



## Dual Y Axis Auto Screw Fastening Platform 雙Y軸自動鎖螺絲平台

PDT Rolls out Dual Y Axis Automated Screw Fastening Platform by PDT (Taiwan) that improves operation efficiency and cuts down the cost for labor. The platform comprises a work section on the left and another on the right side. Upon completing operation on the left section, the platform would automatically switch to the right section to continue operation, while the left section is already on standby for the operator to feed materials. When the operator finishes feeding and pushes the "production-ready" button, the left section will automatically start production as soon as the right section finishes production. This alternating operation flow keeps the platform running 24-7 and makes for a solution for factory upgrade and transformation towards automation and labor reduction.

(Image Source: Commercial Times, Taiwan)

# Fastener Innovation Alley

扣件新品大道

*compiled by Fastener World*



## New Stainless Steel Fastening Solutions

為甲板建築和室外計畫提供的  
不銹鋼緊固解決方案

National Nail's CAMO® brand of tools and fasteners has introduced new CAMO Stainless Steel fasteners to help contractors, remodelers and DIYers build better in every environment. Now, the CAMO brand can add fastening efficiency and strength to exterior projects across the country, no matter the environment. Designed to protect connections against the elements, CAMO's 316 Marine Grade Stainless Steel fasteners are ideal for use in highly corrosive coastal and agricultural environments and applications that face abrasive agents. CAMO 305 Stainless Steel fasteners provide excellent corrosion resistance and long-lasting aesthetics for a variety of inland exterior projects.

"CAMO is excited to offer a full line of Stainless Steel screws and nails for contractors to add value and performance to their upcoming projects," said Doug Hutchings, Vice President of Product Development at National Nail. "The variety of Stainless Steel fasteners deliver superior corrosion resistance and holding power on any jobsite, even in the harshest coastal conditions." Hutchings added that the unique Stainless Steel Fastener packs with metallic lids is the first in a series of visually bold, new CAMO packaging that will ultimately be rolling out to all CAMO products. Other brand colors like CAMO's distinct orange is designed with the end-consumer in mind for easier selection.

Perfect for building wood or composite decks and other exterior projects, CAMO's new line of Stainless Steel fasteners includes hand drive deck, composite and trim screws that come with a 2 in. (50.8 mm) power bit for jobsite convenience. They also offer 316 Stainless Steel Marine Grade Edge Screws for use with CAMO MARKSMAN Pro® tools and collated screws for use with the CAMO DRIVE™ stand-up tool. New to the CAMO brand are ring shank deck nails and joist hanger nails as well as collated ring shank framing nails and collated metal hanger nails that are compatible with a wide array of pneumatic nailers. Just like other CAMO tools and fasteners, CAMO backs up their line of Stainless Steel screws and nails with a warranty to resist rust and corrosion.

### "Clean Tap" Self-tapping Screw

#### Clean Tap防碎屑自鑽螺絲

"Clean Tap" developed by Yamashina (Japan) can greatly reduce chips when it taps iron and other plates. Using tapping screws on circuit boards can generate chips that fall on electric wires and cause a short circuit; therefore, electronic parts have to limit the use of tapping screws despite the need to save costs.



To reduce chips, the self-tapping screws would have to be applied with adhesives, or the fastened object has to be attached with a device to capture chips. Doing so would increase costs. To tackle this, Yamashina analyzed the generation of chips as well as their constituents, and succeeded in developing a self-tapping screw with a brand-new shape that can be used on EVs, drones, robots and circuit boards.

### "SABINAI JYAN" Coating

#### SABINAI JYAN塗佈技術

Although stainless steel is less likely to rust than other metals do, it could actually rust from oil, iron, scales and other impurities attached to it in the manufacturing of fasteners. SS Coat's heat treatment pushes the inherent characteristics of stainless steel to the limit.

