



Ceralink's Holly Shulman sets up a feasibility study.

Ceralink Inc., Alfred, N.Y., a materials engineering and technology commercialization service, has established a progressive laboratory, the Microwave Testing Center, that offers clients the ability to explore microwave technology in stepwise stages, through small feasibility studies, extended feasibility and scale-up services.

EXPLORING THE POTENTIAL OF MICROWAVES

Microwave technology offers many benefits, including faster firing cycles, lower energy input and cleaner, more cost-effective production. Ceralink shows clients how microwave technology will benefit them and demonstrates how to convert from traditional to microwave sintering, binder burnout, calcination, forming or melting.

Early in 2003, Ceralink received a \$48,000 grant from the New York State Energy Research & Development Authority toward building a \$100,000 microwave-assist electric furnace. Microwave assist technology—the patent is owned by C-Tech Innovations (United Kingdom)—uses microwave energy to assist with either conventional electric or gas firing.

This new furnace expanded the center's capabilities and allowed Ceralink to demonstrate feasibility for companies that would benefit from this technology.

According to Holly Shulman, CeraLink president, the company's standard feasibility testing method and reporting format allows industry to explore the



Material testing in CPI Autowave at Ceralink's Microwave Testing Center.

benefits of microwave technology and helps avoid redundancy in climbing the learning curve and premature investment in capital equipment.

"One of the barriers to the commercialization of microwave technology has been the lack of availability of low-cost feasibility studies," said Shulman. "Our snapshot feasibility study helps clients learn how microwave technology will benefit them before committing a large investment."

Hands-on Consulting

Ceralink also offers hands-on consulting, advanced materials development and an original approach to technology commercialization, known as Ceralinking.

Shulman defines Ceralinking as a system of connecting partners and ideas in ways that mutually benefit everyone. "We assist our clients in finding appropriate partners, where needed. Ceralink also functions as an outsource company, offering highly skilled, accountable materials R&D," she said.

Shulman cited Engelhard Corp.'s \$5-million DOE contract as an example of Ceralinking and R&D services. An Iselin, N.J.-based surface and materials science company, Engelhard came to Ceralink wanting to understand how to better utilize microwaves to recover precious metal catalysts from fuel cell substrates.

Bruce Robertson, Engelhard's ventures manager, credits Ceralink for connecting them with a university that was already doing work in the field. "This enabled us to apply for the grant on a timely basis," he said. "As a result, Engelhard was awarded a \$5-million, five-year contract with DOE, with Ceralink having a critical research role."

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