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FORGING

A Penton Publication March | April 2007

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HEAT-TREATING COMES IN-HOUSE

Steel Industries' expansion includes a new drop-bottom furnace, aging oven, and ring expander.

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Ready To Launch



Over 200,000 sq. ft. of manufacturing

Steel Industries Inc. announces... new capability for aluminum seamless rolled rings and custom forgings

A \$12M expansion program just being completed includes state-of-the-art:

- 62,000 sq. ft. manufacturing facility
- Automated heat treating system with 25,000 gal. quench tank
- Large aluminum drop bottom furnace with 19,000 gal. quench tank
- Large aluminum aging furnace
- 2000 Ton ring expander

Forging Excellence Since 1913:

- Seamless rolled rings to 160" OD and 30" high
- Custom forgings - rectangular blocks, plates, round bars, hubs, spindles and other custom shapes
- Heat treating, machining, testing

THE STEEL INDUSTRIES ADVANTAGE:

- Short Lead Times
- Outstanding On-time Delivery Performance
- ISO 9001:2000 Certified
- Strong Technical Support

Aluminum Grades Stocked - 2014, 2219, 5083, 6061, 7050, 7075, 7175 and other alloys as required



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STEEL INDUSTRIES' \$12-MILLION EXPANSION FEATURES

HEAT TREATING

A large-scale expansion — including a full range of in-house heat-treating services — was completed and commenced operation early this year, at the Detroit-area open-die forger and seamless ring roller.

STEEL INDUSTRIES INC., AN AMERI-Forge Group company, inaugurated its \$12-million expansion project— announced in June 2006 — with a ribbon-cutting celebration on January 25.

The open-die forging and seamless rolled ring manufacturer (www.ameri-forgegroup.com) near Detroit, indicates it built the 62,000 ft² state-of-the-art heat-treating and aluminum processing complex to enhance

and expand its product offerings to current and new customers, especially in the aircraft and aerospace industries. This expansion increased the manufacturing space to 217,000 ft² and created some 20 new jobs.

Steel Industries (SII) has demonstrated significant growth over the past several years, which it attributes to a commitment to providing the highest service and quality available in today's forging market, as well as value-added processes for its broad customer base. The Redford Township, MI, company is a full service open-die forging and seamless rolled-ring manufacturer, producing forgings and rings from 250 to 16,000 lb. Value-added services include in house heat-treating and CNC machining for all forged shapes and sizes they manufacture.

When it was founded, the company served suppliers to the automotive industry (*see sidebar*). Through the years it continually improved its machinery and technology. Among the milestones was 1974, when it installed the first design of a new Bliss press, one that was state-of-the-art for its time. In 1993, Steel Industries installed its first Wagner ring mill, and in 1997 it added a much larger Wagner ring mill that expanded



This aluminum drop bottom furnace (left) has a working zone of 174x174x48 inches. It can accommodate an 8,000-lb load capacity, and has rapid quench capability via drop bottom quench into a 19,000-gal water tank.



production capability for rings to 160-in. outside diameter.

According to president Keith Woodland, "We supply very little now to the automotive industry, except some tool and die forgings through second- and third-tier suppliers. We're mostly involved in power generation, mining, construction, machine tool and oil and gas.

"We supply the forgings that will be manufactured into components and products servicing those industries. As we enter more demanding markets, such as aerospace, we are increasingly responding to specifications that are more demanding."

Through its ISO 9001:2000 certification, Steel Industries is certified for manufacturing, machining, heat treating, and process designs for ferrous and nonferrous custom forgings, including rings, sleeves, bars, discs, spindles, hubs, blocks, plates, or other custom shapes.

The company explains that the expansion was undertaken because, in recent years, customers suggested that SII develop capability to produce aluminum forgings and seamless rolled rings. In addition, SII needed additional capacity to heat-treat steel forgings, to maintain its growth.

SII had been manufacturing aluminum rings and forgings over the last 10 years, but on a limited basis, for several reasons. While it has three hydraulic presses and two

Wagner ring mills, the opportunities were limited by the lack of a conveniently located heat-treating operation, and the inability to expand or stretch rings. Customer input, and data from the Forging Industry Assn., convinced the Ameriforge Group to approve the investment in state-of-the-art aluminum capability at SII.

Land was purchased (5.7 acres) adjacent to the existing forge shop in Redford Township. A 65,000 ft² building was demolished and replaced with a new 62,000 ft² structure. The necessary equipment was investigated and engineering specifications were developed.

A groundbreaking ceremony was held June 28, 2006, and construction on the building began on August 8. Delivery and installation of the equipment began in October, and the occupancy permit was approved December 1, 2006.

The expansion includes the following items of equipment considered essential to SII's plans for growth of its regular steel business and movement into new aluminum markets:

Aluminum drop-bottom furnace – Manufactured by Kleenair Products Co. (www.kleenairusa.com). It has a working zone of 174x174x48 inches, and an 8,000-lb. load capacity, with rapid-quench capability via drop-bottom quench into a 19,000-gallon water tank.

Aluminum age heat-treat oven – Also manufactured by Kleenair Products, with the same operating dimensions as the new drop-bottom furnace; its designed operating temperature ranges from 170° to 600°F. Conforms to all requirements of AMS 2750, AMS 2770 and AMS 2772.

Ring expander – Manufactured by Fontijne Grotnes, Inc., (www.fontijne.nl), this unit is based on a proven design, with a 2,000-ton capacity, a 5-in. stroke, and a 12 segment expansion head. Operating capacity of 32- to 136-in. IDx30 in. high. Capable of stretching rings with an 80-in² cross section (e.g., 8 in. thick wall and 10 in. high).

Steel heat-treating complex – Manufactured by Kleenair Products, this two-furnace system features a 170x170x48-inches high work zone, with operating capability from 800 to 2,025°F and +/-10°F uniformity. The maximum load capacity is 25,000 lb. The large water quench tank holds 25,000 gal and has full agitation rated at 126,400 gpm.

SII also expanded its CNC capabilities with a new, horizontal 48-in. CNC turning mill, and a vertical 120-in. CNC turning mill.

Cunningham-Limp, a Detroit-area construction management and real estate consulting firm, completed the project for SSI on December 1, 2006.

STEEL INDUSTRIES, IN BRIEF

FOUNDED UNDER THE NAME UNITED Forge in 1913 as a small hammer forging shop in Detroit, the company served the expanding automotive industry by supplying the related tooling and die industry. When United Forge founder died in 1971, Paul Sakmar, an employee, purchased the company and moved it to Redford Township. Sakmar guided it through a period of expansion and growth, adding state-of-the-art equipment and technology. Upon Sakmar's retirement in 1998, the firm consolidated under the name Steel Industries Inc.

Steel Industries was sold first to an investment group, and then in 2002 to the Ameriforge Group, a holding of Tanglewood Investment Co. In Ameriforge Group, SII joined Texas Metal Works, Taper-Lok, Coffey Corp., Forged Vessel Connections, and Ameriforge Corp. — all metalworking companies based in Texas.



SII's new ring expander (top) has a 5-in. stroke with a 12-segment expansion head. It has an ID capability of 32- to 136x30 inches high.

New steel heat-treating capability is provided by this two-furnace system (right) featuring 170x170x48-inches high work zones. The maximum load capacity is 25,000 lb. The large water quench tank holds 25,000 gallons, with full agitation rated at 126,400 gpm.



Aerial view shows new building.



This aluminum aging oven is designed to operate in a temperature range of 170°-600°F