West Coast Edition
For WA, OR, & CA

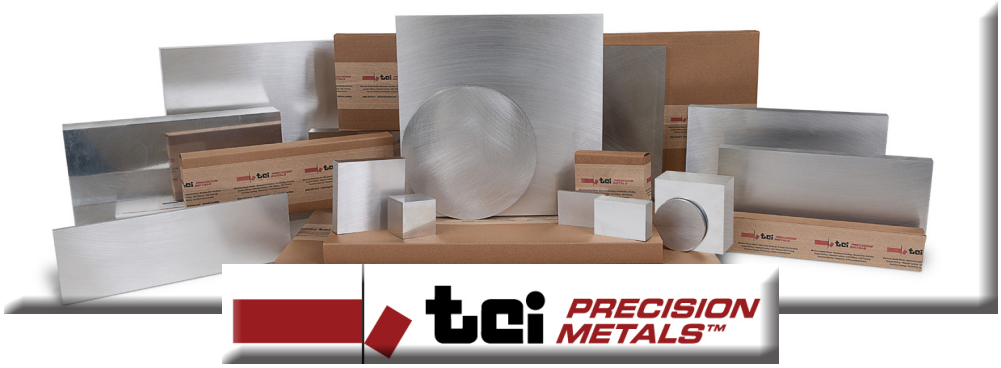
A2Z MANUFACTURING

Vol. 11, No. 2 APR-MAY '21
Cover Story: TCI Precision Metals
Pages 20-21

TCI Precision Metals Machine-Ready Blanks

Ready to Load Directly Into Your CNC Machining Center

a2zMFG.com



Machine-Ready Blanks
Ready To Load Directly Into Your Cnc Machining Center

For nearly its entire 65-years in business, TCI Precision Metals has been laser focused on producing machine-ready blanks, including flat, square and parallel. Founded in 1956 by Burt Belzer, TCI is a third-generation family-owned business with current day-to-day management responsibilities falling under Ben Belzer, President and COO.

Ben says, "We often ask our customers' about production bottlenecks associated with material sourcing and preparation; the responses we get are pretty consistent. Prior to relying on machine-ready blanks most customers spent a lot of time and resources prepping materials for their next job, often relying on equipment and machinists better suited for the high value work of finish machining. Material prep bottlenecks can bring production to a grinding halt." He adds, "It is truly an art getting parts flat, square, parallel and destressed to mitigate part movement during final machining. In addition to having the right equipment it takes highly skilled processes, especially when it comes to consistent production quality and quantities. This is the expertise we developed at TCI Precision Metals that we are able to bring to our customers."

He continued, "Because machine-ready blanks are close tolerance and consistent blank-to-blank, many customers report faster part changes and reduced clamping time. The consistency also supports automated production applications such as pallet pool systems, robotic part placement, and full lights out machining. Aside from increasing throughput, precision machine-ready blanks also make entry level machinists more productive by letting them start the job with flat, square and parallel materials that arrive ready to load, lock and go."

Custom machine-ready blanks are precision ground and/or milled to the customer's net specifications and can be furnished as close as +/-.0005" dimensionally and as close as .002" in flatness, squareness and parallelism. Each machine-ready blank is deburred, cleaned and vacuum packaged (if possible) to eliminate the possibility of damage during handling and shipping. Our machine-Ready Blanks helps shops increase throughput up to 25% allowing them to ship finished parts faster and get paid quicker.

