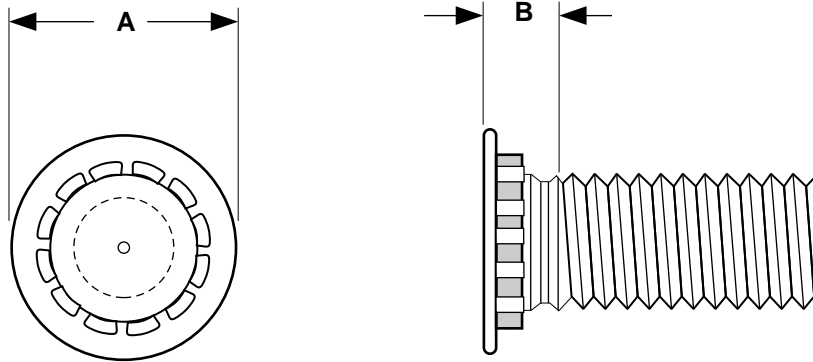


Self-Clinch Studs

12-Rib Style

Flush Head



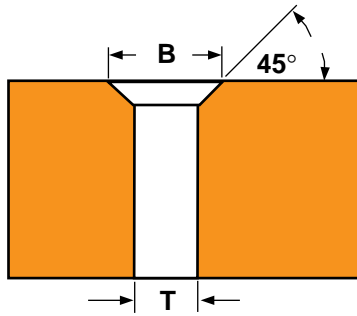
STEEL SELF-CLINCHING STUDS - 12-RIB STYLE WITH ANNULAR GROOVE									Crescent Manufacturing
Thread Size	A		B	Minimum Sheet Thickness	Hole in Sheet (+.003, -.000)	Distance to Center of Hole in Panel	Push-Out (lbs.)	Torque-Out (In.-lbs.)	Estimate of Installation Force in Steel (lbs.)
	Head Diameter		Unthreaded Length						Tons Approx
	Max	Min	Max			Min	#4 thru #10 diam based on .060 steel plates. 1/4 & 5/16 diam based on .088 steel plates.		
4-40	.204	.172	.085	.040	.111	.22	280	11	2
6-32	.219	.187	.090	.040	.137	.25	350	30	2.5
8-32	.250	.218	.090	.040	.163	.28	400	65	3
10-24	.266	.234	.100	.040	.189	.28	500	100	3.25
10-32	.266	.234	.100	.040	.189	.28	500	100	3.5
1/4-20	.344	.312	.135	.062	.249	.31	700	120	4.75
5/16-18	.391	.361	.160	.093	.311	.38	850	200	5
Tolerance on Length				±.015					

Description	A fastener with unified thread pitch and a cylindrical, low profile head with small, rectangular ribs protruding from the underside of the head. The top of the head is flat and is flush with the mating surface when installation is complete. Below the ribs and above the first thread is an annular groove which helps to hold the fastener in position.
Applications/ Advantages	Intended for metal panel-to-panel applications and well-suited for use in printed circuit boards. A hole is pierced into the circuit board and the unit it is attached to. The stud is inserted using a hand press or by hand, applying parallel squeezing forces. A hex nut is twisted onto the stud, securing it from the back. As the nut is tightened, the ribbed stud head grips the front panel to secure the application from the front as well, eliminating the need for welding. As the application force is applied, part of the sheet cold flows into an undercut under the head, making the fastener an integral part of the sheet.
Material	Low carbon steel
Heat Treatment	Clinch studs shall be case hardened, oil quenched and tempered.
Case Hardness	Rockwell C 45 minimum
Core Hardness	Rockwell C 29 - 38
Plating	See Appendix-A for plating information.

