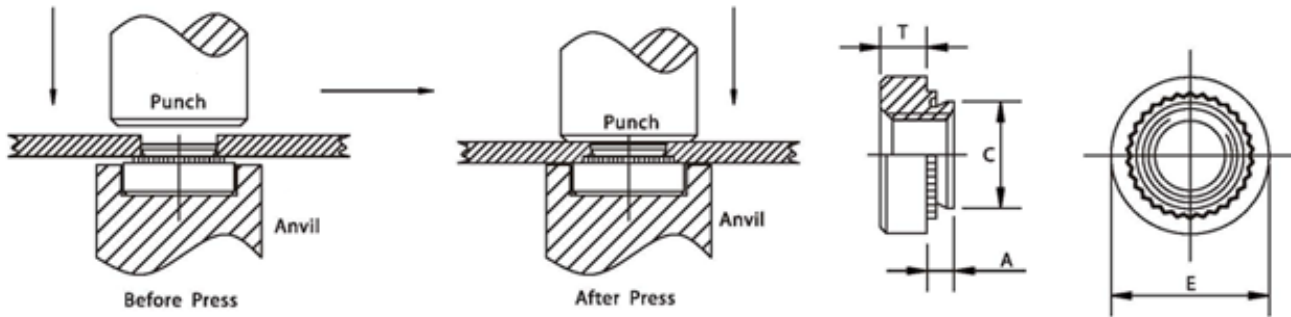
HARDENED STAINLESS STEEL SELF-CLINCHING NUTS



All dimensions are in millimeters

THREAD SIZE X PITCH	HARDENING GRADE STAINLESS STEEL	THREAD CODE	SHANK CODE	A MAX	MIN SHEET THICKNESS	HOLE SIZE IN SHEET +.080 - .000	C MAX	E ±0.25	T ±0.25	MIN DIST HOLE C/L TO EDGE
M3 X 0.5	PT-SP	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					
M4 X 0.7	PT-SP	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	PT-SP	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	PT-SP	M6	0	0.89	0.92	8.75	8.72	11.1	4.08	8.6
			0	1.15	1.2					
			1	1.38	1.4					
			2	2.21	2.3					

INSTALLATION



PT-SL

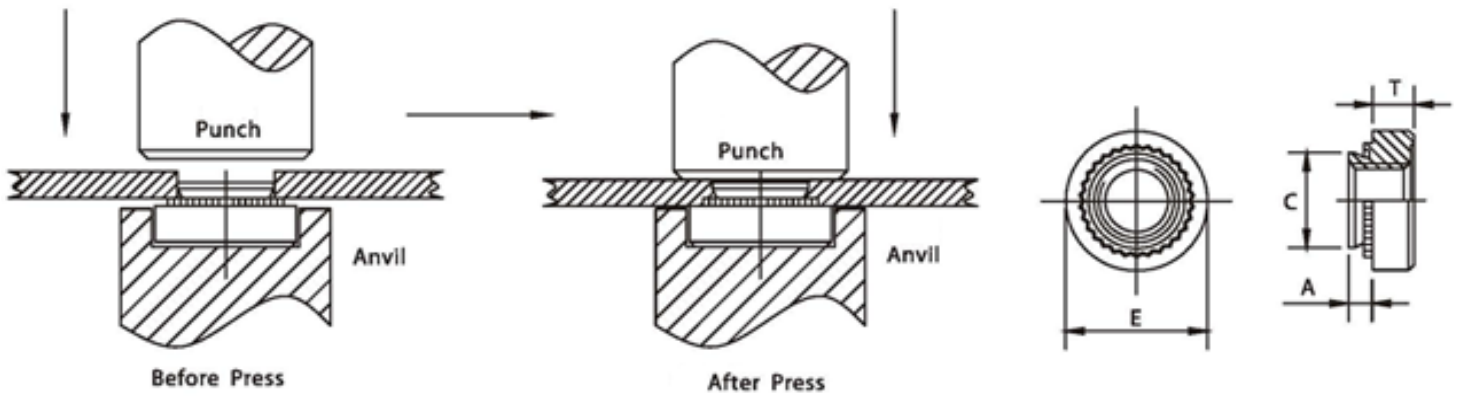
3 CYCLE SELF-CLINCHING LOCKNUTS



All dimensions are in millimeters

THREAD SIZE X PITCH	TYPE	THREAD CODE	SHANK CODE	A MAX	MIN SHEET THICKNESS	HOLE SIZE IN SHEET +.080 - .000	C MAX	E ±0.25	T ±0.25	MIN DIST HOLE C/L TO EDGE
M3 X 0.5	PT-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	PT-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	PT-SL	M4	1	0.98	1	5.4	5.38	7.9	2	6.9
			2	1.38	1.4					
M5 X 0.8	PT-SL	M5	1	0.98	1	6.4	6.38	8.7	2	7.1
			2	1.38	1.4					
M6 X 1	PT-SL	M6	1	1.38	1.4	8.75	8.72	11.05	4.08	8.6
			2	2.21	2.3					

