



世鏗精密股份有限公司
SHEH KAI PRECISION CO.,LTD.



The bi-metal screw anchors of Sheh Kai Precision Co., Ltd. (TWSE: 2063) officially received ETA issued by German DIBt this May. The ETA is mainly issued to building materials and is the best proof that a certain product is in compliance with the 6 major requirements of 89/106/EEC (CPD).

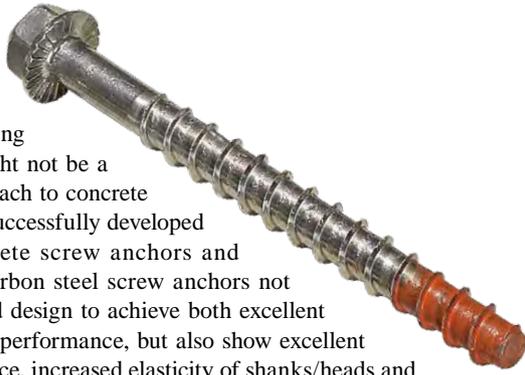
*by Gang Hao Chang,
Vice Editor-in-Chief of Fastener World*

The R&D Expert of Global Leading Bi-metal Products Sheh Kai Precision Co., Ltd. Receives ETA from Germany

Application-oriented to Create Innovative Products in the Market

Over 20 years ago while most companies were still focusing on carbon steel drilling screws for corrugated steel sheet, Sheh Kai already saw the potential of bi-metal screws in professional fastening application in construction and became the first in Taiwan to focus on the R&D of bi-metal stainless steel screws, which were also the area many European and Japanese companies were dedicated to at that time. However, the entry barrier for bi-metal screws is high. Not only partial heat treatment of carbon steel, design of drilling points/threads, and QC of bi-metal screws in manufacturing should be taken into account, but also the joint and stability of different materials should be aware, which is also the reason that many companies still keep themselves from focusing on this area. With years of effort, experience and support from technical staff, Sheh Kai not only got through challenges and bottlenecks and tried to be customer-oriented in the R&D of products, but also successfully turned the experience into its core strength. General manager Andy Lin noted, "Fastener companies have too many homogeneities, so the improvement in technique and creating their own technology would be critical, which has been the development goal of Sheh Kai for more than 20 years as well. The monthly production of our bi-metal screws has increased from 6-7 million pcs/month 10 years ago to 15 million pcs/month. We developed our own manufacturing facilities with continuous improvement and finally got support from many int'l customers."

After being dedicated to bi-metal screws for 15 years, Sheh Kai then realized that depending fully upon bi-metal screws might not be a good plan, so it extended the reach to concrete bolt fastening 8 years ago and successfully developed large-size carbon steel concrete screw anchors and SS bi-metal screw anchors. Carbon steel screw anchors not only demonstrate unique thread design to achieve both excellent assembly and high anti-pullout performance, but also show excellent hydrogen embrittlement resistance, increased elasticity of shanks/heads and the ability to resist high stress. Although the manufacturing cost is comparatively high, the self-developed duplex heat treatment technology Sheh Kai uses to process the hardness distribution of carbon steel bolts could help achieve higher safety level and longer durability.



Sheh Kai: The Acquisition of ETA is a Proof to Our Technique and a Revelation of Our Promise on Product Quality!

Compared to carbon steel screws/bolts, the manufacturing procedure of bi-metal SS screws/bolts is more complicated, not to mention the unique material features, stringent safety requirements and higher unit prices. However, as the EU's regulations for environmental protection and requirements on building materials become more and more stringent, these products would definitely become the main option in future advanced construction application. For anyone who wants to tap into the EU market, the acquisition of CE has become a requisite since 2013, but this is only for general construction screws. When it comes to more professional screw anchors for concrete, which are required to pass certain tests (according to relevant documents of ETAG 001 and EAD), the acquisition of an additional ETA is required before they are certified to CE. Accordingly, after Sheh Kai received ETA from Germany this May, it means that its new products could be officially allowed to be traded in the EU market.

Lin added, "What Sheh Kai received this time is ETA Option 1 issued by German DIBt and everyone knows that the auditing process in Germany is the strictest and the most complicated. The testing items include the compliance with strength standards while assembled in high/low concrete, anti-pullout test in different concrete types, dynamic test (such as test in cracking concrete, hydrogen embrittlement, fatigue test, etc.) and the min. distance test before the concrete cracks. The dynamic test is especially the difficult one, as bolts not only have to pass the pullout test in static cracked concrete, but also have to pass the strictest standards for anti-pullout and assembly in continuous changing load, dynamic cracked concrete and concrete with rebar. This means that Sheh Kai's products have passed the strictest standards in the world, and also means that the quality of our concrete screw anchors has reached the world's top level."



To Increase Product Awareness with ETA and Reinforce Strategic Collaboration with Partners in the Global Market

For Sheh Kai, which has been dedicated to the EU market for decades, the acquisition of ETA could not only further consolidate the leading position of its bi-metal screws in European construction market, but could also boost its future development in other major markets like Australia, China, the Middle East and USA.

Lin said, "ETA plays a key role in manifesting the value of products. In many non-EU markets where the certification for product quality has not been completely established yet, the acquisition of either ETA or CE would be very important. For

example, Australia has recently included in its TS101 building materials regulations the requirement for ETA for any concrete screw anchors in the market. On the other hand, in China and the Middle East where there is no complete national quality regulations, the acquisition of ETA especially becomes a must in major construction projects. For Sheh Kai, the acquisition of ETA could help us increase the value of our products in these markets, enhance the recognition of customers from more advanced industries and expand our strategic collaboration with local partners."

Lin said, "Thus far not too many companies have been certified to this certification, so we will grasp this opportunity to promote our products and expand our long term business with our local authorized sales agents around the world. In addition to the promotion in Europe and Asia, we are also planning to apply for U.S. ICC certification, in order to be well-prepared for tapping into U.S. high-end fastening application in the future."

About Sheh Kai

Established in 1992 and headquartered in Kaohsiung (Taiwan), Sheh Kai is specialized in the R&D of various bi-metal screws (self-drilling screws, self-tapping screws, window screws, wing screws), specialty screws, automotive screws, double-end hanger bolts/screws, hex lag screws, carriage bolts, screw anchors for concrete, hammer drill bits, etc. Its products have been sold to more than 20 countries and have been certified to ISO9001, ISO1400, ETA, IEA and SGS.

In addition to screws, Sheh Kai with the core strength accumulated from the R&D of bi-metal screws, has also successfully developed hammer drill bits made of tungsten carbide and alloy steel for drilling tools used in chemical screw anchors and anchors fastening. The front tap made of tungsten carbide and the rear tap made of alloy steel are formed



separately before they are jointed together. Such a technology is only obtained by a few companies and Sheh Kai is one of them. Sheh Kai's drill bits in application could reach the number of 700 holes per bit. These products caught the attention of European customers in Int'l Hardware Fair Cologne 2018 and are available for sales through Sheh Kai's agents in Australia, Japan, USA, Korea, Brazil and Europe.

Sheh Kai contact: Manager Barry Tsai

Email: printf@shehkai.com.tw