



INNOVATION

BRIEF

A PEM® custom capability

Industry Problem: PennEngineering recognises there are challenges with captive spinning nut fasteners and also the need to reduce total installed cost

Innovation: Self-clinching spinning nut

PEM Type SCN Self-Clinching Spinning Nut is a one-piece, flanged hex nut that installs by simply pressing it into a properly sized pre-punched straight hole. The controlled clinching action permanently captivates the nut in the panel yet leaves it to spin freely. This allows quick attachment of mating hardware, eliminating of the need for loose fasteners, such as nuts and washers and retaining clips or expensive multi-component fastener assemblies.

Features and Benefits

- Rotates freely
- Assembly time reduction and cost
- Automatic feeding
- Reduces loose hardware
- Retained without washer or clip
- Patented



PEM Type SCN Self-Clinching Spinning Nuts are designed to help keep the number of parts in an assembly to a minimum and eliminate risks associated with loose hardware that could fall out and damage internal components.



Nut is captivated by pressing on head, which causes the shoulder under the head to reduce the hole diameter in the sheet.

Challenges for retained nuts

- Cost reduction
- Special hole preparation (chamfers, stepped profiles etc...)
- Complicated multi-part assemblies
- Does not spin freely

Challenges for Electrical Applications

- Maximise panel area for electrical conduction – minimise hole diameter
- Smooth rotation – not producing chips
- Minimal CL to edge for narrow cable ring tongues
- Soft materials, such as copper, can hinder push-out performance

The product or concept presented in this brief is not currently offered as a “standard” catalogued item. Products can be custom ordered at quoted prices, minimum order quantities and lead times to specifications within PEM® capabilities.

Standard Spinning Nut

If a spinning nut is required for your application you may also want to consider a standard PEM® Type SFN™ (spinning flare nut). The PEM® Type SFN™ fastener is flare mounted and can be installed into any hardness material. To see a full description and specifications please go to our website and download PEM® Bulletin SFN.