INSTALLATION



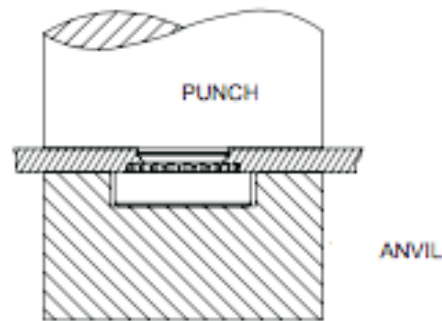
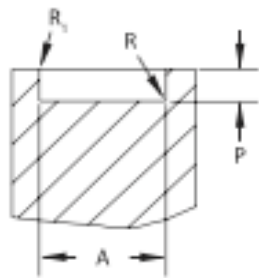
INSTALLATION

TYPE PT-S / SL / CLS

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

METRIC				
THREAD CODE	A	P	R	R1
	0.05	-0.03	MAX	+0.13
M3	6.48	1.63	0.25	0.13
M3.5	7.26	1.63	0.25	0.13
M4	8.05	2.08	0.25	0.13
M5	8.84	2.08	0.25	0.13
M6	11.25	4.14	0.25	0.13
M8	12.83	5.41	0.25	0.13
M10	17.58	7.46	0.25	0.13

UNFIED				
THREAD CODE	A	P +.000	R	R1
	0.002	-.001	MAX	+0.05
440	.255	.064	.010	.005
632	.286	.064	.010	.005
832	.317	.082	.010	.005
032	.348	.082	.010	.005
0420	.443	.163	.010	.005
0518	.505	.230	.010	.005
0616	.570	.263	.010	.005



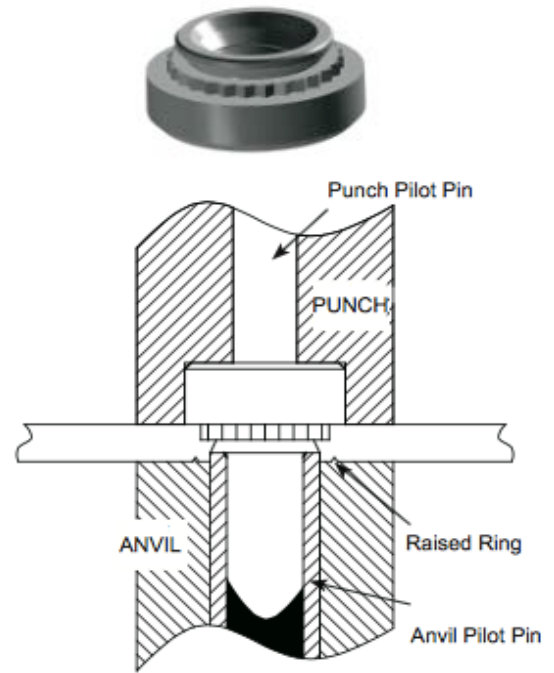
To meet the published performance data, we recommend using the installation punch and anvil shown. Deviations from recommended installation tooling may result in sheet distortion and reduced performance.

NOTE: Variations in hole preparation, installation tooling, installation force, and sheet material type, thickness, and hardness will affect both performance and tooling life.

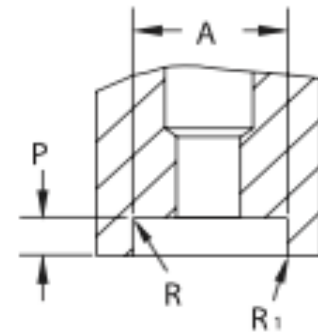
INSTALLATION TYPE PT-SP

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 proper installation.

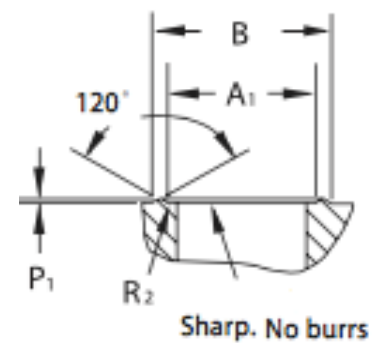
1. Prepare properly sized mounting hole in sheet. Do not perform any secondary operation such as deburring.
2. Place sheet on raised ring anvil.
3. Place fastener in hole.
4. With punch and anvil surfaces parallel, apply squeezing force until the head of the nut comes into contact with the sheet material.



METRIC				
THREAD CODE	A	P	R	R1
M3	0.05	-0.03	MAX	+0.13
M3.5	6.48	1.42	0.25	0.13
M4	7.26	1.42	0.25	0.13
M5	8.05	1.93	0.25	0.13
M6	8.84	1.93	0.25	0.13
M6	-	-	-	-



METRIC				
THREAD CODE	A1	B	P1	R2
M3	0.05	Nom.	+0.03	MAX
M3	5.05	6.63	0.23	0.08
M3.5	5.54	7.11	0.23	0.08
M4	6.17	7.75	0.23	0.08
M5	7.34	7.75	0.23	0.08
M6	-	-	-	-



- (1) To meet the published performance data, we recommend using the installation punch and anvil shown. Deviations from recommended installation tooling may result in sheet distortion and reduced performance.
- (2) We recommend replacing installation anvil when the height of the "P1" dimension is reduced to 0.13 mm due to wear. Reductions in performance may occur as the height of the protrusion wears.
- (3) Special installation tooling for #0420 and M6 thread sizes is not required.