Flush Head

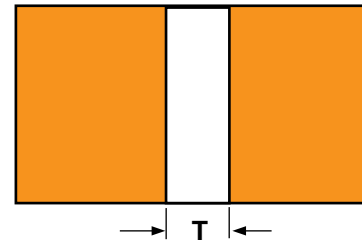
12-Rib Style

Self-Clinch Studs



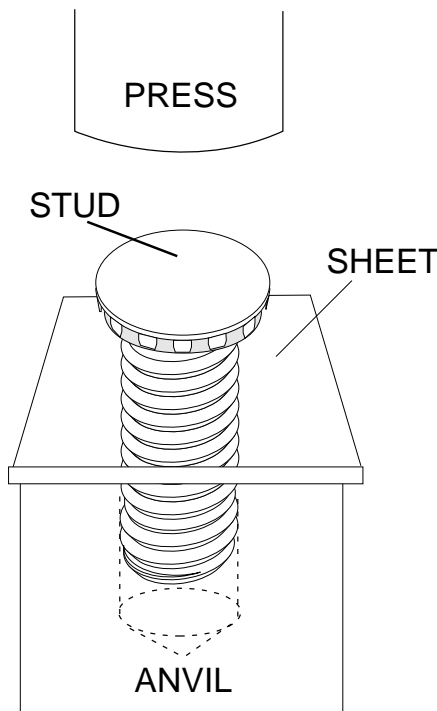
THIN SHEET ANVIL

Intended for panels less than 0.060" in thickness, with #4 thru #10 thread sizes, inclusive. Also, for panels less than 0.093" in thickness with 1/4" thread size.



THICK SHEET ANVIL

Intended for panels 0.060" and greater in thickness, with #4 thru #10 thread sizes, inclusive. Also, for panels 0.093" and greater in thickness with 1/4" thread size.



ANVIL DIMENSIONS		
Thread Size	Anvil	
	B	T
4-40	0.136	0.113
	0.140	0.116
6-32	0.162	0.139
	0.166	0.142
8-32	0.188	0.165
	0.192	0.168
10-24 & 10-32	0.216	0.191
	0.220	0.194
1/4-20	0.295	0.250
	0.300	0.253
5/16-18	—	0.3125
	—	0.3155

Notes on Installation: Apply only sufficient squeezing pressure to embed head of stud flush with panel. Do not use more pressure than necessary. Amount of pressure varies with panel material and size of stud. Studs install flush in sheets .040" or thicker but will project up to .020" in thinner sheets.

FLUSH HEAD CLINCH STUD - PART NUMBER COMPARISON					
Size	PEM® Part Number	Size	PEM® Part Number	Size	PEM® Part Number
4-40 x 1/4	FH440-4	8-32 x 1/4	FH832-4	10-32 x 3/8	FH032-6
4-40 x 5/16	FH440-5	8-32 x 5/16	FH832-5	10-32 x 1/2	FH032-8
4-40 x 3/8	FH440-6	8-32 x 3/8	FH832-6	10-32 x 5/8	FH032-10
4-40 x 1/2	FH440-8	8-32 x 1/2	FH832-8	10-32 x 3/4	FH032-12
4-40 x 5/8	FH440-10	8-32 x 5/8	FH832-10	10-32 x 7/8	FH032-14
4-40 x 3/4	FH440-12	8-32 x 3/4	FH832-12	10-32 x 1	FH032-16
6-32 x 1/4	FH632-4	8-32 x 7/8	FH832-14	10-32 x 1 1/4	FH032-20
6-32 x 5/16	FH632-5	8-32 x 1	FH832-16	10-32 x 1 1/2	FH032-24
6-32 x 3/8	FH632-6	8-32 x 1 1/4	FH832-20	1/4-20 x 1/2	FH0420-8
6-32 x 1/2	FH632-8	10-24 x 3/8	FH024-6	1/4-20 x 5/8	FH0420-10
6-32 x 5/8	FH632-10	10-24 x 1/2	FH024-8	1/4-20 x 3/4	FH0420-12
6-32 x 3/4	FH632-12	10-24 x 5/8	FH024-10	1/4-20 x 7/8	FH0420-14
6-32 x 7/8	FH632-14	10-24 x 3/4	FH024-12	1/4-20 x 1	FH0420-16
6-32 x 1	FH632-16	10-24 x 7/8	FH024-14	1/4-20 x 1 1/4	FH0420-20
6-32 x 1 1/4	FH632-20	10-24 x 1	FH024-16	1/4-20 x 1 1/2	FH0420-24
		10-24 x 1 1/4	FH024-20		
		10-24 x 1 1/2	FH024-24		