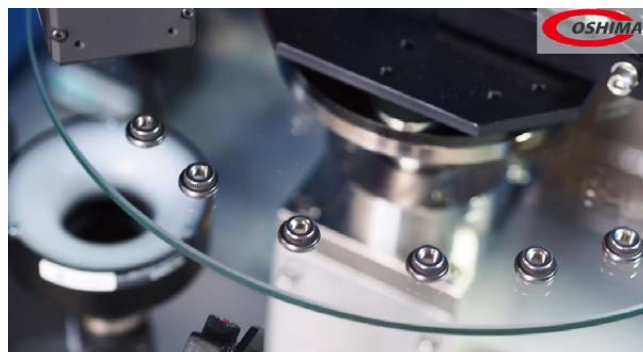
SS Coat (Japan) recently introduced a coating technology named SABINAI JYAN. This black-dyeing surface treatment is often said to have inferior corrosion resistance. However, SABINAI JYAN passed over 3,000 hours in an anti-corrosion test. It is suited for use with outdoor black materials and SUS410/SUSXM-7/SUS304/SUS305/SUS430 materials, and it doesn't use Chromium-based chemical solutions.



saving energy that lies dormant in existing buildings. Facade insulation is a highly effective measure to increase energy efficiency in this regard. But in order to be able to fulfil their function, external thermal insulation composite systems (ETICS) must be professionally installed. Securely anchoring the insulating layer in the anchor substrate with as few thermal bridges as possible is of key importance. The new fischer TermoZ CS II fixing is made for this task.

The latest addition to fischer's range of ETICS fastenings is multitalented, as it is suitable for fastening insulating panels in any conventional material and thickness on all standard solid and hollow construction materials. The ETICS fixing therefore doesn't need to be replaced if the facade is equipped with various insulating materials such as a fire bar, which saves additional time. Its approval for every building material class (A, B, C, D, E) guarantees its secure application. fischer's TermoZ CS II is therefore also suitable for subsequent insulation on renovated buildings if there is uncertainty about their anchor substrate. Further advantages include the fact that any improper use caused by unsuitable insulation fixings is prevented and users can make do with a single ETICS fixing even if the building has various substrates. The European Technical Assessment (ETA-14/0372) regulates the use of the TermoZ CS II in concrete, masonry (solid and perforated brick), lightweight aggregate concrete and aerated concrete. Thanks to its anchor sleeve with a symmetric expansion zone, the newcomer is the first insulation fixing with an approval for hammer-drilled holes in vertically perforated bricks. The special geometry below the plate (Fibonacci) reduces the required insertion torque for convenient and fast installation. Its upper side features a specialist surface structure for better adhesion to plaster. The closed plate does not allow any dirt to be ejected, providing a clean setting result.

With its new TermoZ CS II screw fixing, fischer offers system providers a universal insulation fixing that hardly, if at all, impairs the energy efficiency of ETICS and also enables efficient work and rapid construction progress.



### Glass Rotary Plate Type Inspection Machine

#### 玻璃轉盤式光學檢測機

To inspect a workpiece from 3 different angles, an inspection machine would have to be installed with multiple cameras. Japanese Oshima Setsubi's "Glass Rotor" inspection machine uses a transparent glass rotary plate that eliminates blind spots for cameras during inspection. Therefore, it only takes one camera to inspect screws, bolts and nuts from above, the side and below, all in one go. Additionally, "Glass Rotor" comes with a function to auto clean the glass plate.

(Image source: Oshima Setsubi's product video)

### Insulation Fixing "TermoZ CS II"

#### 絕緣緊固元件TermoZ CS II

The fixing specialist fischer offers the new TermoZ CS II screw fixing to anchor ETICS insulation panels made of any kind of material including fire bars into any conventional construction material. This enables simple, time-saving screw mounting with minimal thermal bridges.

Considerable efforts must be made in the building sector in order to attain climate goals by 2030. There is still tremendous potential for



# Surface Treatment Machine for Stainless Steel Parts

## 不銹鋼耐蝕暨表面硬化系統設備

The EU Construction Products Directive published in 2013 requires the use of stainless steel fasteners in exposed parts of buildings which are expected to last for over 25 years. Earlier, construction fasteners were mostly in carbon steel and they can finish drilling, threading fixating and fastening in one process. While this saves time, it jeopardizes building safety due to long exposure and corrosion.

