



大阪の元気!ものづくり企業

Japanese Tapping Screw Craftsman/Specialist Rolls out “High Tension Screw 100”

Komuro Industry Co., Ltd.

Komuro Industry has had more than half a century of history since its inception in 1954 in Osaka when it was solely dedicated to the manufacture and R&D of self-tapping screws and then expanded into a comprehensive product line of screws and parts. Today, its products include: self-tapping screws (with or without washers) and bolts of JIS standard and various recess types (hexalobular, hexagon, square, etc.); “Three-Tight” screws (where the shank portion is in a triangle shape like a Japanese triangular rice ball, namely an “Onigiri”, to have better performance than tapping screws); cold formed parts; special-material and specially-machined parts; anti-loosening screws; surface-treated screws.



Innovative Screw For Tackling High Tension Steel Plates

At the time of our interview with Komuro Industry Product R&D Director, Mr. Shigenori Tanomuro, he said the company has rolled out a remarkable new breed of self-tapping screws named “High Tension Screw 100”. The name implies the screw can penetrate 100kg (980Mpa) steel plates with no thread damage. How did this invention come about, I asked, and the Director replied, “The industry is seeing an increasing number of automotive makers using ultra-high-tension steel plates (100kg, 130kg) to facilitate automotive lightweighting. That was why we started to invent the new screw.” Before the invention, Komuro Industry received feedback from clients that former tapping screws would wear out in contact with hard materials and up to 30% of them would go wasted in an automotive production line accordingly, and even worse, ruin the expensive materials because of damaged holes.

To tackle that, Komuro Industry worked on reducing the proportion of carbon while substantially increasing the amount of manganese and other alloy elements to improve the hardening effect. And then, heat treatment follows to refine the grain structure to improve internal tenacity, prevent the head breaking off from the screw and delayed fracture. The resulting “High Tension Screw 100” is now a patented product which not only works on ultra-high-tension steel plates, but also woods, resin and other hard materials used by various industries.

Reassuring Quality Management

Komuro Industry is targeting zero-defect quality through several measures. Certified to ISO9001•14001 (2015), it is meticulous about talent training, systemized manufacturing management, and particularly inspection including daily onsite checks, pre-shipment product check by visual sorting machines, torque analyzers, tensile strength testers, digital microscopes, and visual specification measuring instruments. The company can also provide PPAP, JAMA, chemSHERPA ICP MSDS, IMDS, and CMRT documents.



Creative Collaboration: The “Smiley Screw”

Komuro Industry joined forces with a Japanese designer and came up with a unique screw in 2017 with a smiley face instead of a mundane “+” or “-” recess on the screw head. The motivation behind this screw was to inspire the joy and surprise of discovering a smile as you are walking on the ordinary streets.

Purchasers of this screw are encouraged to install it anywhere and anytime they want, and they can upload a snapshot of the installed screw to a map for others to discover where the screw appears and how it is used. The goal for this screw, said the Director, is to bring the little changes of joy to the daily life and hopefully it will make a difference in the collective mind of the mankind.

Plant Expansion

In April 2019, Komuro Industry completed expanding its plant to make more room for a complete range of production equipment, and better warehousing. The Director said the company is working on new technical innovation on recess processing, and automatic rubber and nylon washer assembly for cost reduction and consistent product supply. Although so far the company has yet to conduct direct sales with overseas customers and is currently selling products to them via domestic traders, the Director said it is now considering options to strike deals directly with them in the future. □

