



**FOR IMMEDIATE RELEASE**

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**PENNENGINEERING® INTRODUCES PEM® TYPE TSO4™ SELF-CLINCHING  
STANDOFFS FOR ULTRA-THIN STAINLESS STEEL ASSEMBLIES**

New PEM® Type TSO4™ self-clinching stainless steel standoff introduced by PennEngineering® provide ideal fastener solutions for stacking or spacing components to (or from) ultra-thin stainless steel panels. These specially hardened stainless fasteners install reliably and permanently into stainless steel sheets as thin as .025"/0.63mm with only a single mating screw required for final component attachment. They ultimately enable lighter designs by minimizing hardware count and offer the added benefit of excellent corrosion resistance for an assembly.

PEM Type TSO4 standoffs are manufactured from heat-treated 400 Series stainless steel for use in stainless sheets with maximum hardness of HRB 88 on the Rockwell "B" scale or HB 183 on the Brinell scale. With the fasteners harder than the host stainless sheet, successful clinching results in their becoming integral parts of an assembly without risk of loosening hardware.

These fasteners are available in several styles, including thru-threaded or blind threaded versions, and in various lengths with thread sizes from #2-56 through #6-32 and M2.5 through M3.5. The fastener's thread design at the barrel end minimizes the length of the required mating screw and thread-type variations can be specified creating oversized fastener bodies to achieve increased bearing surface, wall thickness, and performance.

The standoffs mount simply and quickly by pressing the fastener into a round hole in the host sheet and applying sufficient squeezing force using a standard press to embed the standoff's head flush in the sheet and complete the process.

Detailed specifications, installation animation, CAD models, and performance data (Bulletin TSO4) for these RoHS-compliant fasteners can be accessed at [www.pemnet.com](http://www.pemnet.com)

**About Penn Engineering**

Penn Engineering & Manufacturing Corp. founded in 1942 in Doylestown, Pennsylvania, USA is the global leader in the design and manufacture of thin sheet fastening devices and installation systems. The Company is the developer and the sole manufacturer of PEM® brand self-clinching, broaching, surface mount, weld and other fasteners. The Company has manufacturing and technical facilities in two U.S. locations, Galway, Ireland and Kunshan, China. Together they support a network of exclusive global distributors and engineering representatives, providing customers with consistent quality, local sourcing, and technical expertise anywhere in the world. [www.pemnet.com](http://www.pemnet.com)

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