MIRDC (Metal Industries Research & Development Centre, Taiwan) said lots of construction fasteners sold on the market are bi-metal self-drilling screws comprising carbon steel and stainless steel, possessing the hardness of carbon steel and corrosion resistance of stainless steel. However, they have a complicated processing procedure, and could potentially break apart on the welded spot or be corroded on the carbon steel section.

MIRDC developed a surface treating machine to handle anti-corrosion and surface hardening treatment for stainless steel parts, providing solutions to deficient stainless steel hardness, weakened corrosion resistance and inability of mass-production. The machine can make for a stainless steel surface hardness up to over HV1,200 (much higher than with carbon steel) without undermining corrosion resistance.

Furthermore, the machine can process a large number of stainless steel parts at a time. It can also handle complicated shapes and form an evenly hardened layer at the parts' surface. It uses AI for precise control of temperature, time and other parameters. Meanwhile, MIRDC provides IoT solutions tailored to production lines to facilitate smart manufacturing.



# A Range of Compression Limiters

## 壓縮控制扣件系列

As the speed of technology and trends in consumer behaviour accelerates, companies around the world are evolving quickly and TR Fastenings is no exception. TR's latest product launch of Compression Limiters has been developed to meet the growing global demand from multi-sector manufacturers developing products using plastics, particularly in the EV space.



Compression Limiters reduce the stress that's generated by traditional threaded fasteners. Demand has mainly been driven by the automotive sector, and applications in the energy and general industrial sectors where high load bearing plastic components are used and have also contributed to the surge in worldwide demand.

Compression Limiters are used extensively in composites and plastic mouldings as through holes help reduce the stress generated by conventional fasteners. These non-threaded inserts are commonly used in applications where a compressive load is applied to a plastic assembly to prevent the integrity of the plastic from being compromised.

These products are used extensively in electric vehicles and the battery housings. As technological advances continue, so does the need to continually develop the primary components that make up an electric vehicle. Newly created giga factories and battery housings manufacturers in Europe, Asia and North America will be looking to include these products in many upcoming automotive research and development projects and with a global presence, TR Fastenings is ideally positioned to meet this demand, whilst also providing technical and design assistance.

TR's experience over the last few years is that many of these are designed in specials and required in high volume. There are a number of different types and as a guide the TR's Compression Limiter range consists of symmetrical, flanged, split seam and oval manufactured from steel, stainless, brass and aluminium.



## Smart Expansion Anchor

### 智慧化膨脹錨栓

After Sanko Techno launched sales of its expansion anchors back in October 2020, customers had hoped for an expansion anchor that can be used in tunnel construction. Therefore, the company developed "Smart Expansion Anchor". With a shorter embedding length, the new anchor expands and cuts the wall as it is drilled into the hole with a small hammer drill, so the operator can quickly complete the work even when the anchor is drilled upwards. Using anti-loosening nut with the anchor can prevent deterioration in the gap between the anchor and the hole.

"Smart Expansion Anchor" is available in 3 sizes including M8, M10 and M12, and in two material types including steel and stainless steel. It launched sales on March 1, and is expected to bring a total revenue of JPY 15 million this year.



## RIVKLE® Solutions for Electric Vehicle Battery Packs

### 電動車電池模組鎖固系統 RIVKLE®

Böllhoff has developed the RIVKLE® Seal Ring range of blind rivet nuts and studs with integrated and captive sealing function for battery pack applications. The resulting assembly is robust and fluid tight; the entire range meets the most stringent sealing quality requirements (ISO 20653 IPX7) and automotive quality requirements.

In combination with Böllhoff's automatic setting tools, the RIVKLE® solution is optimised in terms of cost and speed of installation, with an unprecedented level of validation of the quality of the implemented product (process control).

This global approach also allows optimal machine availability, thanks to both a high autonomy of the machines (automatic function "2nd try" with replacement of the RIVKLE®) and reduced frequencies and periods of maintenance (optimized TCO). □

## MANUFACTURER OF HOME AND BUILDERS' HARDWARE

- Miscellaneous Hardware
- Picture Hangers
- Pegboard Hooks
- Bolts
- Hooks



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