

Fastener Innovation Alley

扣件新品大道

compiled by Fastener World

Yellow Trivalent Chromate Plating 黃色三價鉻酸鹽電鍍

At present, trivalent chromates include chromates, unichromates and black variants (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 the global environmental issues, Heiwa Kaken from Japan 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 hexavalent chromate does!
- * Corrosion resistance is equivalent to trivalent chromate: 72 hours without white rust, 120 hours without red rust!
- * No hexavalent dissolution will be detected!
- * Together with trivalent chromate, it can be used to distinguish minor differences in size and threads.



TriLead Crack-free Woodworking Screw 「TriLead」木工螺絲

The patent-pending TriLead screw, with a special bit shape newly developed by SYNEGIC, can cut wood and discharge wood chips to perfectly drill into MDF or particle boards without cracking the wood or creating burrs during the drilling process. There is no need to drill holes in the wood before use. TriLead screw adopts chromate surface treatment, and can be used with hexagonal bits, suitable for wood with the thickness of 10-20mm, including shelves and other household furniture.

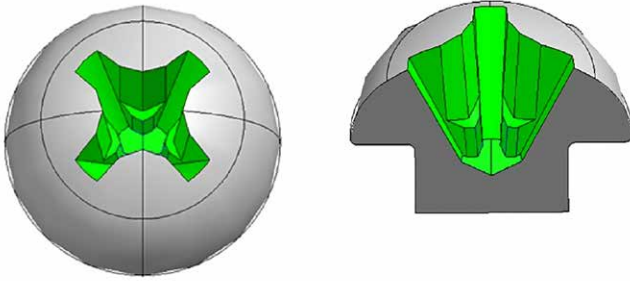


Kwik-X 錨固系統

Hilti North America, a global leader providing innovative tools, technology, software, and services to the commercial construction industry, introduces the Kwik-X Dual Action Anchor system, the first of its kind on the market, combining the high performance of adhesive anchors and installation speed and simplicity of screw anchors. Reducing multiple steps in the traditional adhesive anchor installation process, Kwik-X reduces costly man hours and jobsite expenses. Kwik-X can reduce

installation time by up to 70% and save up to 20% in total cost of installation when compared to traditional adhesive anchoring systems. "Contractors can save time and money by reducing the complexity of installation with the Kwik-X. Leading up to a 4x faster installation over traditional adhesive anchors and combined with Hilti's industry-leading expertise, thereby reducing labor costs and helping deliver peace of mind to a jobsite," said Rafael Santos, Senior Director of the Hilti North America Fastening and Protection Business. Comprised of the convenient Kwik-X pre-portioned adhesive capsule and Kwik HUS-EZ screw anchor, the system provides the necessary performance for safety-critical applications. It reduces the number of steps in the installation process, such as hole cleaning, curing time, and dispensing – eliminating adhesive waste and the need for accessories like brushes, air compressors, and dispensers. This simplicity results in increased productivity by reducing the risk of human error. Additional features such as high performance in real jobsite conditions and the capability to remove and reinstall the anchor in the same borehole help cater to the needs of the installer. These factors help save contractors' time and money.





Cross Drive Recess for Bits of Similar Sizes

共用起子頭的十字溝「Share Cross」

In manual fastening and loosening of screws at construction sites and other workplaces, it is time-consuming to change bits for each screw drive recess, which causes users to disassemble and assemble with a bit that does not fit the recess, thus resulting in a collapsed recess.

To solve this problem, Nitto Seiko from Japan has developed "Share Cross" that can be used with bits of similar sizes. "Share Cross" can be suited for various types of fastening and improves work efficiency in manufacturing operations.

"Share Cross" is a small cross-recess with another large cross-recess superimposed on it, so that bits of similar sizes (e.g., #2 or #3) can be used on the same screw head recess. The structure is such that the drive surfaces for transmitting torque can be shared, which achieves the optimum fit of the bit and maximizes the performance.

High Toughness Tempered Silver Bright Steel for Wind Turbine Fasteners

高強韌風電扣件 用調質銀亮鋼

(China)XingCheng Special Steel's research team has researched and developed grade 10.9 40M+QT high-strength tempered silver-bright steel for wind turbine fasteners with a maximum diameter of 80mm. The new product was successfully researched and developed by the scientific research team of XingCheng Special Steel in cooperation with Gamesa, Siemens and Vestas, the world's leading wind turbine manufacturers, after precise control of smelting, continuous casting, continuous rolling, continuous heat treatment, silver-bright processing and other manufacturing processes.

It replaces the traditional 34CrNiMo6 high Ni steel, and the heat treatment process is exclusively produced in a natural gas heated continuous furnace. The quenching medium uses water to replace the traditional oil and soluble medium, which meets the requirements of hardened core organization, ultra-low hardness difference distribution in the whole cross-section, and optimal matching of high strength and toughness for the needs of high-end large fasteners, achieving green, energy-saving, and environmentally-friendly manufacturing.



New Fastener Accessory for Threaded Holes (NJD-2506)

用於螺紋孔的新型扣件配件

"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.



Oxidation Colored Stainless Steel Screws 不銹鋼氧化著色螺絲

Ikeda Metal Industrial from Japan has developed stainless steel screws colored blue, yellow or red by oxidation coloring treatment. These screws are designed to help operators detect foreign substance contamination at food production sites early and prevent shipping contaminated products. Stainless steel screws are commonly used in the assembly of food manufacturing machinery because of their corrosion resistance, but they can be difficult to locate if they become loose and fall off and get mixed with milk, mayonnaise or other white colored foods. In fact, there have been cases where packaging was mixed with screws and shipped unknowingly.

To solve this problem, Ikeda Metal Industrial designed a special surface treatment called "stainless steel oxidation coloring" for coloring stainless steel screws to comply with the Food Sanitation Law. By easily identifying the color of the screws, even if it is mixed with food, it is possible to detect foreign substance contamination at an early stage and prevent shipping products from mixing with other substances.

TAKECOAT-1000

「竹塗料-1000」

"TAKECOAT" developed by TAKENAKA SEISAKUSHO from Japan is claimed to take the highest share in the fluorocarbon polymer market globally. It can provide excellent rust and corrosion resistance in harsh environments such as in the sea and desert. It has 6-times the durability of hot-dip galvanizing as tested in a salt spray test.

TAKECOAT® -1000 has a two-layer structure of fluorocarbon polymer as the upper film and a special under-treatment layer. Combined with a special treatment technology, the thin films are excellent in corrosion and rust resistance and have high lubricity, suited for fasteners. TAKECOAT has been used on bolts and metal parts used on bridges, insert pipes, marine structures and oil refineries.

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