

PEM LINE

Fastening Products, Systems, and Applications from the Industry Pioneer

NEWS...NEWS...NEWS...NEWS...

PennEngineering® Marks 75 Years as Innovative Leader in Fastening Technologies

PennEngineering® (Danboro, PA, USA) is celebrating 75 years in 2017 as a global leader in innovative fastening technologies and solutions.

Founded in 1942, the Company pioneered the first-ever self-clinching fastener for thin metal assemblies and has since realized dramatic growth from an increasingly diverse portfolio of fastening products and relentless focus on customers and world-class technical expertise. Strategic acquisitions over the years have further extended PennEngineering's footprint as problem-solver for an expanding universe of customer industries.

PennEngineering continues to reinforce and build leadership position with enhanced global manufacturing capabilities, ongoing new product development, focused technical services and engineering support, readily accessible online resources, and custom solutions tailored for application demands.

Internationally recognized and respected fastener and installation equipment brands under the PennEngineering umbrella include PEM®, microPEM®, PEMSERTER®, PROFIL®, Atlas®, PennAuto™, LinkTool™ Group, and Heyco®. All contribute to the Company's mission to solve customer assembly



Continued on page 2

NEW...NEW...NEW...NEW...PRODUCTS!

New PEM® Self-Clinching Stainless Steel Standoff Fasteners with Nickel Plating Provide Ideal Corrosion Resistance and Attractive Finish in Stainless Assemblies. See page 3



New Aluminum Versions of SI® Threaded Inserts for Plastics Introduce Lead-Free and Lightweight Alternatives to Brass Counterparts. See page 3



IN THE NEWS

PennEngineering® Marks 75 Years (Continued)

challenges in the electronics, computer, data/telecom, consumer electronics, medical, automotive, marine, aviation and avionics, metalworking, and industrial manufacturing industry categories.

The acquisition of Heyco Products in 2016 particularly exemplifies the Company's evolution with the launch of a new "Engineered Plastics" platform. As a result, PennEngineering is uniquely qualified to offer an array of cost-effective solutions – whether for metal or plastic component assemblies – enabling customers worldwide to improve end-product quality and reduce total assembled costs.

Today, PennEngineering operates state-of-the-art manufacturing facilities and key sales offices across North America, Europe, and Asia and is supported by a worldwide technical sales network tailored to customer needs and markets.

Please [click here](#) to view the full PennEngineering® timeline.

HEYCO Nytye® Nylon Cable Ties

Heyco® has a new addition to the HEYware™ product line.

- Smooth, radiused edges ensure that cable-ties won't cut into the cable's insulation or the installer's hand.
- Bent tip for ease of pickup and insertion around small bundles and V-shaped raised ridges on the tip provide a sure grip.
- One-piece design reduces cost and installation time.

[Click here](#) to download the Heyco® Nytye® Nylon Cable Ties data sheet



PEMSERTER® Series 2000® Base Press

The PEMSERTER® Series 2000® air-over-oil actuating system provides short cycle time for increased productivity and 71.2 kN / 8 tons of force and a 61 cm / 24" throat depth which provides clearance for a variety of chassis configurations. The press is engineered to promote streamlined job productivity and quality while installing self-clinching fasteners permanently in thin metal sheets. Noteworthy features include touch screen controls to minimize operator training and greatly simplify use; self-diagnostic system to allow an operator to work with increased speed, accuracy and confidence; and enhanced programming for quicker start-up and fast cycling.



[Click here](#) for more information on the PEMSERTER Series 2000 Base Press



Do you have an interesting application for PEM® products that you would like to share? Contact us at info@pemnet.com.



NEW . . . NEW . . . NEW

PEM® Self-Clinching Stainless Steel Standoff Fasteners with Nickel Plating (Continued)

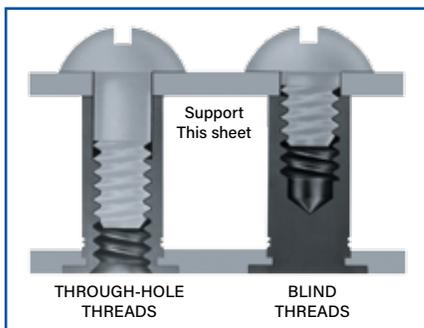
New PEM® self-clinching stainless steel standoff fasteners with bright nickel plating provide ideal corrosion resistance and contribute to an attractive finish in stainless steel assemblies. These 400 Series stainless steel threaded fasteners from PennEngineering® allow for the mounting, spacing, or stacking of panels, boards, or components and will install reliably into thin stainless host sheets by pressing them into pre-punched and properly sized round mounting holes. After installation into sheets with hardness up to HRB 88 / HB 183, they become permanent parts of an assembly and will not loosen or fall out. A mating screw completes the attachment process.



This nickel-plated stainless product line includes SO4™ through-holed threaded standoffs, BSO4™ blind threaded standoffs (whose closed threads enable a flush appearance on the back side of the host sheet), and TSO4™ threaded standoffs uniquely engineered for installation into especially thin stainless sheets.

SO4 and BSO4 standoffs are available in thread sizes from #4-40 through #8-32 / M3 through M5 and will install in stainless sheets as thin as .040" / 1mm. TSO4 standoffs are offered in thread sizes from #2-56 through #6-32 / M2.5 through M3.5 and will install in stainless sheets as thin as .025" / 0.63mm.

Detailed specifications and performance data ([Bulletin SONP](#)), fastener drawings, and models can be accessed at www.pemnet.com.



