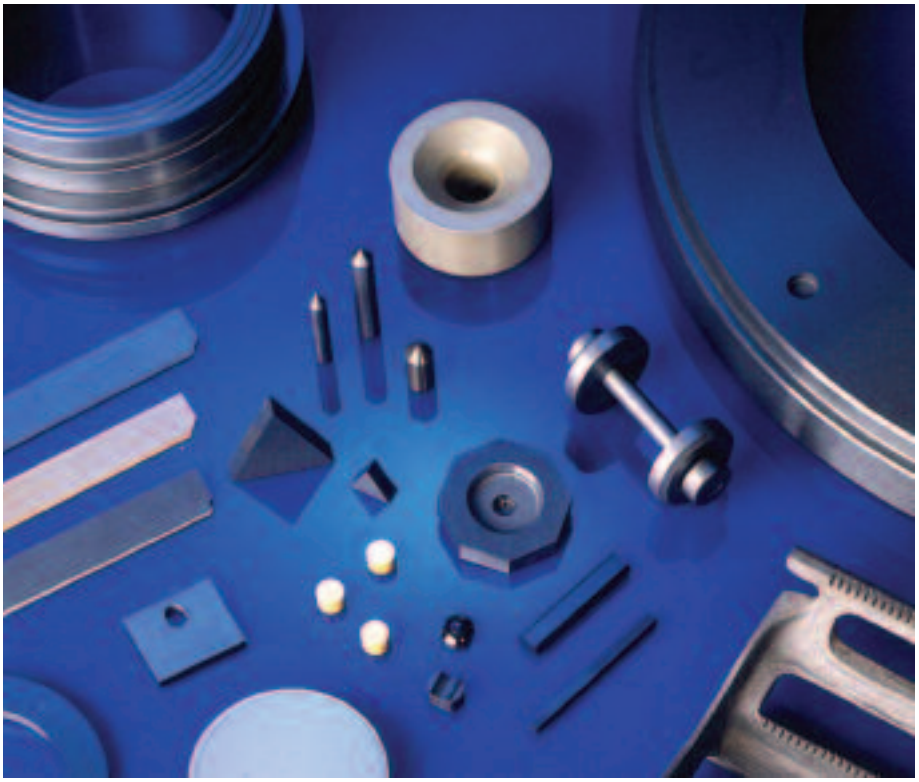
INVESTING IN CERAMICS:

Crossing Over

by **Brian Hayes**, Associate Editor

PremaTech Advanced Ceramics is combining the best of two service- and technology-oriented companies to provide the ceramic industry with advanced problem solving and design expertise.

Since 1968, General Carbide Corp., Greensburg, Pa., has produced a range of tungsten carbide products used in wear, cutting and metal-forming operations in a number of different industries. The company, which is known for its attention to detail and tight specs, operates three manufacturing plants in the U.S. that serve an international customer base. Whether tungsten carbide is a ceramic or metal continues to be a point of debate, but General Carbide didn't consider itself to be part of the ceramic industry in any conventional sense—that is, until it began looking for ways to grow the company.



Management changes have resulted in improved deliveries and quote response in providing precision ceramic components.

Branching Out

"In 2002, General Carbide was looking at the economy and we decided to diversify (my) family's holdings," says Mona Pappafava, president of General Carbide. "At that time, there didn't seem to be as much business in carbide as we wanted, though that has since changed."

Pappafava says the decision makers at General Carbide were interested in further exploring the industrial products market, but not with just any company. They wanted a company that knew its product and was poised for growth—one that could benefit from a strong executive management team and the financial support only a larger parent company could provide. In 2003, PremaTech LLC was created to act as the acquisition arm of General Carbide.

From the outset, Pappafava thought ceramics might be a good business to get into; it was different than carbide, yet still materials-related. As it happened, Worcester, Mass.-based Chand Associates Inc. had a ceramic machining division (est. 1980) that possessed the qualities of a good acquisition.

"Chand Kare Technical Ceramics had this fantastic grinding methodology, which was very impressive," Pappafava says. "They machined parts perfectly that others wouldn't even attempt. And so, when we found them, we said this is the direction we want to pursue."