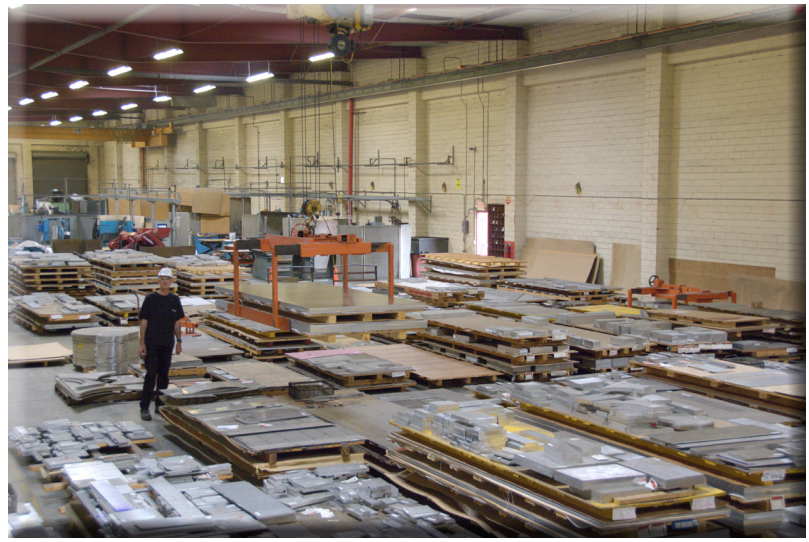
Typically, machine-ready blanks are square, rectangular, or round, but TCI also offers feature-added blanks, which are milled to the same tight tolerances as custom blanks but include one or more features such as hogging large amounts of material as specified by the customer. Feature-added blanks require less in-house machine time to finish the part. TCI also produces dovetail machine-ready blanks. Each Blank includes a precision dovetail feature to match the brand and model of the dovetail work holding fixture used by the customer. Dovetail blanks are perfect for 4- and 5-axis work.

Recently, TCI Precision Metals announced a program to provide customers with first article sample parts on request with accompanying production volume quotation. The program allows customers to verify production processes, fixturing and create first article finished parts, realizing the benefits of machine-ready blanks, before ordering the materials. Some restrictions apply.

TCI Precision Metals is a value-added metals distributor but is also happy to process customer supplied materials as well. TCI offers Blanchard grinding, double disc grinding, duplex milling, sawing, waterjet cutting, flattening, finishing and straightening. Their customers come to TCI when they struggle with keeping parts flat during their machining process. TCI's specialized flattening and straightening equipment ensures your parts will arrive flat, without twist, without bows, so you have the confidence the parts will not move when you cut your first chip.

Ben says, "Our industry skillset is akin to what a journeyman machinist spends years in training to learn, it is often manual, it is often custom, and our employees are truly artisans. Our employees are so skilled that we do everything we can, with competitive pay and benefits and a good working environment, to retain them. Our employees are in essence, our competitive advantage, and everything we do for our customers is value add."

Ben is a Millennial and as you can imagine, he embraces technology. "I view one of my

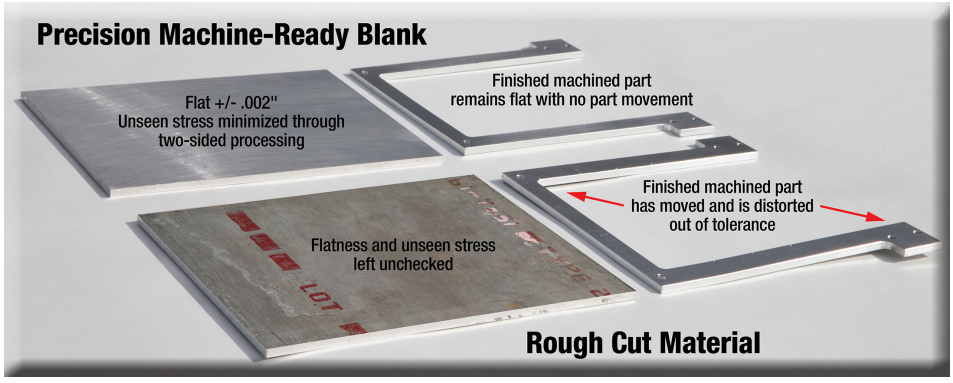


key roles in the company is to bring new technologies into a mature industry. It is the technologies that we invest in that will differentiate TCI from others, facilitating continuous efficiency improvements, including shortening the order to delivery timeframe, particularly for customers across the country."

