PunchTech
AUSTRALIA

Self-Clinching Flush Fasteners

SELF-CLINCHING FLUSH FASTENERS

Self-clinching flush nuts are designed to be completely flush in sheets as thin as 1.5mm.

These fasteners are ideal for applications where a thin sheet requires load-bearing threads but still must remain smooth, with no protrusions on either surface. The flush nut can be installed easily by squeezing it into a round hole in metal sheets. When the fastener is installed, both the top and the bottom of the sheet remain smooth, enhancing the functional and cosmetic qualities of the entire assembly. Self-clinching flush nuts can be installed in metal sheets before bending and forming. This can provide strong threads in places which would be inaccessible for installation after chassis are formed.

The hexagonal head along with the proven self-clinching design ensures high axial and tensional strength.

To meet national aerospace standards and to obtain testing documentation, product must be ordered to NASM45938/4 specifications.

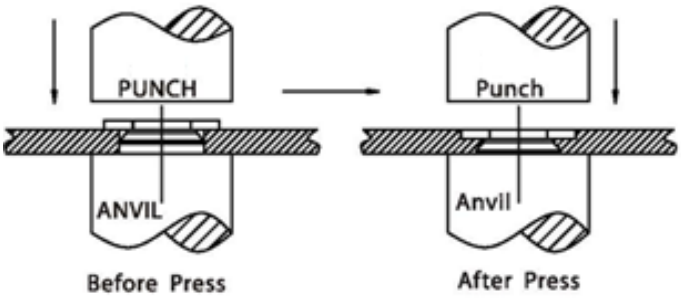
PT-F

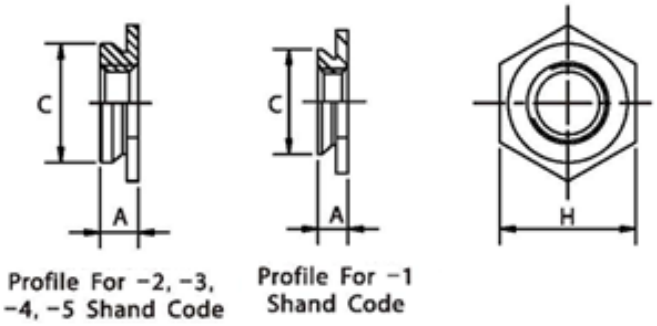
SELF-CLINCHING FLUSH FASTENERS

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	NOM	MIN DIST HOLE C/L TO EDGE
M2 X 0.4	PT-F	M2	1	1.53	1.53 - 2.3	4.37	4.35	4.8	6
			2	2.3	≥2.32				
M2.5 X 0.45	PT-F	M2.5	1	1.53	1.53 - 2.3	4.37	4.35	4.8	6
			2	2.3	≥2.32				
M3 X 0.5	PT-F	M3	1	1.53	1.53 - 2.3	4.37	4.35	4.8	6
			2	2.3	≥2.32				
M4 X 0.7	PT-F	M4	1	1.53	1.53 - 2.3	7.37	7.35	7.9	7.2
			2	2.3	≥2.32				
M5 X 0.8	PT-F	M5	1	1.53	1.53 - 2.3	7.92	7.9	8.7	8
			2	2.3	≥2.32				
M6 X 1	PT-F	M6	3	3.05	3.18 - 3.94	8.74	8.72	9.5	8.8
			4	3.84	3.96 - 4.72				
			5	4.63	≥4.75				