Aluminum Versions of SI® Threaded Inserts for Plastic (Continued)

New aluminum versions of SI® brand threaded inserts from PennEngineering® introduce lead-free and lightweight alternatives to brass counterparts and offer ideal solutions to eliminate potential environmental and recycling issues while contributing to overall lighter assemblies. The aluminum option – approximately 70% lighter than brass equivalents – can be specified for all types of SI inserts and augments the standard line of brass and corrosion-resistant lead-free stainless steel products. All provide durable and reusable metal threads in plastics to accept mating hardware and subsequently allow for access to an assembly whenever required.



Applications for SI threaded inserts include plastic enclosures or components for the consumer electronics, medical, automotive, aerospace, transportation, and recreational industries, among many others.

Whether manufactured from aluminum, stainless steel, or brass, the SI® product line for plastic assemblies includes ultrasonic / heat staking inserts for installation ultrasonically or with a thermal press, molded-in types installed during the molding process, and press-in types installed by pressing the insert into a pre-molded or drilled hole.

All install permanently and, unlike fixed and unyielding joining methods (such as adhesives or rivets), the inserts ultimately offer the capability to disassemble and re-attach plastic components easily and quickly without damaging the threads, compromising attachment integrity, or otherwise adversely impacting an assembly.

SI threaded inserts have been engineered in a variety of designs and lengths – including micro fastener versions with threads as small as M1 – and can be supplied in unified or metric thread sizes. Detailed specifications, fastener drawings and models, and performance data ([Bulletin SI®](#)) for these fasteners can be accessed at www.pemnet.com.

UPDATE

PEM® HSCB™ Heat Sink Mounting System

PEM® HSCB™ system is a unique three-piece heat sink mounting system designed to securely attach heat sinks to printed circuit boards while providing firm and constant contact to the chip component for optimized heat dissipation.

The patented mounting system consists of a PEM® HSCB™ captivating screw and a PEM HSL™ spring mated to a PEM HSR™ broaching receptacle nut or standoff. The screw and spring mount together permanently into a heat sink and the receptacle nut/standoff mounts permanently to a printed circuit board. The HSCB mounting system can provide a unique fastening solution for heat sink systems in servers, CPUs and other electronic applications.

- Screw cannot be overtightened. Audible “click” when fully engaged.
- Screw and spring mount together permanently into the heat sink.
- Spring determines clamp force.
- Receptacle nut mounts permanently to the P.C. board.
- Provides even, constant contact of heat sink to chip component.
- Allows removal of heat sink if desired.

[Click here](#) to download the PEM® HSCB™ Heat Sink Mounting System Catalog



TECH TIPS AND SOLUTIONS

Choosing The Right Finish For PEM® Fasteners.

SUBJECT: Metal fasteners in contact with metal panels

All PennEngineering catalog bulletins list a standard finish and some list optional finishes. There is also a wide variety of special finishes available to meet customer requirements when the standard finish or catalog finish options will not suffice. Given our recent new product release of the Nickel Plated SO4/BSO4/TSO4 standoffs, we identify the need to define the optimum type of fastener finish for each application. This Tech Sheet gives guidance on choosing the most appropriate finish for self-clinching fasteners. It also lists factors to consider before deciding that a non-standard finish really is warranted.

For more information see the [Tech Sheet PEM® - REF/CHOOSING A FASTENER FINISH](#).

IN THE NEWS

ATLAS® Products Division of PennEngineering® Wins a First-Place Supplier Award for 2016 from Fastenal®

The ATLAS® Products division of PennEngineering® has won a [first-place Supplier Award for 2016](#) from Fastenal®, the largest distributor of threaded fasteners in North America. The award in the "Direct Ship" class of Fastenal's annual "Supplier Scorecard" program recognizes outstanding performance according to a variety of critical operational procedures. ATLAS products ultimately was ranked the top yearly performer among 35 eligible peer suppliers in the "Direct Ship" class.



Upcoming Conference:

PennEngineering will be exhibiting at the upcoming **Great Designs in Steel 2017 show**.
Where: Laurel Manor Conference Center, Livonia, MI
When: Wednesday, May 17, 2017
For registration [click here](#).

PEMspec™ App

The PEMspec app includes all of the newest PEM specifications and photos. [Click here](#) to take a look.



PEM® Fasteners at the Super Bowl

We are excited to provide an update on a piece that we published in the last issue of the PEM-LINE newsletter. Our story focused on the use of PEM® fasteners in the unique PianoArc™ Circular and Curved Keyboards. Interestingly, the PianoArc keyboard was recently seen on TV being played at this year's Super Bowl halftime show. It is reported by the media that the exposure generated so much interest that the (PianoArc) company's website crashed shortly after the Super Bowl was over.

[Click here](#) to read featured article.

Recent PEM® Articles And Videos:

- [Design World](#) (Leadership Pages) "PennEngineering Celebrates 75 Years as Innovative Leader" - January, 2017
- PennEngineering® [Corporate Overview](#) Video - December, 2016
- [Design World](#) Feature Article "PEM® Self-Clinching Pilot Pins in Several Variations" - August, 2016
- [Design World](#) Feature Article "PEM® standoff fasteners" - July, 2016

Do you have an interesting application for PEM® products that you would like to share? Contact us at info@pemnet.com.

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PennEngineering® is an expert in the development and manufacture of precision fasteners, components and systems, specializing in thin sheet attachment solutions.



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