

PEM[®] Type MSO4[™] Self-clinching microPEM[®] Standoffs

PEM Type MSO4 self-clinching microPEM standoffs are used to space internal components and provide strong, permanent, and reusable load-bearing threads in metal sheets as thin as .016" / 0.4mm. Smallest standoff size includes 2mm length with M1 threads. Other metric and unified sizes are also offered.

NEW!

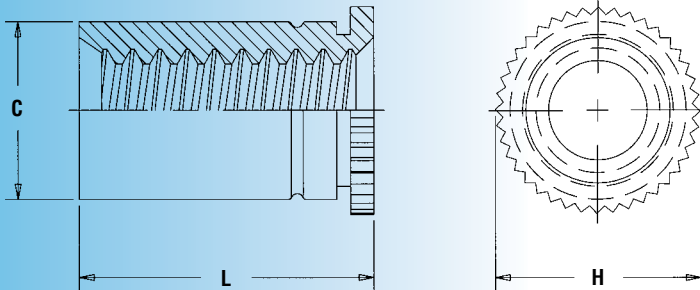


micro **PEM**[®]
FASTENERS



Features and Benefits

- Become integral parts of an assembly by clinching permanently in place.
- Will not loosen or fall out.
- Can be installed into stainless steel sheets.
- Can be installed automatically.
- RoHS compliant.



All dimensions are in inches.

| UNIFIED | Thread Size | Type | Thread Code | Length Code | Min. Sheet Thickness* | Hole Size In Sheet +.002 - .000 | C Max. | H Nom. | L +.002 - .003 | Min. Dist. Hole \varnothing To Edge |
|---------|---------------------|-----------------|-------------|-------------|-----------------------|---------------------------------|--------|--------|----------------|---------------------------------------|
| | | Stainless Steel | | | | | | | | |
| | .060-80 (#0-80) (1) | MSO4 | 080 | 3 | .016 | .095 | .094 | .125 | .094 | .090 |
| | | | | 4 | | | | | .125 | |
| | .086-56 (#2-56) (1) | MSO4 | 256 | 3 | .016 | .125 | .124 | .156 | .094 | .120 |
| | | | | 4 | | | | | .125 | |

All dimensions are in millimeters.

| METRIC | Thread Size | Type | Thread Code | Length Code | Min. Sheet Thickness* | Hole Size In Sheet +0.05 | C Max. | H Nom. | L +0.05 - 0.08 | Min. Dist. Hole \varnothing To Edge |
|-----------------|-------------|-----------------|-------------|-------------|-----------------------|--------------------------|--------|--------|----------------|---------------------------------------|
| | | Stainless Steel | | | | | | | | |
| | S1 (2) | MSO4 | M1 | 2 | 0.4 | 2.41 | 2.39 | 3.18 | 2 | 2.3 |
| | | | | 3 | | | | | 3 | |
| | S1.2 (2) | MSO4 | M1.2 | 2 | 0.4 | 2.41 | 2.39 | 3.18 | 2 | 2.3 |
| | | | | 3 | | | | | 3 | |
| | S1.4 (2) | MSO4 | M1.4 | 2 | 0.4 | 2.41 | 2.39 | 3.18 | 2 | 2.3 |
| | | | | 3 | | | | | 3 | |
| M1.6 x 0.35 (3) | MSO4 | M1.6 | 2 | 0.4 | 2.41 | 2.39 | 3.18 | 2 | 2.3 | |
| | | | 3 | | | | | 3 | | |
| M2 x 0.4 (3) | MSO4 | M2 | 2 | 0.4 | 3.18 | 3.16 | 3.96 | 2 | 3 | |
| | | | 3 | | | | | 3 | | |

* For installation into thinner sheets, contact Tech Support at techsupport@pemnet.com.

MATERIAL AND FINISH SPECIFICATIONS

Fastener Material: 400 series stainless steel

Threads: (1) Unified ASME B1.1, 2B
(2) Miniature ISO 1501, 4H6
(3) Metric ASME B1.13M

Finish: Passivated and/or tested per ASTM A380

For Use In Sheet Hardness: HRB 88 / HB 176 or less (4)

