

Feature

DIES & TOOLING

工模具專輯

Arranged by Fastener World editors

Taiwan is the world's 7th largest producer of metal dies and tooling with an annual capacity valued at USD 1.63 billion. Back in early times, it used to be that dies and tooling were manually processed in the production stage. As modern technology comes into play, many Taiwanese dies and tooling makers have developed and/or employed computerized and digitized manufacturing to achieve the highest quality and precision. Some of them developed unique dies engraving and milling technology that is highly customizable to customers' requirement. Here in this feature, we interviewed 4 Taiwanese companies that are well-recognized for manufacturing technique and quality.

Tsunami Ltd:

The strongest support for metal processing.

Gian-Yeh Industrial Co., Ltd:

Taking part in clients' product design to build high-performance self-drilling screw dies.

Soon Bau Screw Mold Co., Ltd:

CNC engraving & milling technique targeting customized high quality dies.

Cham Hung Enterprise Co., Ltd:

Keeping an eye on the global market with development and supply of professional dies, molds & tooling.



Dies and Tooling Manufactured by Tsunami Ltd.

The Strongest Support for Metal Processing

宣大企業精密工模具 金屬加工堅強後盾

by Gang Hao Chang,
Vice Editor-in-Chief of Fastener World

Tsunami Ltd., moving to its current nearly 1,985 sqm plant in Kaohsiung five years ago, has been a professional dies and tooling manufacturer and supplier for screws, nuts, sleeves and automotive/motorbike parts, which is widely trusted and recognized by relevant fastener manufacturers. With its capacity being fully utilized, Tsunami has nowadays become a significant role in the development and supply of molds and tooling in the global market. Its effort to improve the performance of dies and tooling and insistence on the quality of every detail also demonstrate its ambition to take the lead in the industry.

Achieving Both Results of Precision and Effectiveness, Tsunami's Dies and Tooling Make Customers' Products Perfect at All Times

In terms of the effectiveness and precision of consumable dies and tooling for various types of cold/warm/hot forging formers, Tsunami always has requirements stricter than those of customers! From preliminary drawings, material selection to the final testing of finished products, the team of Tsunami follows the strictest operating standards at all times, which is also one main reason several domestic and overseas customers designate Tsunami as their only one supplier of high quality dies and tooling.

Having dedicated himself to manufacturing dies and tooling for 3 decades, Tsunami General Manager Li- Ming Chang said in an interview with Fastener World, "The most significant features of Tsunami are its abilities to select the right tungsten carbide and choose the most suitable positions of holes on dies and a wealth of experience in determining the optimal forging force." He added, "Forging is generation of power, which will simultaneously create friction.

Our job is to locate the most balanced point between such power and friction in order to complete the manufacture of dies and tooling. Tsunami will also select, as per customer's request, the most suitable material for manufacturing dies and tooling according to the results." Chang's words



fully revealed the confidence of Tsunami's team in their technique and the ability to offer products their customers really need.

Sophisticated Testing Devices Equipped in the Factory, Helping Achieve More Accurate Specifications of Dies and Tooling

With the new plant, Tsunami has greatly increased its capacity and had its customer service extended to cover more diversified areas. In addition, for reinforcing the accuracy of product specifications, Tsunami has also introduced various sets of testing equipment and prepared different types of solutions respectively for the demand of Europe/Japan for specialty parts and the demand of Southeast Asian countries for standard parts. Thus far, its products have been successfully exported to Europe, Japan, Malaysia, India and so on.

Tsunami will also continue to advance its development and manufacture of dies and tooling and realize its commitment to offering customers high quality products, as what it has stated in its company mission: "We are capable of satisfying the demand for different dies and tooling of customers and the supply chain of relevant dies and tooling. We'd sincerely like to invite you all to be our customers and enjoy our supply and complete service for superior dies and tooling!"



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Strong R&D Capability of Self-drilling Screw Dies Boosts Clients' Productivity

Gian-Yeh Industrial Co., Ltd.

強大鑽尾模具研發實力推升客戶生產力
健業模具廠有限公司

by Dean Tseng, Fastener World

Gian-Yeh located in Lungching District of Taichung is a die manufacturer with its technical ability recognized by major international brands. Particularly it is a specialized developer of self-drilling screw dies. It made an early start on the die business and has been designing and developing dies for self-drilling screw clients since Taiwanese self-drilling screw industry started to take off, eventually becoming a major pusher behind the development of this industry. Since its founding in 1989, Gian-Yeh has had 30 years of experience in manufacturing drill point dies for self-drilling screws. It also offers forging dies for screwdrivers, rivet dies, dies for woodworking iron nails, etc.