NOTE: Variations in hole preparation, installation tooling, installation force, and sheet metal type, thickness, and hardness will affect both performance and tooling life.

PERFORMANCE DATA TYPE PT-S / CLS

All dimensions are in millimeters

PRODUCT TYPE	THREAD CODE	SHANK CODE	TESTING THE INSTALLATION PLATE	INSTALLATION (KN)	PUSHOUT (N)	TORQUE (N-M)
PT-S PT-CLS	M2	0	5052-H34 ALUMINIUM	6.7 - 8.9	280	0.9
	M2.5	1			400	1.13
	M3	2			750	1.47
PT-S PT-CLS	M2	0	COLDROLLED STEEL	11.2 - 15.6	470	1.47
	M2.5	1			550	1.7
	M3	2			1010	2.03
PT-S PT-CLS	M3.5	0	5052-H34 ALUMINIUM	11.2 - 13.5	280	1.8
		1			400	1.92
		2			840	2.5
PT-S PT-CLS	M3.5	0	COLDROLLED STEEL	13.4 - 26.7	480	1.8
		1			570	2.3
		2			1210	2.3
PT-S PT-CLS	M4	0	5052-H34 ALUMINIUM	11.2 - 13.7	300	2.37
		1			470	2.6
		2			970	4
PT-S PT-CLS	M4	0	COLDROLLED STEEL	18 - 27	490	2.95
		1			645	4
		2			1250	5.1
PT-S PT-CLS	M5	0	5052-H34 ALUMINIUM	11.2 - 15.6	300	3
		1			480	3.6
		2			845	5.7
PT-S PT-CLS	M5	0	COLDROLLED STEEL	18 - 38	530	3.6
		1			800	4.5
		2			1112	6.8
PT-S PT-CLS	M6	00	5052-H34 ALUMINIUM	18 - 32	750	6.5
		0			970	7.9
		1			1580	10.2
		2			1580	14.1
PT-S PT-CLS	M6	00	COLDROLLED STEEL	27 - 36	900	10
		0			1380	13
		1			1760	17
		2			1760	17
PT-S PT-CLS	M8	1	5052-H34 ALUMINIUM	18 - 32	1570	13.6
		2			1570	18.1
PT-S PT-CLS	M8	1	COLDROLLED STEEL	27 - 36	1870	18.7
		2			1870	20.3
PT-S PT-CLS	M10	1	5052-H34 ALUMINIUM	22 - 36	1760	32.7
		2			1760	32.7
PT-S PT-CLS	M10	1	COLDROLLED STEEL	32 - 50	2020	36.2
		2			2020	36.2

PERFORMANCE DATA

TYPE PT-SL

All dimensions are in millimeters

PRODUCT TYPE	THREAD CODE	SHANK CODE	MAX (N-M)	MIN (N-M)	ALUMINIUM			COLD ROLLED STEEL		
					INSTALLATION (KN)	PUSHOUT (N)	TORQUE (N-M)	INSTALLATION (KN)	PUSHOUT (N)	TORQUE (N-M)
PT-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
PT-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
PT-SL	M4	1	2.1	0.13	11.2 - 13.4	470	2.6	18 - 27	645	4
		2				970	4		1250	5.1
PT-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
PT-SL	M6	1	4	0.30	18 - 32	1580	10.2	27 - 38	1760	17
		2				1580	14.1		1760	17

TYPE PT-SP

All dimensions are in millimeters

PRODUCT TYPE	THREAD CODE	SHANK CODE	TESTING THE INSTALLATION PLATE	INSTALLATION (KN)	PUSHOUT (N)	TORQUE (N-M)
PT-SP	M3	0	STAINLESS STEEL	35.6	575	1.58
		1		40	725	1.92
		2		44.5	1290	2.03
PT-SP	M4	0	STAINLESS STEEL	40	645	3.38
		1		44.5	800	4.18
		2		49	1600	5.08
PT-SP	M5	0	STAINLESS STEEL	42.3	800	3.95
		1		46.7	1025	5.08
		2		51.2	1775	6.77
PT-SP	M6	1	STAINLESS STEEL	60	2000	17

NOTE: The values reported are averages when all installation specifications and procedures are followed. Variations in mounting hole size, sheet material, and installation procedure will affect results. Performance testing of this product in your application is recommended.



Punchtech Australia Pty Ltd
3/17 Swift Way, Dandenong South, Victoria
Tel: 03 9768 3745
Email: info@punchtech.com.au
www.punchtech.com.au