PART NUMBER DESIGNATION

MSO 4 - 080 - 3
 ↓ ↓ ↓ ↓
 Type Material Code Thread Code Length Code

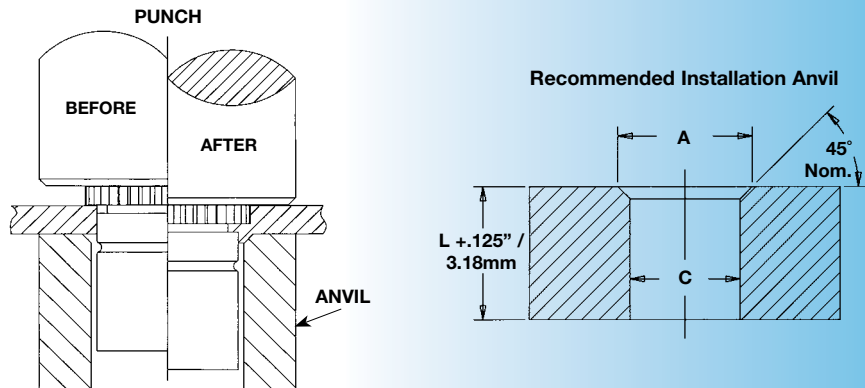
(4) HRB - Hardness Rockwell "B" Scale. HB - Hardness Brinell.

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INSTALLATION

1. Prepare properly sized mounting hole in sheet. Do not perform any secondary operations such as deburring.
2. Insert fastener through mounting hole (preferably the punch side) and into anvil as shown in drawing.
3. With punch and anvil surfaces parallel, apply only enough squeezing force to embed the standoff's head flush in the sheet.



| UNIFIED | Thread Code | Anvil Dimensions (inches) | | Anvil Part Number | Punch Part Number |
|---------|-------------|---------------------------|-------------|-------------------|-------------------|
| | | A | C | | |
| | 080 | .112 - .114 | .097 - .099 | 8015796 | 975200997 |
| 256 | .142 - .144 | .127 - .129 | 8015797 | 975200997 | |

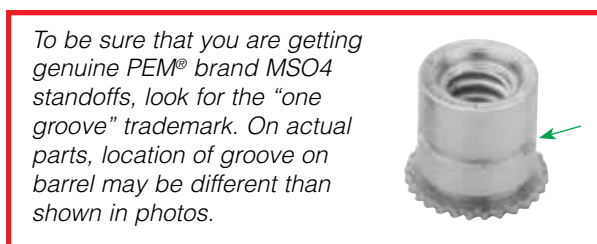
| METRIC | Thread Code | Anvil Dimensions (millimeters) | | Anvil Part Number | Punch Part Number |
|--------|-------------|--------------------------------|-------------|-------------------|-------------------|
| | | A | C | | |
| | M1 | 2.84 - 2.89 | 2.46 - 2.51 | 8015796 | 975200997 |
| M1.2 | 2.84 - 2.89 | 2.46 - 2.51 | 8015796 | 975200997 | |
| M1.4 | 2.84 - 2.89 | 2.46 - 2.51 | 8015796 | 975200997 | |
| M1.6 | 2.84 - 2.89 | 2.46 - 2.51 | 8015796 | 975200997 | |
| M2 | 3.6 - 3.65 | 3.22 - 3.27 | 8015797 | 975200997 | |

PERFORMANCE DATA⁽¹⁾

| UNIFIED | Thread Code | Max. Rec. Tightening Torque For Mating Screw (in. lbs.) | Test Sheet Material | | | |
|---------|-------------|---|----------------------------------|----------------|---------------------------|----------------------|
| | | | .017" 300 Series Stainless Steel | | | |
| | | | Installation (lbs.) | Pushout (lbs.) | Torque-out (in. lbs.) (2) | Pull-thru (lbs.) (2) |
| 080 | .65 | 2500 | 64 | 3 | 170 | |
| 256 | 1.9 | 2500 | 67 | 7 | 265 | |

| METRIC | Thread Code | Max. Rec. Tightening Torque For Mating Screw (N•m) | Test Sheet Material | | | |
|--------|-------------|--|-----------------------------------|-------------|----------------------|-------------------|
| | | | 0.43mm 300 Series Stainless Steel | | | |
| | | | Installation (kN) | Pushout (N) | Torque-out (N•m) (2) | Pull-thru (N) (2) |
| M1 | .019 | 11.1 | 285 | 0.34 | 755 | |
| M1.2 | .036 | 11.1 | 285 | 0.34 | 755 | |
| M1.4 | .057 | 11.1 | 285 | 0.34 | 755 | |
| M1.6 | .084 | 11.1 | 285 | 0.34 | 755 | |
| M2 | .28 | 11.1 | 300 | 0.79 | 1175 | |

- (1) 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. We will be happy to provide samples for this purpose.
- (2) Performance in torque out and pull thru will depend on the strength and type of screw being used. In most cases the failure will be in the screw and not in the self clinching standoff. Please contact our Applications Engineering group with any questions.



RoHS compliance information can be found on our website.
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Specifications subject to change without notice.
See our website for the most current version of this bulletin.

PennEngineering[®]



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