COMPANY PROFILE ///

ADVANCED HEAT TREAT CORP.

‘WE MAKE THINGS BETTER’

Advanced Heat Treat Corp. added induction hardening in 1993. (Courtesy: Advanced Heat Treat Corp.)

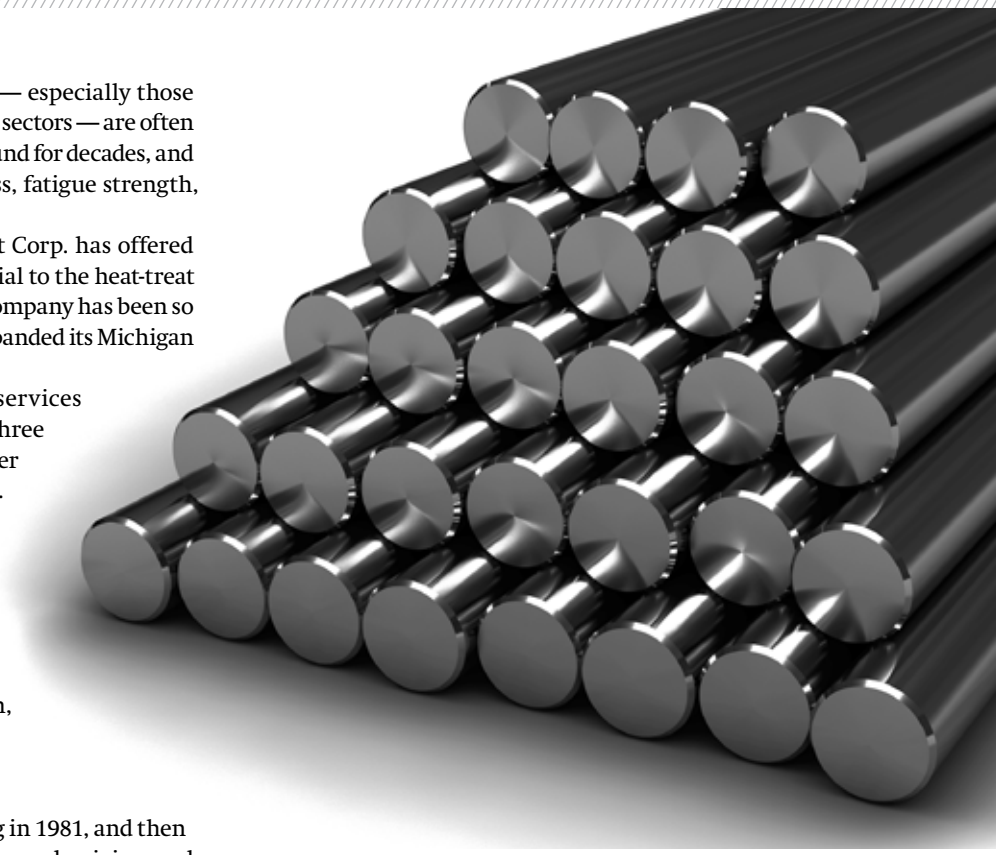
With locations in Iowa, Michigan, and Alabama, Advanced Heat Treat Corp. is a recognized leader in providing commercial heat-treat services and metallurgical solutions.

By KENNETH CARTER, Thermal Processing editor

Countless products made with metal — especially those used in the automobile and aerospace sectors — are often nitrided. It's a process that's been around for decades, and it helps improve the metal's hardness, fatigue strength, and resistance to wear and corrosion.

For more than 40 years, Advanced Heat Treat Corp. has offered plasma nitriding, as well as other services essential to the heat-treat industry, in its four facilities across the U.S. The company has been so successful with these methods, that it recently expanded its Michigan location to accommodate the growing need.

"We offer a variety of different heat-treat services specializing in the ion/plasma and gas nitride at three of our four facilities," said Chad Clark, plant manager at Advanced Heat Treat's Michigan location. "Our fourth facility — which is located just a couple miles away from our corporate office in Waterloo, Iowa — specializes in carburizing, through hardening, cryogenic treatment induction hardening — the conventional heat-treat processes. We've recently added additional induction hardening capabilities to our Cullman, Alabama facility, too."



UltraOx® is Advanced Heat Treat Corp.'s trademarked heat-treat process that provides three protective layers to protect parts from wear and corrosion. (Courtesy: Advanced Heat Treat Corp.)

PLASMA NITRIDING

Advanced Heat Treat began with plasma nitriding in 1981, and then added induction hardening in 1993. Then came carburizing and carbonitriding in 2000, and, in 2006, the company added gas nitriding to its toolbox, according to Clark.

"The first gas nitriding process was here in Monroe, Michigan, where I'm located," he said. "We just continue to grow."