TCI has continued to invest into new state of the art equipment to support their customers with a high yield precision plate saw, CNC high-volume duplex milling machines for flat plate, and a state-of-the-art water jet cutting machine to cut perfect blanks for the 18,000 machine shops in the USA. "We produce precision machine-ready materials much more efficiently than our customers can on their shop floor. The savings are passed on in the form of high quality and value pricing," said Ben.

Under Ben's direction, the company has launched its Online Store https://shop.tciprecision.com late last year, which offers standard size blanks for quick delivery. The Online Store is an ideal materials source for low volume quick-turn production jobs, prototypes and more. Ben says, "Our online store stocks nearly 1,700 standard size, alloy and tolerance configurations. These machine-ready blanks are already produced and available for immediate shipment." As a rule, products available through the TCI Online Store ship the next day.

TCI Precision Metals is based in California, but the majority of their customers, an estimated 70% are based outside of their home state, and a significant number of their customers hail from the east coast. For customer convenience all quotes include shipping.



Ben says, "We are a very specialized niche business, when customers need close tolerance, flat, square, and parallel materials they are really faced with three choices, 1) either purchase from a company that specializes in machine ready blanks, or 2) buy oversize material and then finish it up to near net size in their own shop with sawing, milling, grinding and/or deburring, or 3) send it out to an outside grind shop. When choosing to prep material in-house or through a grind shop there are costs to consider. When sending materials out to a grind shop it is easy to monetize, but when they finish it up near net size in their own shop, the costs are not always apparent. They need to consider scrap, machine time, consumables, labor time, and nearly always the output will not be to the quality they will get from TCI. Our challenge is to help purchasing agents to evaluate the total cost of producing a part as they are selecting suppliers."

Ben says, "With a single PO shops can receive machine-ready materials that let them get right to the high value process of finish machining, by eliminating material prep and other time-consuming processes. Choosing machine-ready materials and services will reduce overall cycle time (chip-to-chip), accelerate throughput and provide a leaner, more efficient production environment." Machine-ready blanks from TCI Precision Metals can be delivered all at once or just-in-time based on production scheduling.

TCI is constantly seeking qualified candidates for openings at their company, and they offer competitive salaries and great benefits. And if you have a need for machine ready blanks – flat, square and parallel, contact them at (800) 234-5613. You can also learn more about them by visiting their website: tciprecision.com

STARTING WITH A PERFECTLY FLAT METAL PLATE VS. MACHINING IT FLAT…

"Years ago, our machine shop bid a job from a wafer manufacturing company for a plate that had to be perfectly flat when finished machining the details into it, about .001" over all flatness.

When I saw the job, I knew what was available out there from the mills, and from experience recognized through standard machining practices the part would move, or potato chip as we call it in the industry. So, I quoted the job using double disc ground plate from TCI, as I had prior success with them on jobs requiring tight tolerances for flatness.

When we won the job, my boss said we didn't need to buy the perfectly ground plate, that he felt with all of his many years of machining experience he could relieve the stress of the material by slightly skim cutting one side and then the other slowly to alleviate the stress and the reaction of the metal to go back to its original state.

I bet him $20 that he would not be able to hold the flatness and we would lose the raw material we bought and lose money on the first order by scrapping the raw material. I begged him to let me bring in the Double disc ground plate as we had quoted the job. "I got this", was his answer?

Three week later, with his tail between his legs he said, "I was wrong, that material potato chipped on me, just like you said. Can you get me that perfectly ground plate in here in 2 weeks?" I said probably not, you ate up my lead-time. I will ask the customer for more time and, by the way where is my twenty bucks.

I won the bet, not that I really wanted to, I wanted to make the parts right the first time.

It is better to start with the end in mind. If it has to be flat to a tight tolerance, start with flat perfectly ground material. You won't be sorry, and you will make money."

Kim Carpenter
Customer