






-  **BLIND**
-  **SELF-CLINCHING**
-  **FASTENERS**

# BULLETIN



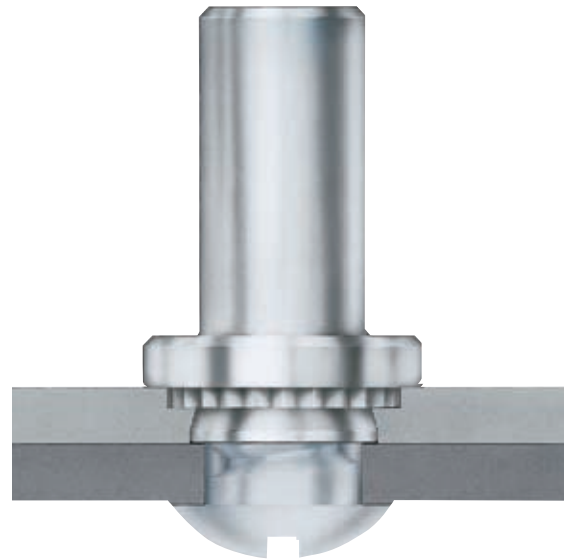
# SELF-CLINCHING BLIND FASTENERS

PEM® brand self-clinching blind fasteners provide permanently mounted blind threads in metal sheets as thin as .040" / 1 mm.

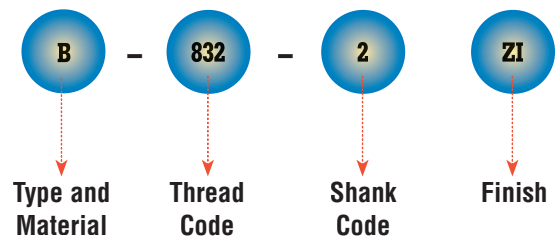
- Provides barrier to protect threads against foreign matter.
- Protects circuits from intrusion of extra long screws.

PEM blind fasteners employ the proved PEM self-clinching design and are easily installed in drilled or punched holes. Shanks of PEM fasteners act as their own pilots. PEM blind fasteners can be installed with any standard press applying squeezing forces between parallel surfaces. Installation is inexpensive and requires no previous skills or experience.

PEM self-clinching blind fasteners are available in thread sizes from #4-40 through 1/4-20 / M3 through M6 in carbon or stainless steel. PEM blind fasteners in each thread size are available in two different shank lengths to meet the specifications of design engineers who want panel holes refilled as much as possible.

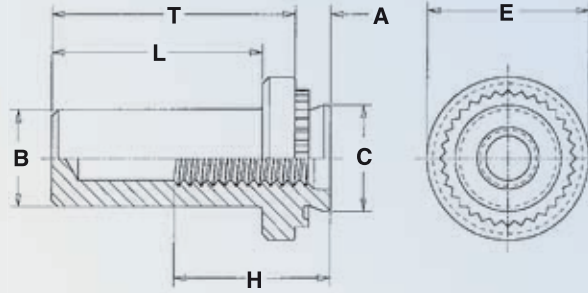


## Part Number Designation





Metric parts are identified by large chamfer at blind end.



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 | Barrel Diameter B Max. | Shank Diameter C Max. | E ± .010 | Min. Depth Full Threads H | L Max. | T ± .010 | Min. Dist. Hole C/L to Edge |
|---------|------------------|-------------------|-----------------|-------------|------------|----------------|----------------------|----------------------------------|------------------------|-----------------------|----------|---------------------------|--------|----------|-----------------------------|
|         |                  | Fastener Material |                 |             |            |                |                      |                                  |                        |                       |          |                           |        |          |                             |
|         |                  | Steel             | Stainless Steel |             |            |                |                      |                                  |                        |                       |          |                           |        |          |                             |
|         | .112-40 (#4-40)  | B <sup>NS</sup>   | BS              | 440         | 1          | .038           | .040                 | .166                             | .150                   | .165                  | .25      | .21                       | .335   | .38      | .19                         |
|         |                  |                   |                 |             | 2          | .054           | .056                 |                                  |                        |                       |          |                           |        |          |                             |
|         | .138-32 (#6-32)  | B                 | BS              | 632         | 1          | .038           | .040                 | .1875                            | .169                   | .187                  | .28      | .23                       | .335   | .38      | .22                         |
|         |                  |                   |                 |             | 2          | .054           | .056                 |                                  |                        |                       |          |                           |        |          |                             |
|         | .164-32 (#8-32)  | B                 | BS              | 832         | 1          | .038           | .040                 | .213                             | .204                   | .212                  | .31      | .28                       | .385   | .44      | .27                         |
|         |                  |                   |                 |             | 2          | .054           | .056                 |                                  |                        |                       |          |                           |        |          |                             |
|         | .190-32 (#10-32) | B                 | BS              | 032         | 1          | .038           | .040                 | .250                             | .235                   | .249                  | .34      | .28                       | .385   | .44      | .28                         |
|         |                  |                   |                 |             | 2          | .054           | .056                 |                                  |                        |                       |          |                           |        |          |                             |
|         | .250-20 (1/4-20) | B                 | BS              | 0420        | 1          | .054           | .056                 | .344                             | .305                   | .343                  | .43      | .31                       | .500   | .56      | .34                         |
|         |                  |                   |                 |             | 2          | .087           | .090                 |                                  |                        |                       |          |                           |        |          |                             |

