

# Fastener Innovation Alley



## Innovative Hot-dip Galvanized Screw for Solar Structures

The hot-dip galvanized ground screw by Elementos de Sujeción Galvanizados is an innovative solution designed specifically for the renewable energy sector, providing robust and efficient support for the solar structures.

It is a metal structure with propellers and can be installed directly in the ground without the need for hole drilling or concrete foundations. The screw nails easily into the ground. This considerably reduces installation time and cost. Thanks to its design, it offers maximum stability and strength ideal for supporting solar panels and other light infrastructure.



### Features:

- **Hot dip galvanizing:** It is coated by a hot-dip galvanization process, which guarantees durability, corrosion protection even in extreme climatic conditions, prolonging service life.
- **Quick and easy installation:** No heavy machinery or complex processes required. This makes it an ideal choice for solar energy projects looking for agile installation.
- **Environmentally friendly:** No traditional foundations are required, thus avoiding the use of concrete and reducing environmental impact.
- **High strength and durability:** Designed to withstand heavy loads, providing long-term security and stability for solar structures.
- **Versatility in the field:** It works efficiently on different types of soils, from soft to more compacted soils.



## "AI-Powered Similar Drawing Search" Applicable to Fasteners

A customer sends in the drawings. If a similar product has been manufactured in the past, past drawings are referenced. However, it is difficult to search for the desired drawings among many drawings. If you rely on employees' vague memories to submit quotes, sometimes you would get complaints from customers. If past drawings cannot be found, a quote must be made from scratch. Japanese Technoa's "AI-powered Similar Drawing Search" is designed to solve this problem.



### Features:

1. AI will automatically choose which shape to search for.
2. Showing similarities in easy-to-understand colors and numbers.
3. Reference the material costs and processing costs of past products and use them effectively when making quotes.
4. Use OCR to import text messages as additional messages.
5. No need for high-performance servers.
6. Easily compare drawing changes and manage drawing versions.
7. Can reference the production management system and extract various data related to drawings.



### More Heat-resistant Decorative Screws

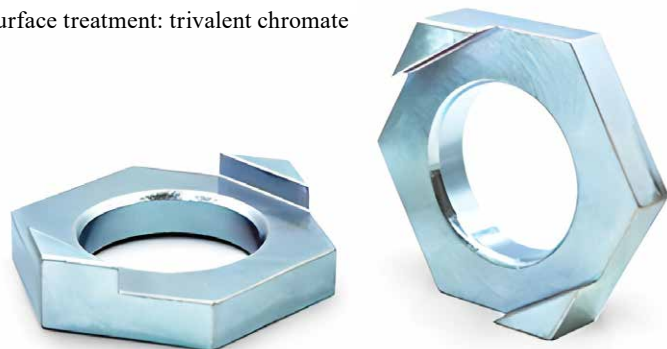
Daimaru Byoura Seisakusho for Japan started rolling out a new product called "Polycarbonate Decorative Screw" from its original products. The head material is made of polycarbonate, which has higher heat resistance and weather resistance over conventional nylon decorative screws. The head part can be made of resin, the threaded part can be made of metal. Plus, both parts can be made of polycarbonate. Available in various colors.



### Anti-rotation and Non-entangling Washer

This product from Japanese Plarad completely prevents hex bolts from co-rotating. It is available in M12 to M72 sizes and patent pending. It does not use jagged knurled surface irregularities to generate friction, instead it has a special structure that changes the equivalent friction diameter to ensure that the bolts do not co-rotate. Eliminating the use of tools which prevent bolt rotation, and reducing the number of workers required from two to one, which can significantly reduce the time required to tighten bolts.

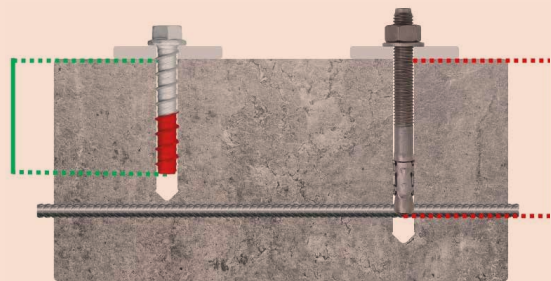
Strength level: 8.8 / Material: S45C  
Surface treatment: trivalent chromate



### The Shallowest C2 Seismic Concrete Bolt in Australia

Seismic design adds complexity and cost. ICCONS® has developed the shallowest C2 seismic concrete Screw-Bolt in Australia, making installation easier for engineers and contractors alike.

- **8 x 55mm Bolt:** Significantly lower cost than other typical C2 approved anchors
- **60mm Drill Depth:** Reduced drill-time and incidence of hitting reinforced bars resulting in less machine and accessory wear
- **50mm Embedment:** Labor saving through rapid installation
- **5mm Max. Fixture Thickness:** Suitable for countless C2 Seismic applications



### JOISTUD—FH Clinching Stud Bolt

A clinching bolt is a fastener that achieves integration by pressing its head into materials such as steel plates, and it is widely used in the automotive industry and various other fields. As product functionalities improve and the number of parts increases, there is an urgent need to arrange components efficiently within limited spaces, leading to demands for miniaturization and space-saving designs for these bolts.

Additionally, the currently available low-head clinching bolts on the market may produce issues such as deformation or sinking of the head when subjected to high torque fastening or external forces. In response to this, Japanese Nitto Seiko has developed a high-safety head-embedded JOISTUD-FH clinching bolt. This bolt can simply be pressed into the fastening material, effectively preventing



the head from protruding and reducing the risk of sinking due to axial forces during fastening, thereby providing strong support for customer needs.

"JOISTUD-FH" minimizes the thickness of the head to its absolute limit, allowing the entire outer circumference of the head to be pressed into the fastened material. Additionally, the load bearing area is designed with nine circular recesses, which enable the fastened material to fill these recesses during pressing, resulting in an effective anti-rotation effect. Furthermore, because the recesses have a partially open design, air can easily escape during pressing, facilitating the flow of the fastened material into the recesses. By incorporating a very thin head shape and these recesses, the head can be fully embedded within the fastened material, effectively preventing it from protruding after pressing and thereby achieving a space-saving effect.

## Anti-loosening NC Grip

Japanese Nitto Seiko has developed an adhesive-type anti-loosening screw called "NC Grip" and begun accepting orders on November 1, 2024. "NC Grip" features a coating of micro-encapsulated epoxy resin on the threaded section, which breaks the capsules during installation, causing the resin to harden and providing a strong anti-loosening effect.

### Features:

- An adhesive-type anti-loosening screw coated with micro-encapsulated epoxy resin on the threaded section.
- During installation, the micro-capsules break, allowing the epoxy resin to seep out and harden, preventing loosening.
- Coating is possible for all types of screws, including small screws and tapping screws. ■



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