Taking Part in Clients' Product Design to Build High-Performance Self-drilling Screw Dies

Well-performing dies can not only extend die life but also produce more screws at a lower cost for clients. President Mr. Lin Tsang Yao said, "We prioritize and deliberately monitor the stability and quality of die materials. Using our dies, clients can consistently predict the volume of their screw production." This helps Gian-Yeh earn clients' trust and therefore its products are sold well to major high-end companies in the U.S., Europe and Japan. They attach importance to Gian-Yeh's R&D capability and invite the company to be a part of product quality improvement design. They are willing to reference Gian-Yeh's opinions on product design. "Participating in the product design of major international companies allows us to see through their perspectives and change ours to improve our technical ability further. During product design, we pay extreme attention to improving performance while respecting and retaining clients' own uniqueness. We never leak

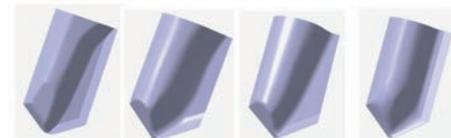


the designs nor use them with different clients. Clients who referenced our design suggestions have seen a huge boost in production quality and efficiency."

Currently Gian-Yeh's capacity has reached 6,000 pieces per month, 60% of which are standard dies and 40% are customer-tailored dies. 40% of the products are exported and 60% of which are sold domestically. Gian-Yeh has two manufacturing plants equipped with over 120 EDM machines to instantly cope with all sorts of demand on volume and lead time. Furthermore, it has a spare area planned for future plant expansion. "As the number of our clients grow, we are increasing capacity every year. We and our clients are bonded with each other and grow together."

Gian-Yeh adopts computer aided design and high-speed engraving and milling to further improve its machining technique. It also enhances its basic die making capability for forging die flow, metallurgy, and surface electroplating. So far it is mainly focusing on developing dies for large size self-drilling screws and stainless steel screws. There is no end to Gian-Yeh's die development and this is a continual progression that the company creates with clients.

Eyeing the Emerging Markets and Continuing to Develop New Dies



Gian-Yeh's die sales targets are not limited to advanced countries. The company has been watching the development of emerging countries. Currently it has clients in China, India, and Vietnam, and it is particularly looking forward to Vietnam's sizable market potential brought by local preferential tariff. At the end of the interview with the president, he said there is an ongoing trend with self-drilling screw dies. As screw makers are going for high quality screw production, the proportion of clients purchasing stainless steel screw dies is increasing. This phenomenon not only emerges in Asia but also in the U.S., Europe and Japan, which means the world's demand for stainless steel screw dies is on the rise. Therefore, Gian-Yeh is actively developing stainless steel screw dies to make an early preparation for the future demand growth. With unique market sensitivity and robust R&D capability, Gian-Yeh's dies are expected to set a new sales record!

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Making High Quality Customized Screw Dies with Precision Engraving & Milling

Soon Bau Screw Mold Co., Ltd.

以精密雕工刻劃高質量的客製化螺絲模具
 順寶模具有限公司 by Dean Tseng, Fastener World

Located in Luzhu District of Kaohsiung City (southern Taiwan), Soon Bau was founded in 1987 starting off with manufacturing carriage screw die cores. Through the last 30 years, the company shifted from adopting traditional casting and EDM to CNC engraving and milling as a part of its technical upgrade. Today, the company provides many types of standard and customized screw punches and dies, punch bars and clamps for screws and nuts.

Developing CNC Engraving & Milling Technique

Targeting Customized High Quality Dies

After the successor took over the business from the founder, Soon Bau successfully shifted its manufacturing technique from traditional casting to high-level CNC engraving and milling. “With the increasing demand for customized screw dies, it became much clear that dies made from casting and EDM cannot form the curved surface and chamfer of special screws. In around the year 2000, we started to purchase CNC machines, and computerized, digitized and automated our whole manufacturing plant. Eventually we were able to produce dies with more precision, smaller tolerances, and better appearance.”

According to general manager Mr. Zhuang, the traditional EDM can only do 2 dimensional processing and requires manual polishing afterwards, so the quality is subject to human errors. The CNC engraving

and milling developed by Soon Bau can do 5 dimensional processing and cut out dies in various sorts of shape, thereby fully replacing casting and EDM and keeping the whole production line digitized, faster and consistent in quality.