Maintaining four heat-treating facilities has its challenges, but Clark emphasized that Advanced Heat Treat's ultimate goal is to ensure customers get the best process and material for their applications.

"We like to get involved early on in the process," he said. "We utilize our multiple metallurgists and materials engineers at each location to get on the ground floor in order to make the right choice. We're here to make things better. It still needs to be designed, but we have opportunities where we can help make it a better product — whether that's with the material selection or the correct heat-treat selection. We're dedicated to our customers. I know that probably sounds cliche, but we really are. We are very passionate about it. Passion is one of our core values, and it's something we look for, not in just our employees, but our customers and our supply base."

MICHIGAN EXPANSION

Advanced Heat Treat's recent Michigan expansion is a concrete reflection of the company's dedication to its customers, according to Clark.

"Our mission statement is 'Exceeding Expectations with Ultra-Glowing Results,' so with the 6,000 square feet that we just added here, it's going to allow us to add additional equipment — whether it's gas or ion or expanding into new services," he said. "Similar to a recent partnership at our Alabama location, where we had a specific customer looking for induction hardening, we invested with our customer to add additional equipment and we're willing to do that here at our Monroe, Michigan facility as well. It's really just about exceeding our customer expectations in any way we can."

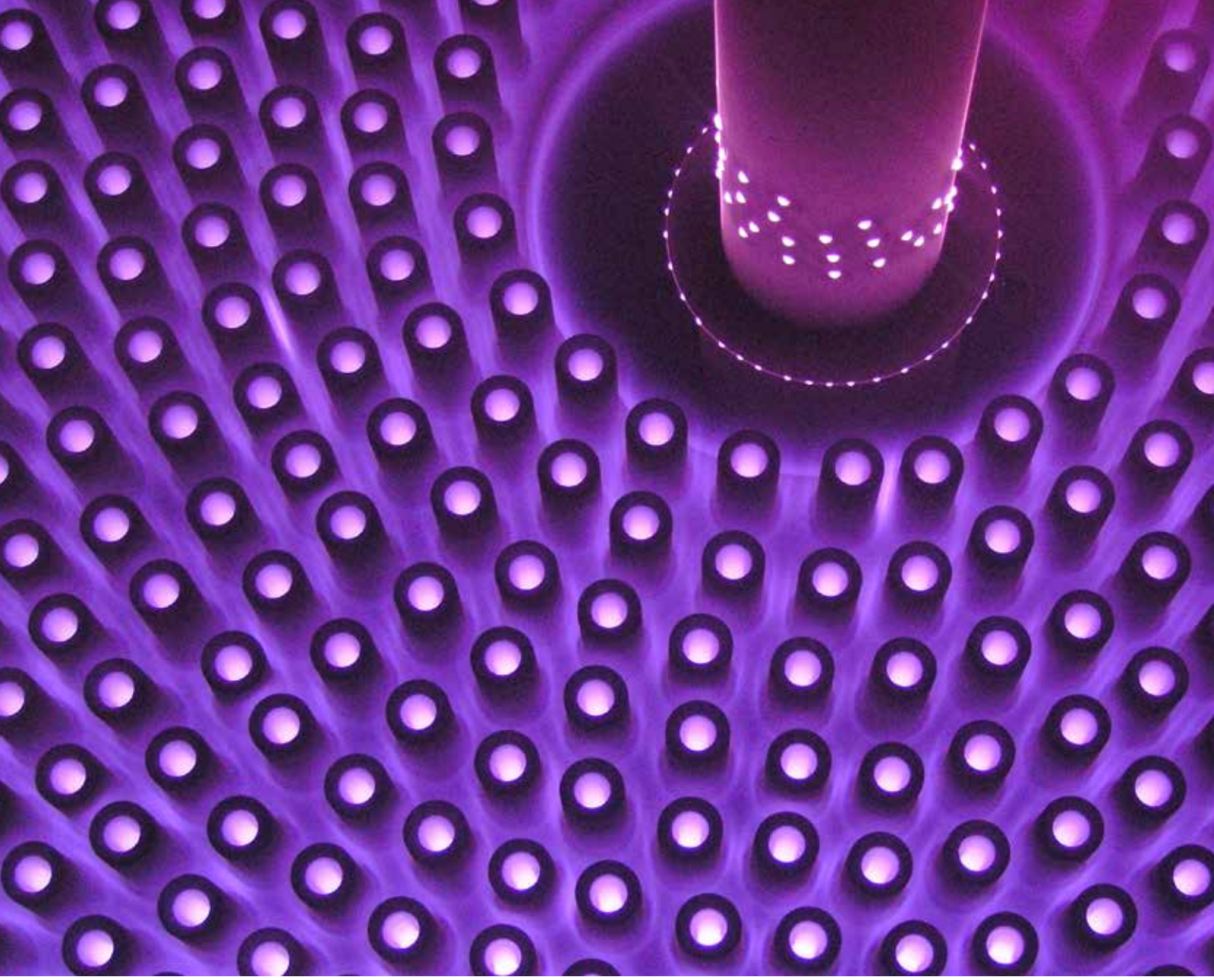
The plant expansion received its certificate of occupancy in July, and Clark said the new space is filling up and operating.

