

Profile



Photos above show robot processing after application of Buntrock's fiber-enhanced back-up slurry (black color)

over prime coated (white color) assemblies. Photos compliments of Consolidated Casting Corporation.

Buntrock Industries, Inc.—

More than A Seller of Other People's Products; Research Results in Patents

Buntrock Industries, Inc., which started as a distributor of shellbuilding products to the investment casting industry about 30 years ago, has developed, not only into a full-line distributor of products and equipment, but an industry innovator. The company already has several patents under its belt, and more are on the way.

The fact that Buntrock offers an extensive line of products and equipment for virtually every phase of the investment casting process is enough to make the company a standout in the industry. But

the company has systematically merged technologies from various suppliers and sources and bundled products in a new and different way.

President and Owner Kermit Buntrock says each supplier is a piece of the picture— an expert in his arena— but not the whole picture... "a piece of the pie, but not the whole pie."

"Certainly one of the keys to our success has been and remains the quality and attitude of our people," Buntrock said. "Although we are a small business in terms of the number of em-

ployees, we are quite broad in terms of our geographic coverage, scope, and depth of our commitment to the investment casting industry. Because of the expertise of our vendors and the experience of our marketing people, we are able to take a holistic approach in working with and solving customers' problems. This helps us to form a tight bond with our customers at numerous levels."

Buntrock indicated a turning point in his business philosophy came several years ago when he completed an executive MBA program at The College of Wil-

liam and Mary. "After finishing those business classes, I had a wake up call. I decided on a change in direction. We needed to be more than a seller of other people's products," he said.

"We are typically involved with multiple products," he added. "The key to participating in this industry in the future is to become more efficient, to innovate and to process change."

In an effort to make product lines more efficient, Buntrock began investing in its own research and development. "Our initial work was on shell technology; that's where we started, and remains our major focus," he said.

The company opened a testing laboratory in the late 1990s. While the lab currently offers testing and customer service, it has expanded and has become focused on research and development.

The company's most significant recent development in shell chemistry is the marriage of fiber as a component of the shell. Buntrock has developed a number of new products using fiber with refractory materials. A new fiber-enhanced slurry system is a Buntrock product or formula using components of other manufacturers.

The events which culminated in this innovation began several years ago. "We were working with fibers as an additive; I was asked if I'd be interested in working with Wex Chemicals in distributing a fiber they had developed. We began working together to improve technology. Wex had a patent in the U.K. which covered the use of an organic fiber in an investment casting slurry. Buntrock licensed that technology, and we've been working cooperatively ever since," he said.

Buntrock recently received a notice of allowance from the U.S. Patent and Trademark Office for its patent application that relates to dry blends of organic and inorganic fibers with refractory materials. The dry blends can be mixed with colloidal silica binders to form slurries for use in manufacture of investment casting shell molds. Foreign patents have been granted, and additional patent applications on this technology have been filed.

Meanwhile, Wex Chemicals has received written notices of allowance for two additional U.S. patent applications covering the use of insoluble organic fibers for use in investment casting slurries. Wex has appointed Buntrock Industries as the exclusive U.S. licensee.

As a part of the organic fibers effort, Buntrock has been looking at ways to improve slurry chemistry. In order to that, researchers have examined existing tests that have been done for years and years—specifically the MOR test which tests green strength when the shell is dry. "That's not when shells crack," he said, "If you test the specimens after they are steamed, you get significantly different results. We're looking at test methodology to make tests more meaningful."

Buntrock believes this effort could change the way investment casters do testing.

Shellbuilding, however, is just a part of the total picture. Buntrock Industries, Inc. has aligned its business with suppliers that help drive technology. One of these is MPI Inc., which has developed an Automatic Pattern Assembly Machine (APAS), which produces more parts per tree configured precisely for additional automated steps in downstream investment casting processes.

"The challenge is to look at value rather than price," Buntrock said. "Price goes into the calculation of course, but cost benefits are the key to efficiency and bottom-line cost effectiveness."

Buntrock Equipment Lines

MPI Wax Injection Equipment/Automated Pattern Assembly Systems
Wax Dip Coating/Wax Dispensing Tanks/Wax Melting Equipment
Precision Rapid Prototyping Equipment
Hydrogen Wax Assembly Torches
Robots/ Computer Controlled Drying Cabinets/Automated Work Cells
Lightnin® Mixers
High Speed Dispersers for Slurry Mixing
Slurry Tanks/Fluid Beds / Rainfall sanders
Centrifugal Blowers
Dust Collection Equipment
Autoclave Systems/Boilers/Wet Accumulators
Burn-out, Preheat, and Pusher Furnaces
Electric Resistance Melting Equipment for Aluminum
Induction Melting Equipment
Pneumatic Hammers and Knock-Out Equipment
Caustic Leaching Systems
High Pressure Water Blasting Equipment
Sand and Shot-blast Equipment
Abrasive Cut-off Machines
High Speed Friction Saws
Power Grinders/Automated Cut-Off Equipment

Buntrock Material Supplies

Fused Silica/Mulgrain® Alumina Silicates
Molochite®
Zircon Products
Fused White Alumina
Fused Zirconia/Yttria
Binders for Titanium Casting
Carbon Stucco
Abrasive Blasting Media
Alumina & Fused Silica Crucibles
Ramming Mixes
Solid Mold Investment Materials
Pour Cups
Pattern, Soluble, and Gate Waxes/Wax Shapes and Extrusions
Metals and Metal Alloys
Colloidal Silica Binders
Polymers, Wetting Agents, Pattern Cleaners,
Defoamers, Bactericide
Quick-set, Fast-dry Binders, Fiber-enhanced Slurry Systems

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