

Fastener Innovation Alley

compiled by Fastener World

Fischer FAZ II Plus Bolt Anchors

Fischer has launched the FAZ II Plus bolt anchor for construction projects. The new product has a higher assessed tensile load-bearing capacity and material strength than the previous generation. The setting process (M8-M24) does not require cleaning the drill hole. This anchor is approved for different types of construction materials, including concrete, sand-lime brick and steel fiber-reinforced concrete. A service life of 120 years allows the anchor to be used for various applications.

FAZ II Plus was made for transferring high static and medium dynamic loads in cracked and non-cracked concrete. The anchors are designed for use in sand-lime brick (except for dynamic applications). A European Technical Assessment (ETA) provides added safety. The new ETA confirms the application of diameter versions M16-M24 in galvanized and stainless steel materials for dynamic loads. This requires fewer fastening points and anchors per application and project.

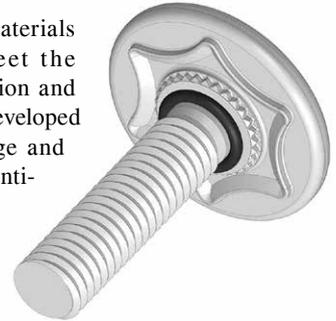


JOISTUD Clinching Stud Bolt by Nitto Seiko

The automotive industry uses clinching studs

JOISTUD-WP

that are pressed into mating materials such as steel plates. To meet the requirements for higher precision and quality products, Nitto Seiko developed JOISTUD-S to reduce warpage and burrs while providing greater anti-rotation.



They conducted research using manufacturing and dies making technologies to develop JOISTUD-HT with high anti-rotation capability, JOISTUD-SS with space saving function, JOISTUD-WP with water resistant function and JOISTUD-S with high strength. JOISTUD-WP is a product with water resistant function. Like JOISTUD-S, JOISTUD-HT can be simply pressed onto fastening elements to achieve higher product quality than ever before, providing strong support for customers' production.

While conventional clinching stud bolts have an evenly thick leaf-shaped protruding anti-rotation part, the JOISTUD series has an anti-rotation protruding part with a ring design only on the edge of the leaf. The anti-rotation part is also designed to prevent the buckling of the fastener. In addition, the groove inside the anti-rotation protrusion can accommodate the fastener that is deformed during pressing, preventing the deformed part from protruding toward the screw and forming a burr, and increasing the anti-rotation capability in the rotation direction.

Yellow Trivalent Chromate Plating by Japan Heiwa Kaken

At present, trivalent chromates include chromates, unichromates and a black variant (chromates are silver white), but they have never appeared yellow like hexavalent chromates. In the past, hexavalent chromium plating was mostly used for yellow colored products. However, in light of global environmental issues, Heiwa Kaken has developed a surface treatment technology that can give a yellow or red color like hexavalent chromate does, even on trivalent products.

Characteristics of Trivalent Yellow:

- * Giving a yellow or red interference color as does hexavalent chromate!
- * Corrosion resistance is equivalent to trivalent chromate: 72 hours without white rust, 120 hours without red rust!
- * No hexavalent dissolution will be detected!
- * If used together with trivalent chromate, it can be used to distinguish minor differences in size and threads.



Hillman – PowerPro® Structural Wood Screws

PowerPro® Structural Wood Screws are engineered for speed, low energy consumption, strength, and durability. A complete line of innovative Building Code Approved Structural Screws that outperform other fasteners. The new program provides a vast selection of screw sizes and head styles. The patented screw design offers features that are unmatched in the category and sets a new benchmark for performance.

Structural LAG – General purpose structural fastener designed for wood-to-wood construction and ideal for a variety of indoor and outdoor projects. Star-drive screw with low-profile head. 1/4", 5/16" & 3/8" diameters, lengths up to 12".

TIMBERTITE® – Heavy-duty structural fastener ideal for landscape walls, decks, fencing, and other wood-to-wood connections. Hex-head screw. 1/4" diameter, lengths up to 10".

LUMBERTITE® – General purpose, heavy-duty structural wood fastener designed for wood-to-wood construction without pre-drilling. Star-drive screw with low-profile flat head. 1/4" diameter, lengths up to 12".

LEDGERTITE® – Designed to fasten the ledger board directly to the rim joist of a house without pre-drilling or the need for a washer. Hex-head screw with built-in washer. 5/16" diameter, 3-5/8" & 5" lengths.

TRUSSTITE® – Designed to join engineered lumber together (LVL, PSL and LSL). Typically, these are joined with through bolts or nailing/screwing on both sides. Hex-head screw with built-in washer colored red for easy post-inspection identification.



InventHelp New Fastener Accessory for Threaded Holes (NJD-2506)

"I'm a contractor and I wanted to create a new fastener accessory that can be used when re-inserting a screw in a damaged threaded hole," said an inventor, from Milltown, N.J., "so I invented the NO MORE LOOSE SCREWS. My design would increase friction, allowing you to effortlessly drive the screw into the threaded hole."

The invention provides an effective way to help secure loose screws in wood with applications including cabinets, door hinges, and strikeplates. In doing so, it eliminates the spinning issues associated with damaged threads. As a result, it increases efficiency and it eliminates the need to re-drill and re-thread a hole. The invention features a practical design that is easy to install and use so it is ideal for contractors and do-it-yourselfers.

The original design was submitted to the New Jersey sales office of InventHelp. It is currently available for licensing or sale to manufacturers or marketers.



Disruptive Sealing Technology by JPB Système

The 5mm Smart Washer is a disruptive smaller-sized smart washer sealing technology that improves MRO efficiencies by reducing the need to manually check the torque level because of the touchless and wireless measurement of bolt axial load.

The thickness of the washer has been reduced by more than one-third. JPB Système has leveraged improvements in strain gauge technology to develop a smaller Smart Washer variant that is much easier to integrate and retrofit while delivering the same functional benefits as its larger counterpart.

The smaller size of the washer allows for it to be used across an increased number of areas within the aircraft, whereas the original 7.6mm washer is more suitable to experimental scenarios in on-the-ground test environments.

The washer uses intelligent connectivity by incorporating a proprietary strain gauge, as well as a transmission system into the washer, which through an accompanying reading device (Smart Reader), relays the information to maintenance engineers. Engineers can be quickly alerted to fasteners that are too tight or too loose and can address them accordingly to limit aircraft downtime. JPB now allows the engineers to view the percentage of the tension rather than just the value of the bolt axial load due to the relative measurement which calibrates the Smart Washer directly on the customer's bolt. This has increased the accuracy of the device from +/- 6% to +/- 2.5%.

The new validated redundancy measurement allows Smart Washer to 'control' itself to eliminate incorrect readings in the unlikely event of a software issue. This is enabled by doubling the number of measurement points on the washer, which means that upon a false reading, the system immediately alerts the engineer before taking another measurement from another area of the device.