For its part, Chand wasn't looking to sell its ceramic machining division when it was approached by a search firm working on PremaTech's behalf. However, Chand's management considered the companies' complementary attributes—financial clout and skill, respectively—and decided that a marriage of the two would be good for the industry.

PremaTech's purchase of Chand Kare Technical Ceramics was finalized on December 31, 2003. PremaTech LLC rang

in 2004 boasting a new division, now known as PremaTech Advanced Ceramics, with proven expertise in the machining of components for the semiconductor industry, tensile test specimens and structural ceramic parts, among others.

Internal Affairs

Of all the changes that Chand Kare Technical Ceramics underwent on its way to becoming PremaTech, none was more profound than the implementation of a new, more service-oriented infrastructure. Chand Kare had always been good at what it did, but the relative smallness of the company (40 employees) had fostered a somewhat less-than-formal internal environment. General Carbide executives felt a makeover in the form of a more structured company backbone was essential if the PremaTech division was to move to the proverbial "next level."

"Over the past year, we've been making the transition from a 'mom and pop' approach to a more robust business system," says PremaTech Plant Manager Dan Bangs. "We're working on our systems to make them more efficient and accurate."

Bangs says improvements to the PremaTech system run the gamut from the incorporation of a field sales team (a first for the company in any incarnation) to order entry management to the actual shipping of orders. However, even with a new owner and new company policies in place, Bangs says there has been a concerted effort to remember what put Chand on the map.

"Our expertise is primarily in problem solving," Bangs says. "'How do you make this part? What kind of information can we share with our customers on the parts they're looking for?' We're being very careful not to disrupt that element while trying to add a little more structure on the business side.

"In summary, we're keeping the strengths of a smaller service organization while adding some of the benefits of being part of a larger company," he adds.

A Closer Look

According to Tom Shearer, companies that specialize in the precision machining of advanced ceramics—without making material—are few and far between. Shearer puts this number at less than 10, adding that only three or four offer exactly the same services that PremaTech Advanced Ceramics does.

"We have a tagline that we use called 'application-adaptive machining,'" Shearer says. "We want to know what the final application will be when we grind a ceramic piece in order to maximize the strength of the material and minimize any residual stress that we would put into it.

"Let's face it—any time you put a grinding wheel to a piece of ceramic, you're doing damage. You're removing material. The idea is that you don't want to remove strength from that material, but you have to make it to the customer's specifications."

Shearer adds that PremaTech's goal is not just to meet a customer's expectations, but to exceed them. This involves evaluating a piece for functionality and perhaps even modifying its design for maximum efficiency. Production Control Manager Ellen Costello notes that the mass-manufactured pieces PremaTech receives often lend themselves to some degree of tinkering. "Some materials arrive in bulk form," she says, "so it leaves a big opportunity for fabrication."

Though confidentiality agreements keep PremaTech from disclosing the particulars of its client list, the company cites material manufacturers, government agencies and universities as its biggest customers.

Current Events, Future Goals

Internal developments continue at PremaTech as the company passes its 18th month associated with General Carbide. Pappafava emphasizes the fact that PremaTech's status as an engineering-driven company places it in a state of perpetual education; if employees aren't figuring out how best to reduce costs in one customer's part, they're explaining to another what modifications might benefit their current design. "This allows us to provide the industry with a quicker route from prototype to commercialization," Pappafava says.

Tom Shearer, director of business development for General Carbide and PremaTech LLC, reports that the financial might of the combined companies has allowed PremaTech to undergo a total review of its capital equipment, complete with programmed machine replacements and upgrades of certain pieces of equipment. In addition, the company recently completed a successful Surveillance Audit for an ISO 9001 system originally certified before PremaTech LLC's purchase of Chand Kare Technical Ceramics. Bangs says PremaTech's intent is to make the guidelines outlined in ISO a part of what the company does on a daily basis, rather than using its certification as a marketing tool.

All improvements serve to move PremaTech closer to its ultimate goal of becoming less a passive service provider for its clients and more a reliable and credible collaborator. "We'll provide a service, but we can also procure products and improve upon them when asked. We'd really like the industry to view us as one of the most well-known and trusted suppliers of machined ceramic components," Shearer says.

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