



Pennex opened the new press line at its Leetonia facility.

## Pennex Triples Capacity in Leetonia

### *Proud Commitment to Customer Satisfaction*

**P**ennex Aluminum Company, part of Metal Exchange Corporation, nearly tripled the size of its aluminum extrusion and fabrication facility in Leetonia, OH, at the end of 2015. The \$38 million expansion included the installation of a state-of-the-art extrusion press line, a specialized fabrication center, and a 175,000 sq ft building expansion. The complete Leetonia facility now has 275,000 sq ft of manufacturing space with two aluminum press lines, including the new 12 inch press.

“This expansion gives Pennex the opportunity to do more with aluminum than ever before,” said Joe Golec, vp of sales, Pennex. “We have advanced our world-class capability to create larger, custom extruded aluminum products for our customers, providing solutions that exceed customer expectations. In addition, we’ve added significant fabrication capabilities, giving us the ability to supply complex, custom fabricated parts faster.”

#### *Company Profile*

Pennex Aluminum was founded in 1979 through the purchase of Penn State Aluminum, located in Wellsville, PA, by Metal Exchange Corporation. At that time, the company consisted of a single 1,675 ton press line and a small anodize line. Over the next few years the anodize line was removed to install paint and thermal capabilities to serve the fenestration market.

The company continued to grow and now operates three business units. The Wellsville Extruded Products unit consists of the original Wellsville extrusion facility and a fabrication facility in York, PA. The extrusion plant expanded with a second press line (a 2,500 ton, 8 inch Ube) in 1996. The York fabrication facility was moved to a 50,000 sq ft facility in 2000 to better serve their growing fabrication business. The Wellsville Extruded Products unit has an annual production rate of 40 million lbs, along with a wide range of fabrication capabilities.

The Leetonia Extruded Products unit was created as the result of the acquisition of an extrusion operation in Leetonia in 2010, which contained a state-of-the-art 3,500 ton, 9 inch Danieli press line. The most recent expansion in 2015 included the installation of a 6,500 ton, 12 inch Presezzi line, as well as the addition of fabrication facilities. The Leetonia facility has an annual production rate of 60 million lbs, with unique capabilities that enable it to offer extremely tight tolerance control across complex profiles. The fabrication business in Leetonia focuses on highly automated integrated cells servicing high volume production parts.

The Casting Business unit operates facilities in Wellsville and Greenville, PA. The billet casting operation in Wellsville was upgraded from the original horizontal casting line to a Wagstaff vertical casting line in 2000. The Greenville operation is the result of a joint agreement formed in 2013 with IlSCO Corporation, and has two melting furnaces, a holding furnace, a Wagstaff casting system with Numax molds, and two SECO/Warwick 90,000 lb homogenizing furnaces. Both facilities accept loose, baled, and boxed scrap material for recycling. All together, Pennex has an annual production capacity of 250 million lbs of billet in 7, 8, 9, 12, and 14 inch diameters in 6xxx and 2xxx alloys.

The company serves a diverse mix of markets, including automotive and transportation, building and construction, recreation, and other OEMs. Its fabrication capabilities include precision cutting and sawing, punching and notching, bending and forming, machining and drilling, welding, and assembly. These fabrication lines are able to create highly specialized parts for major automotive manufacturers and other transportation related companies, as well as providing custom fabricated parts for building and construction businesses.

Pennex prides itself on its commitment to its customers by being a complimentary partner in their success, as well as advancing their capabilities to serve their changing needs. “A few years ago, Pennex participated in the

customer satisfaction survey sponsored by the Aluminum Extruders Council (AEC),” said Rick Merluzzi, president and coo of Metal Exchange Corp. “We were recognized as number one in our industry in total customer satisfaction and we are incredibly proud of that. We have a customer-focused culture. Our people understand that it is the customer who ultimately puts the money in their paycheck.”

### *New Press Line*

The scope of the recently installed Leetonia extrusion line includes a Presezzi press, an OMAV handling system, emmebi packing system, and a die cleaning machine from Die Cleaning Equipment and Supply, Inc. Investing in a new extrusion line at Leetonia was a natural progression, both in response to market demand and for Pennex to better serve its customers. “We were at capacity across the existing press lines at a time when we were seeing ever-increasing demand from the majority of our customers,” said Golec. “Also, we believed in the expected demand that was to come from the automotive sector being driven by weight reduction to meet new CAFE standards and performance goals.”

The new press, supplied and commissioned by Presezzi, is a 55 MN front loading, short stroke press for extruding 12 inch billet up to 60 inches long. The press is equipped with the patented Presezzi Extrusion Energy Saving System (PE.E.S.S.), a nitrogen die cooling system, and a shear to cut the profile between the die ring and the bolster. A press mouth protection system with a camera for viewing the die breakthrough ensures a safe work environment for the press operator. The press has the Presezzi PE management system to enhance the scheduling, profile recipe, and run data collection. This allows consistency of product from one extrusion run to the next. In addition, the press has an electronic system that monitors the service life of the press and provides the service department with up-to-date data on the line’s activities.

The automated OMAV handling system incorporates a billet preparation system, a quenching system, double puller, 175 ft runout table, a 150 tonne stretcher, and precision finishing saw. The billet preparation system includes a 112 position log magazine to accommodate storage options for various alloys (Figure 1), a log washer to preclean incoming logs, and a gas fired log furnace. The log furnace has a maximum output of 20,000 lbs/hr.

The 44 ft intensive air/water quench system uses OMAV’s proven spray technology and allows for cooling of complex shapes. It has 12 water spray zones to give operators precise multi-zone control with complex automotive sections. Recovery is gained by allowing the puller to travel through the quench with the water spray nozzles on.



Figure 1. Automated log storage magazine.

The double puller system is a three-machine setup with a dedicated positionable hot saw capable of extrusion speeds up to 190 ft/min (Figure 2). Following stretching, the precision finish saw feeds profiles to the double stacking system. Extrusion scrap is handled by an undertable feed system with an automatic scrap shear.



Figure 2. View of the double puller system leading to the cooling tables and stretcher.

The fully automated double destacker (Figure 3) from emmebi works synchronously with the aging ovens to feed two different packing stations, where they are formed into bundles, wrapped with stretch film with automatically inserted wood slats. The system can also shift the profiles from the extrusion baskets into baskets for transfer to the fabrication area. Included are two bridge cranes to work individually with standard length profiles or cooperatively for double length profiles.



Figure 3. Automated double destacker.

The PLC controlled die cleaning machine from Die Cleaning Equipment and Supply provides independent cleaning tank control during the post extrusion process and increases efficiency, while also minimizing operator exposure to chemicals.

### *Conclusion*

The Leetonia press line expansion provides Pennex with increased capabilities, allowing it to serve markets that require larger profiles along with enhanced tolerance controls. In addition, it also provided more than 65 new jobs to the local area, which supports the local community. “The continued growth of Pennex is a tribute to our hard-working employees’ unwavering commitment to the success of our long-term customers,” said Merluzzi. “This expansion of building, equipment, and highly trained staff along with unique press and fabrication capabilities represent our vision to enhance our ability to take aluminum recycling, casting, extrusion, and fabrication to the next level.”