

Manufacturing in China demands due diligence

By Doreen Huro Michelini, C.P.M., Vice President, Global Operations, Dial Tool Industries, Inc.

The exodus to China by many large U.S. companies in an effort to increase profit earnings has been the trend over the past several years. This move is mainly motivated by the promise of cheap labor and the ability to attract a population with an expanding disposable income to purchase their products. Although the manufacturing and assembly processes in most cases have been completely relocated, many are still retaining the design and engineering at the U.S. corporate headquarters. This can pose several problems if the engineers are unfamiliar with the materials available, as well as the quality of these materials in China.

Bob Newton, engineering manager with Cooper Bussmann Chicago, knows firsthand the problems of designing in the U.S. for manufacture in China. A veteran in the electrical industry, he understands the complexity of sourcing materials in China: "The real issue is that the U.S. engineers do not understand that the normal metal producers we work with do not always have an Asian presence." Newton concedes that there are "many good metal producers over there," but also adds, "the engineer needs to be responsible [to supply the material], or work with the Chinese supplier to find an equivalent metal made by Asian metal producers."

Due to weight, corrosion problems and import duties, it is not always advisable or practical to ship material from the U.S. to China. Pete Perry, regional sales manager with ABC Metals has customers trapped in situations where they have to move materials overseas in order to keep production running. Perry says, "While available, the quality of nickel silver material is far below the standards of what is supplied in the U.S." When reviewing the total cost of the product being produced, any anticipated savings can quickly erode with these added costs.

Although there are several producing mills in China, Chris Martin, operations manager with Tandem Metals, has customer feedback stating a lack of service centers. "Customers forced to source materials in China have found themselves having to place orders directly with mills, who in turn are requiring large commitments, long lead times and not wanting to hold material on the floor for long periods of time," he says. Quality is another issue with the Chinese mills—in some cases, producing materials at the low end of the specification. This can affect the performance of the end product when tested for heat rise or put through the rigors of UL testing.

Wieland Metals, headquartered in Germany, opened a

Shanghai service center in 2001 to supply its customers who have moved manufacturing to the Far East. All metals are produced at the mill in Germany, rolled and then sent to China for slitting. Urs Laubender, sales manager for North America explains, "This ensures the same quality product available in the U.S. and Europe can be easily obtained by our customers who have facilities in China." It is Wieland's philosophy to "provide quality product globally."

A lack of metal finishers is another frustration being voiced by U.S. engineers and purchasing managers. In many regions of China, the sources available are of low quality and are limited to the type of plating they can provide. U.S. manufacturers requiring uncommon plating specifications or special plating processes such as pre-plate and masked plating can find their hands tied to whatever is available within the area they are manufacturing.

Dial Tool Industries, Inc., which has a metal stamping facility in Dongguan, moved a product line requiring nickel/tin pre-plate cold rolled steel. Although both tin and nickel were available at a local supplier in barrel plate, it wasn't available in pre-plate. It took initiative from the Dial Tool China team to work with the local pre-plate supplier to first convince it to add nickel to its tin line and then work with the supplier closely to help develop the quality standards needed. This experience taught Dial Tool several lessons. First, don't assume that the same services available in the U.S., no matter how simple, can be readily available in China. Next, Dial Tool had to gain the trust of the local Chinese plater and provide it with information such as forecasts, current orders and past usage in order to convince the company that they would be able to support implementation of the new line. Lastly, the Dial Tool China team worked closely with its U.S. counterparts to provide quality specifications and testing support to ensure the same level of quality on which Dial Tool built its reputation was being carried over to the facility in China.

The moral of this story is to do your homework before moving your metal needs to China. Investigate the grades and quality of the metals needed in your operation. Ask for specification sheets showing the material composition to confirm the material will meet any rigorous testing the end product may be required to perform. Investigate any secondary operations necessary, no matter how elementary, such as heat treat, deburring, austempering, powder coating and plating to assure you have all the players in place to make your facility successful. ■