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 | Barrel Diameter B Max. | Shank Diameter C Max. | E ± 0.25 | Min. Depth Full Threads H | L Max. | T ± 0.25 | Min. Dist. Hole C/L to Edge |
|--------|---------------------|-------------------|-----------------|------------------|------------|----------------|----------------------|---------------------------|------------------------|-----------------------|----------|---------------------------|--------|----------|-----------------------------|
|        |                     | Fastener Material |                 |                  |            |                |                      |                           |                        |                       |          |                           |        |          |                             |
|        |                     | Steel             | Stainless Steel |                  |            |                |                      |                           |                        |                       |          |                           |        |          |                             |
|        | M3 x 0.5            | B                 | BS              | M3 <sup>NS</sup> | 1          | 0.97           | 1                    | 4.25                      | 3.84                   | 4.22                  | 6.35     | 5.3                       | 8.5    | 9.6      | 4.8                         |
|        |                     |                   |                 |                  | 2          | 1.38           | 1.4                  |                           |                        |                       |          |                           |        |          |                             |
|        | M4 x 0.7            | B                 | BS              | M4               | 1          | 0.97           | 1                    | 5.4                       | 5.2                    | 5.38                  | 7.95     | 7.1                       | 9.8    | 11.2     | 6.9                         |
|        |                     |                   |                 |                  | 2          | 1.38           | 1.4                  |                           |                        |                       |          |                           |        |          |                             |
|        | M5 x 0.8            | B                 | BS              | M5               | 1          | 0.97           | 1                    | 6.4                       | 6.02                   | 6.38                  | 8.75     | 7.1                       | 9.8    | 11.2     | 7.1                         |
|        |                     |                   |                 |                  | 2          | 1.38           | 1.4                  |                           |                        |                       |          |                           |        |          |                             |
|        | M6 x 1              | B                 | BS              | M6               | 1          | 1.38           | 1.4                  | 8.75                      | 7.8                    | 8.72                  | 11.1     | 7.8                       | 12.7   | 14.3     | 8.6                         |
|        |                     |                   |                 |                  | 2          | 2.21           | 2.3                  |                           |                        |                       |          |                           |        |          |                             |

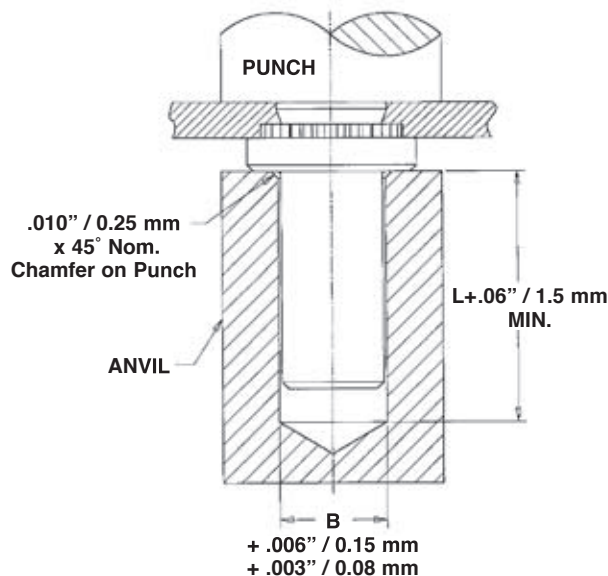
NS Not Stocked. Available on special order.