Through precise engraving, Soon Bau has broken the bottleneck of processing complex curved surfaces. Its engraving technique is especially effective on making embossed words on curved surfaces. It focuses business on customized screw dies and punches available in various types of tool steel including SKH-9, SKD-11, SKH-55, ASP30, and ASP60. Mr. Zhuang said, “We can manufacture dies made of various types of steel that need to be heat treated! Such dies are more flexible and cheaper than highly rigid tungsten steel dies and therefore are suitable for forming special screws.” There is no limit to the available sizes of Soon Bau’s customized dies. The smallest ones that the company has manufactured so far are mini-turret screw dies, and the largest ones are construction screw dies in 1.5 inch diameter. If clients provide their drawings, the company can produce their ideal dies as per drawings.

Soon Bau Successfully Developed Difficult Tungsten Steel Punches

About a year ago, Soon Bau rolled out tungsten steel punches which are rare to the industry. It is highly difficult and time-consuming to polish this type of special rigid punch, but the company was able to create it through its precision engraving. Zhuang said the company’s special rigid punch can reduce die exchange, improve machine operability, increase capacity, and extend die life by more than 10 times.

Besides domestic sales, Soon Bau currently takes overseas orders through traders. Due to high precision and quality, its punches and dies are supplied to the automotive, shipbuilding, aviation and food industries. Zhuang added that the company recently developed T40 punches, and that it will continue to expand the product line to offer clients punches and dies in more available sizes.

Soon Bau’s contact: General manager Mr. Chuang Yao Zheng
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Keeping an Eye on the Global Market with Development and Supply of Professional Dies, Molds & Tooling

Cham Hung Enterprise Co., Ltd.

放眼全球市場 專業工模具開發
供應- 呈鴻企業有限公司

by Gang Hao Chang, Vice Editor-in-Chief
of Fastener World

Located at the fastener manufacturing heartland of Taiwan (Gangshan, Kaohsiung), Cham Hung Enterprise Co., Ltd. under the leadership of President Hui-Hung Huang has continuously kept its steady growth in business and expanded its customer base. Thus far, its business has been mainly focused on the R&D and manufacture of tungsten carbide products (e.g. tungsten carbide tooling for screws and nuts, cut-off knives and carbide quills), alloy steel products (e.g. alloy steel dies, cut-off knives, carbide quills, punches and other various alloy dies), and many other hex punches, trimming dies, fingers/grippers, K.O. pins, feeding rollers, thread rolling dies, springs, etc. In addition to being widely used in relevant domestic/overseas fastener processing applications, the excellent quality, durability and performance of Cham Hung's products have also made the company industry-wide recognized by users.

High Precision and Applicability of Products Make Them Widely Adopted in One-station/Multi-station Formers

In the application of molds, dies and tooling, material selection, whether specifications are precise enough or not, and whether the performance is as per customer's request are factors that matter. So, Cham Hung, which has years of experience in the development of molds, dies and tooling and a team of technicians to supply these products is definitely qualified to



meet the expectations of the industry. As a result, its products have been applied to various one/multi-station formers for manufacturing socket sleeves, nuts, bolts, auto parts, motorbike parts, bicycle parts and so on.

In an interview, President Huang, who is gifted with the development capabilities of molds, dies and tooling, said, "Cham Hung's customers come generally from W. Europe, S. Europe, S. Asia, Southeast Asia and Northeast Asia. We've maintained very stable and harmonious long-term collaboration with each other. No matter what products our customers request (standard or customized, for example), our professional R&D team is definitely capable of completing the tasks as long as they can submit drawings in advance. Plus, we can even arrange a complete customized air or ship delivery procedure for any specific customer if necessary.



Global Business Expansion

The No. 1 Product Manufacturing Solution for Customers

As a company whose manufacturing procedures are ISO 9001 certified, Cham Hung is not only dedicated to the improvement of its manufacturing procedures for molds, dies and tooling, but is also expecting to establish consolidated collaboration with customers from different market segments, in order to offer the optimal solution to its global customers currently facing tough issues in manufacturing procedures. On the other hand, Cham Hung once exhibited at Fastener Fair Turkey in Istanbul in 2017 and 2018 to seek more business opportunities and potential customers, as well as strengthen the global brand exposure of its professional products. President Huang added, "We are always open-minded to any future possibilities! We will also be more active in exhibiting globally and will not exclude the possibility of expanding our facilities in the future."



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