

# An ironclad partnership.

Wear-Tek Inc. in Spokane, Washington, specializes in casting long-lasting, abrasion-resistant components for the aggregate processing industry. They melt high-chrome white iron, steel and other alloys at extreme temperatures and pour them into custom-built molds to cast components for rock crushers, asphalt pavers and other machinery. The company has also cast its own industry niche.

Wear-Tek is strict about selling replacement parts only to the original equipment manufacturers (OEMs) it serves. They put their customers first. It's a level of integrity that has attracted OEMs as far away as the U.S. East Coast and Midwest, and is a big reason why, during 16 years in business, sales have grown from \$2 million to \$18 million. Wear-Tek's commitment to a win-win philosophy is why the foundry likes partnering with Avista for its energy

needs. Avista is essentially made from the same mold.

Avista works closely with commercial and industrial customers like Wear-Tek to stay ahead of their energy needs and help them thrive. Whether it's offering energy advice, helping to pay for energy efficiency upgrades, or solving for immediate and future energy requirements, Avista is always proactive.

"Avista worked to understand our project needs and was a great partner in helping us plan for the future expansion of our business," said Wear-Tek President Bill Reynolds. "Their expertise has set us up to be a strong leader in our industry for many years to come."

Wear-Tek expanded recently because its metal-melting capacity was not keeping pace with its ability to more quickly fabricate custom product molds. The foundry casts metals in two parallel production bays that have six melting pots (furnaces) split between them. There was only enough power, however, to charge three melting pots at once, so it became necessary to keep furnaces running 24 hours a day. At times, tight production schedules even forced workers to use a crane to move molten metal between bays. They needed to be able to power a fourth melting pot, but that would require much more electricity.

Wear-Tek melts metals using electromagnetic induction. Inside each melting pot is a refractory-lined magnetic coil made of copper pipe. Cold de-ionized water is pumped through the pipe to keep it from melting as the copper is electrically charged. This creates an electromagnetic wave that is passed back and forth through the raw metal, generating resistance heat inside the object itself. It's the most efficient method to melt metals rapidly but still consumes a lot of power.



Custom molds are formed using sand and self-hardening chemicals (shown here).

To make sure Wear-Tek could get another furnace up and running quickly, Avista crews replaced the foundry's 7640 kilowatt power line with one carrying 13,200 kilowatts of electricity (which is roughly the same capacity required to run the Spokane International Airport).

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When starting the project, Avista analyzed Wear-Tek's estimated total electricity usage and demand, and recognized that they might be eligible for a more advantageous rate (designated for very large power users). There was one dilemma, however. They were required to have their total electrical usage recorded on a single meter. And as Wear-Tek had expanded over the years, it did so by absorbing nearby buildings, adding new offices and constructing a pattern shop, which meant they had multiple meters.

Avista engineers recommended a plan to ultimately combine all of Wear-Tek's meters into one. Wear-Tek's investment was coordinated and integrated with Avista installing a vault and two new underground transformers, so Wear-Tek could wire new equipment and buildings downstream from the same meter. Thanks to Avista's coordinated planning, Wear-Tek is now ready to tackle rapid growth well into the future.

With the new enhancements in place, Wear-Tek has already added a control panel for its air and water cooling pumps. Up next will be to wire their plant to run the additional melting pot furnace. Given the new furnace's higher 600 kilowatt rating, the foundry's maximum tons of molten metal produced per hour will increase by 40 percent. With the increased power usage (Wear-Tek also has a new grinding/finishing shop in the works), the foundry should meet the load threshold to warrant the rate for large electric users very soon.

"You wouldn't think a company that sells energy would be so eager to help us get a more advantageous rate," said Reynolds. "But time and again, Avista has proven that they want us to get the full value of every energy dollar."

Over the past six years, Avista has provided Wear-Tek with more than \$116,000 in rebates to make energy-efficiency upgrades. "The upgrades



Wear Tek heats metals and alloys to temperatures as high as 3,000 degrees.

have resulted in Wear-Tek saving more than 1,800,000 kilowatt hours of electricity and over \$123,000 in energy costs," said Avista regional account executive Doug Kelley.

During the recent updates, Wear-Tek took advantage of Avista rebates to install new efficient LED lighting in their managerial offices and throughout the production bays. On top of providing brighter light, the LEDs need to be changed less often than standard T-8s. Given the foundry's 30-foot ceilings and non-stop production, this eliminated a huge maintenance headache.

"Our bays are twice as bright," said Wear-Tek General Manager Mike Summers. "That's not only good for safety, it helps boost employee morale, too."

The foundry also benefited from Avista's natural gas expertise when it reconfigured the air/fuel mixture on its ladle torches.

For more information on Avista's energy efficiency programs for commercial and industrial customers, visit [avistautilities.com/bizrebates](http://avistautilities.com/bizrebates) or email [accountexecs@avistacorp.com](mailto:accountexecs@avistacorp.com).

Pictured above:

Bill Reynolds (front),  
President, Wear-Tek

Andy Paul (left),  
Mechanical Engineer, Avista

Doug Kelley (back),  
Regional Account Executive, Avista

Mike Summers (right),  
General Manager, Wear-Tek

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