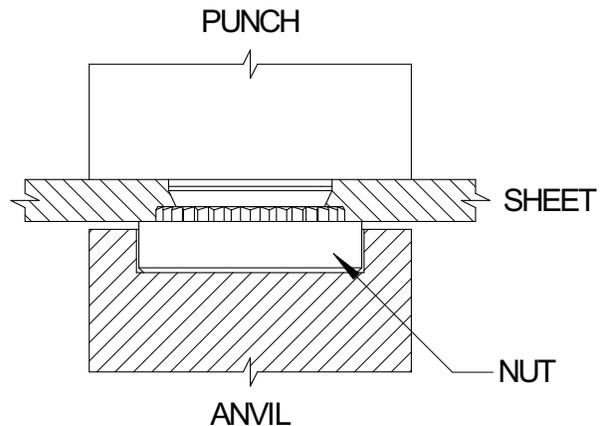


## Installation of Pencom Carbon Steel Self-Clinching Nuts

Pencom’s carbon steel self-clinching nuts provide reusable, robust threads in thin carbon steel or aluminum sheets. Carbon steel self-clinching nuts are made by cutting steel bars on a lathe or by cold-forming then heat-treating and plating. The steel used in the two processes are slightly different and not heat-treated the same. Pencom chooses to manufacture their nuts by lathe turning. Cold-formed nuts are heat-treated uniform throughout. Lathe-turned nuts are heat-treated to a higher degree on the surface but remain ductile inside. A process called case-hardening.

Carbon steel nuts should be installed in sheets with hardness HRB 80 or less according to the outlined steps.

1. Punch or drill hole in sheet away from bends or edges.
2. Place self-clinching nut in the anvil hole and locate the sheet mounting hole over the shank of the fastener as shown in FIG. 1.
3. Starting with the minimum installation load shown in TABLE 1, squeeze the sheet and nut between parallel punch and anvil surfaces. If the bearing surface of the nut does not become flush with the sheet, slightly increase the load and squeeze again. Continue this procedure until the nut becomes flush with the sheet. Use this load for subsequent installations.



**FIG. 1**

Load applied beyond that which is required to seat the nut flush is unnecessary and may cause some distortion in the nut affecting the threads.

**TABLE 1**

Thread	Minimum Installation Load (lbs.)
4-40	1875
6-32	2250
8-32, 10-24 or 10-32	3000
12-24, 1/4-20, 5/16-18 or 5/16-24	4500
3/8-16 or 3/8-24	5250
1/2-13 or 1/2-20	7500

Thread	Minimum Installation Load (kN)
M2, M2.5 or M3	8.4
M3.5	10.0
M4 or M5	13.5
M6 or M8	20.3
M10	24.0

Millions of Pencom self-clinching nuts provide trouble-free installation and performance everyday. Please contact your Pencom Sales Representative with any questions.