

ALU-BRA'S FOCUS ON QUALITY

Alu-Bra Foundry Inc. ensures its complex castings exceed customer expectations.

MODERN CASTING STAFF REPORT

Alu-Bra employees pour molten metal into no-bake molds.

Drive a little too fast on E. Green Street, and you might run right past Alu-Bra Foundry in Bensenville, Illinois. But the unassuming metalcasting facility (not far from O'Hare International Airport) makes important nonferrous castings for the U.S. economy, employs 90 skilled workers, and actively participates in industry outreach. From U.S. legislators' offices to student gatherings, leaders from Alu-Bra advocate for the growth of metalcasting, and the foundry provides a strong example of the valuable role small businesses have on the community.

The family-owned and operated business was started in 1957. From 1960-1991 it was run by Emmett Torkelson, and since then, his son James Torkelson (MBA) has served as president and CEO. His niece, Amanda Torkelson is the current vice president, as well as a board director for the American Foundry Society. Emmett's daughter Deborah Torkelson also received an award from AFS for her time and dedication to the industry and AFS.

The story of Alu-Bra is told through a tour of the foundry that shows the two main expansions the facility has gone through to meet growing customer needs and provide more foundry capabilities. From the humble (and tiny) first main office at the front of the building near Green St. to the newest addition that includes customer lobby, board room, offices, engineering, and drafting rooms—Alu-Bra's sense of determination is evident.

Alu-Bra in Operation

A tour of this AFS Corporate Member company starts where the most recent expansion ends. Alu-Bra's two expansions have been built behind the original footprint, working away from Green Street toward the parking lot in the back. Visitors enter the building from the parking



Amanda Torkelson, vice president, with Alu-Bra's superintendent (right) and AFS CEO Doug Kurkul at a Foundry Leadership Summit in Deer Valley, Utah.

lot, welcomed by the modern lobby and office area.

The first stop of the tour is Alu-Bra's full lab that tests molds, metal, and final castings. This includes chemical analysis, mechanical testing, metallography, and radiography. Amanda Torkelson said ensuring quality is extremely critical and care is taken throughout each process to adhere to best practices and standards. Alu-Bra Foundry is also ISO 9001:2015 certified.

Alu-Bra pours many different alloys of copper, including lead-free alloys, and aluminum. It verifies every lot of incoming metal to ensure the properties match their specifications. Approved batches are flagged by color code design so personnel can easily recognize whether the material is approved to melt. Torkelson said this step is one of the ways Alu-Bra makes certain its castings are meeting quality standards of the incoming material.

Outside the lab is the coremaking department. Alu-Bra produces nobake and shell cores in-house. Cores are manually filed to remove fins and achieve a smooth surface. They are coated as needed, depending on the final application.

Above the core department is a

COMPANY PROFILE

Alu-Bra Foundry Inc.

Established: 1957

Location: Bensenville, Illinois

Employees: 90

Alloys offered: Copper-based, lead-free copper-based, and aluminum alloys.

Casting processes: Nobake sand/airset and green sand casting.

Casting size: From 1 to 300 lbs.

Value-added Services: Engineering and design, finish machining, heat treatment, patternmaking, and coremaking.

Industries served: Construction machinery/equipment, farm machinery/equipment, mining machinery/equipment, oil field valves, bodies and pumps, railroad equipment, cryogenics, fluid handling, waterworks, fire hydrant apparatus, natural gas, chemical, industrial manufacturing, plumbing, and more.

Certification: ISO 9001:2015.

Website: www.alubra.com.

Phone: 888-372-6524

mezzanine that was added in 2011. The mezzanine area is used for pattern storage. It's also the location of Alu-Bra's newest investment—an upgraded air compressor system installed last month. The new system will enable the foundry to make future improvements.

Past the coremaking department is the nobake molding area with two molding cells for different sized patterns.

Around the corner from the nobake area is the heart—and original footprint—of the foundry, which is the green sand molding and pouring lines. Alu-Bra operates jolt-squeeze green sand molding lines that are positioned adjacent to the melting department.

In the melt department, charge



Alu-Bra's remodeled entry way is an inviting first step for customers. The tile's metallic copper finish and metal decor throughout the office and facility represents Alu-Bra's copper manufacturing foundation.



Alu-Bra employees are cross-trained, and promotions within the company are the norm.

materials are added directly to the crucible, which is then heated up with an induction power system. As one crucible is melting, another is transported via overhead crane to the molding line for pouring.

The next stop on the tour is the cleaning and finishing area where

Alu-Bra employees clean, inspect, and prep the castings for shipment. This brings you back to the steps up to the second level and employee breakroom.

Below the breakroom are larger locker room facilities that were also part of the final 2011 expansion.

Employee Retention

Torkelson said employee retention and happiness in their jobs is important to her and Alu-Bra, which includes office personnel, management, and the foundry. The foundry has a dedicated workforce with little turnover. She said one of the keys is internal continuous foundry training and training (such as AFS classes and events) and promotion from within. As a small foundry, Alu-Bra incorporates cross-training as much as possible, and its foundry superintendent, who has been at Alu-Bra for more than 41 years, takes a personal approach to ensuring new employees are educated, working safely, and learning the necessary skills to do the job expertly. He is also a certified trainer to train the employees for safety.

Jim and Amanda Torkelson walk the walk when it comes to education. Jim has a Master's in Public Administration degree from Northern Illinois University where he studied public policy and economics. Amanda began her MBA at Roosevelt University and recently

CASTING WINNER



Alu-Bra Foundry's niche is complex castings that must meet precise requirements, such as this component for a high-efficiency water heater. The new product was designed for manufacturability at an affordable cost and features a complex internal structure. The dimensionally accurate part met the customer's 100% hydro-pressure test performance requirement.

Casting Profile

Component: Header front casting for water heater.

Material: Aluminum bronze.

Weight: 55 lbs.





Amanda Torkelson and Alu-Bra's plant superintendent show how a core will be placed into a complex nobake mold.



Amanda Torkelson, Alu-Bra's vice president, also serves on the AFS Board of Directors.

completed the Business Data Analytics program at Harvard University.

Alu-Bra associates are also encouraged to be involved in AFS by participating in committees, and attending conferences and AFS Institute courses. Amanda serves on the AFS Board of Directors and is a member of the AFS Young Profes-

sionals Division, Women in Metalcasting, and the Copper Division. She has also been an active member of the AFS Chicago Chapter and has participated in Foundry-in-a-Box demonstrations for students and the community. The plant superintendent is a member of the EHS Division Safety & Health Committee. Five

company employees attended the 2023 Foundry Leadership Summit.

Amanda Torkelson attended the 2023 Government Affairs Fly-In to meet with U.S. legislators and advocate for the metalcasting industry last June on matters related to supply-chain challenges, workforce training and regulatory issues; and Alu-Bra was also a sponsor. The company is no newcomer to public policy advocacy. Jim Torkelson ran for state office in the 1980s. Alu-Bra is also active in its local chamber of commerce.

Looking to the Future

With the new air compressor system installed, Alu-Bra now has an additional 100 hp of pressure, which powers the majority of the machines in the foundry. The upgraded compressor system is the first step toward equipment improvement, which Torkelson hopes to see installed in the next two to three years.

With a long record of capital improvements, industry advocacy, and investment in training their workforce, Alu-Bra's future is bright. **MC**



A vibrant hand-painted mural by a local Chicago artist covers one of the walls in the employee cafeteria.