INSTALLATION



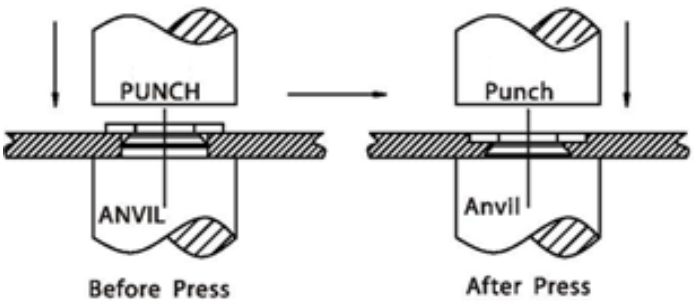


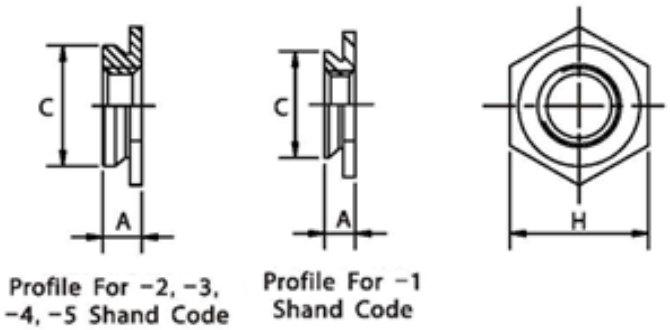
PT-F4

SELF-CLINCHING FLUSH FASTENERS

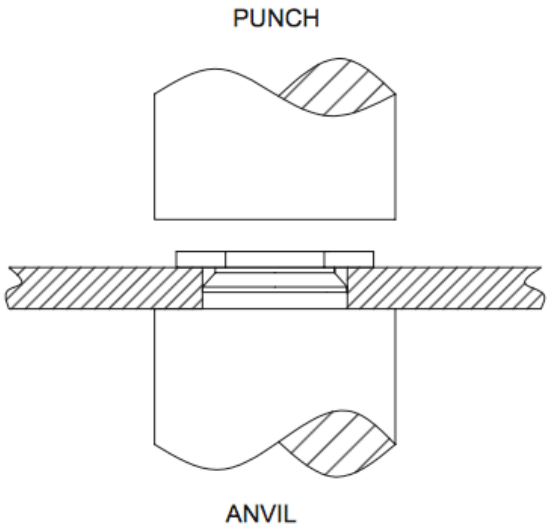
THREAD SIZE X PITCH	TYPE	THREAD CODE	SHANK CODE	A MAX	MIN SHEET THICKNESS	HOLE SIZE IN SHEET +.080 -.000	C MAX	NOM	MIN DIST HOLE C/L TO EDGE
M3 X 0.5	PT-F4	M3	1	1.5	1.5	4.37	4.35	4.75	6
			2	2.3	2.3				
M4 X 0.7	PT-F4	M4	1	1.5	1.5	7.37	7.35	7.9	7.2
			2	2.3	2.3				
M5 X 0.8	PT-F4	M5	1	1.5	1.5	7.92	7.9	8.7	8
			2	2.3	2.3				
			3	3.0	3.2				
M6 X 1	PT-F4	M6	3	3	3.2	8.74	8.72	9.5	8.8
			4	3.85	4.0				
			5	4.85	5.0				

INSTALLATION





INSTALLATION TYPES PT-F / F4



1. Prepare properly sized round mounting hole in sheet. Do not perform any secondary operations such as deburring.

2. Place shank of fastener into mounting hole (preferably the punch side).

3. With punch and anvil surfaces parallel, apply sufficient squeezing force only to embed hexagonal head flush in sheet. The metal dispalced by the head flows evenly and smoothly around the back-tapered shank of the fastener, securely locking it into place with high pullout resistance while at the same time, the embedded hexagonal head provides high torque resistance.

PERFORMANCE DATA

TYPE PT-F

	THREAD CODE	SHANK CODE	AXIAL TENSILE STRENGTH	MAX. SCREW TIGHTENING TORQUE (N-M)	TEST SHEET MATERIAL			
					ALUMINIUM		COLD ROLLED STEEL	
					INSTALLATION (KN)	PUSHOUT (N)	INSTALLATION (KN)	PUSHOUT (N)
METRIC	M2	1	0.57	0.16	8.9	890	13.3	890
		2						
	M2.5	1	0.68	0.23	8.9	890	13.3	890
		2						
	M3	1	0.85	0.36	8.9	890	13.3	890
		2						
	M4	1	1	0.58	8.9	1068	17.8	1068
		2						
	M5	1	1.3	0.88	11.1	1068	17.8	1068
		2						
	M6	3	4.5	3.7	15.6	2847	20	3736
		4						
		5						

TYPE PT-F4

	THREAD CODE	SHANK CODE	300 SERIES STAINLESS STEEL			MAX. SCREW TIGHTENING TORQUE (N-M)
			INSTALLATION (KN)	PUSHOUT (N)	AXIAL TENSILE STRENGTH (N-M)	
METRIC	M3	1	18	1020	0.92	0.35
		2				
	M4	1	29	1580	1.1	0.6
		2				
	M5	1	32	2350	1.41	0.9
		2				
		3			1.46	
	M6	3	40	3810	4.55	3.8
		4			4.63	
		5			4.77	

1. The values reported are averages when all installation specofocations 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.
2. Head of the F nut may bend and /or fail if screw is over-torque beyond these values.

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