## MATERIAL & FINISH SPECIFICATIONS

| Type                          | Threads  | Fastener Materials        |                            | Standard Finishes                      |  | For Use in Sheet Hardness:           |                                      |
|-------------------------------|--|---------------------------|----------------------------|--|--|--------------------------------------|--------------------------------------|
|                               | Internal, ANSI B1.1, 2B / ANSI / ASME B1.13M, 6H | Heat-Treated Carbon Steel | 300 Series Stainless Steel | Passivated and/or Tested Per ASTM A380 | Zinc Per ASTM B 633 SC1 (5µm), Type III, Colorless | 80 or Less on the Rockwell "B" Scale | 70 or Less on the Rockwell "B" Scale |
| B                             | .  | .                         | .                          | .                                      | .  | .                                    | .                                    |
| BS                            | .  | .                         | .                          | .                                      | .  | .                                    | .                                    |
| Part Number Code For Finishes |  |                           |                            | None                                   | ZI   |                                      |                                      |

# INSTALLATION

1. Punch or drill properly sized mounting hole in the sheet. Do not perform any secondary operations such as deburring.
2. Place the barrel of the fastener into the anvil hole and place the mounting hole over the shank of the fastener.
3. With the punch and anvil surfaces parallel, apply squeezing force until the flange contacts the mounting sheet. Examples of installation forces are shown below. The sketch at the right indicates suggested tooling for applying these forces.



**PEMSERTER® PRESSES**  
 For best results we recommend using a PEMSERTER® press for installation of PEM Type B and BS fasteners. For more information on our line of presses call 1-800-523-5321 or check our web site.

## PERFORMANCE DATA<sup>(1)</sup>

| UNIFIED | Thread Code | Shank Code | Sheet Thickness (in.) | Test Sheet Material         |                     |                            |                             |                     |                            |
|---------|-------------|------------|-----------------------|-----------------------------|---------------------|----------------------------|-----------------------------|---------------------|----------------------------|
|         |             |            |                       | 5052-H34 Aluminum           |                     |                            | Cold-Rolled Steel           |                     |                            |
|         |             |            |                       | Installation (lbs.) Approx. | Pushout (lbs.) Min. | Torque-out (in. lbs.) Min. | Installation (lbs.) Approx. | Pushout (lbs.) Min. | Torque-out (in. lbs.) Min. |
| 440     | 1           | .040       | 1600                  | 100                         | 12                  | 2500                       | 125                         | 13                  |                            |
|         |             |            | 2000                  | 170                         | 13                  | 3500                       | 230                         | 18                  |                            |
| 632     | 1           | .040       | 1800                  | 105                         | 17                  | 3000                       | 130                         | 18                  |                            |
|         |             |            | 2800                  | 190                         | 22                  | 4000                       | 260                         | 28                  |                            |
| 832     | 1           | .040       | 2000                  | 110                         | 25                  | 3500                       | 135                         | 30                  |                            |
|         |             |            | 3000                  | 220                         | 35                  | 5000                       | 285                         | 45                  |                            |
| 032     | 1           | .040       | 2100                  | 110                         | 34                  | 4000                       | 140                         | 35                  |                            |
|         |             |            | 3500                  | 270                         | 50                  | 5000                       | 320                         | 60                  |                            |
| 0420    | 1           | .056       | 4000                  | 315                         | 100                 | 6000                       | 400                         | 105                 |                            |
|         |             |            |                       |                             |                     |                            |                             |                     | 2                          |

| METRIC | Thread Code | Shank Code | Sheet Thickness (mm) | Test Sheet Material       |                  |                       |                           |                  |                       |
|--------|-------------|------------|----------------------|---------------------------|------------------|-----------------------|---------------------------|------------------|-----------------------|
|        |             |            |                      | 5052-H34 Aluminum         |                  |                       | Cold-Rolled Steel         |                  |                       |
|        |             |            |                      | Installation (kN) Approx. | Pushout (N) Min. | Torque-out (N•m) Min. | Installation (kN) Approx. | Pushout (N) Min. | Torque-out (N•m) Min. |
| M3     | 1           | 1          | 7.1                  | 440                       | 1.4              | 11.1                  | 560                       | 1.5              |                       |
|        |             |            | 9                    | 750                       | 1.47             | 14                    | 1010                      | 2.13             |                       |
| M4     | 1           | 1          | 8.9                  | 490                       | 2.8              | 15.6                  | 600                       | 3.4              |                       |
|        |             |            | 12.5                 | 970                       | 4                | 20                    | 1250                      | 5.1              |                       |
| M5     | 1           | 1          | 9.3                  | 490                       | 3.8              | 17.8                  | 620                       | 4                |                       |
|        |             |            | 14                   | 1190                      | 5.7              | 25                    | 1410                      | 6.8              |                       |
| M6     | 1           | 1.4        | 17.8                 | 1400                      | 11.3             | 25.7                  | 1780                      | 11.9             |                       |
|        |             |            |                      |                           |                  |                       |                           |                  | 2                     |

(1) The installation, pushout and torque-out values reported are averages when all installation specifications and procedures are followed. Variations in mounting hole size, sheet material and installation procedure will affect this data. Performance testing of this product in your application is recommended. We will be happy to provide samples for this purpose.

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®**



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