"It's a very exciting, welcome addition," he said. "It's going to allow us a cleaner, safer work environment for our employees, too, and it will allow us to expand and grow for our customers."

TAKING ON CHALLENGES

Even before the Michigan expansion, Advanced Heat Treat had a team of experienced personnel ready to tackle any challenge a customer may have, according to Clark.

"We've been fortunate to have many long-tenured employees," he said. "More than 20 percent of our workforce has over 15 years with



For more than 40 years, Advanced Heat Treat Corp. has offered plasma nitriding, as well as other services essential to the heat-treat industry. (Courtesy: Advanced Heat Treat Corp.)

"Anything the newer generation can do from a phone or a tablet is beneficial, so we need to continue to grow with that. It's going to help us with hiring and bringing on new people."

the company, and another 35 percent has over 10 years — that depth of experience gives us a tremendous foundation of history and knowledge. Between the tenure of our employees plus having multiple metallurgists and materials engineers across our facilities, we can dive deep and understand what's needed. We can look at a project and say, 'Your concept is solid, but perhaps there's a better material choice.' We thrive on those challenges. We take great pride in problem-solving and helping our customers achieve the best product possible. Like I said, we make things better. That's our goal — to get the best product out there."

Retaining an experienced staff can be crucial to the success of a business, but it's not often a fact that ends up front and center when working with a potential customer, according to Clark.

"People come here, and they make it a career; we invest in our employees, and they invest their time and passion in AHT," he said. "I think that's one of our proudest achievements: retain your employees and watch them grow and advance within the company. I think that speaks for itself, and that's something to be proud of."

WORKING WITH THE CUSTOMER

As an example as to how Advanced Heat Treat has helped its customers, Clark brought up a company that needed stainless steel components nitrided. The order was to run them 20 to 30 at a time. But as time passed, the company wanted to increase the batch order as well as introduce various sizes.

"With the different things that go on with the plasma nitride process, you have to dial that back and get it narrowed down," he said.

Advanced Heat Treat Corp. recently expanded its Michigan location to accommodate the company's growing needs. (Courtesy: Advanced Heat Treat Corp.)

"We successfully worked out the process, and we built some tooling and fixturing to make it work. We've been doing the same product for this customer for 27 years, and they keep expanding and adding different sizes and growing their business as well."

NADCAP CERTIFICATION

With aerospace needs growing across the globe constantly, Clark pointed out that Advanced Heat Treat's corporate facility in Iowa just renewed its Nadcap certification.

"They just received a 24-month merit status, which means they do not require auditing for 24 months because of the quality systems that are in place — the longest merit you can achieve," he said. "And, more importantly, the employees are following it. You can put all the systems in place, but you've got to have dedicated passionate people to help you succeed."

As more heat-treating businesses look to decarbonize their processes in the future, Clark is quick to point out that the methods used by Advanced Heat Treat are already ahead of the game.

"Plasma nitride is a vacuum process, so there are no emissions," he said. "It's under vacuum, so it's controlled, and it's considered a 'green process.' That's very fortunate in those regards, especially with a lot of EPA changes that continue to come about."

LOOKING TO THE FUTURE

With its team of experts, Advanced Heat Treat expects a bright future ahead, despite — or maybe because of — developments on the industrial horizon, according to Clark.

"AI, obviously, is big; that's going to continue to evolve, and we're going to see where that takes us and what we need there," he said. "Automation and robotics are going to grow. Anything the newer generation can do from a phone or a tablet is beneficial, so we need to continue to grow with that. It's going to help us with hiring and bringing on new people. The tariffs are playing a factor. I see a lot of hoping that manufacturing is going to come back to the U.S. due to these tariffs."

Of course, any developments will be met with the same zeal that has kept Advanced Heat Treat operating with not just expertise, but with enthusiasm to make the industry better.

"We're just proud of where we've come from as I watch us continue to grow," Clark said. "Seeing the new hires come in and the multiple generations that have worked at Advanced Heat Treat. It's fun to watch. It says a lot about the company and the culture we have. It's driven from the top down. Something happens — we're there for each other, and we want to continue to grow. I like looking at giving opportunities to our employees to advance themselves, both personally and professionally. And over 22 years, I've got to witness a lot of that with individuals. It's exciting."

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