CASE OF SUCCESS
PROVEN QUALITY LEADS TO REPEAT BUSINESS

NUTEC BICKLEY
ENGINEERED THERMAL SOLUTIONS

Sorel Forge – now with A. Finkl & Sons and Composite Forgings known as Finkl Steel – has been benefiting over the past three years from the installation of a state-of-the-art, gas-fired car bottom reheat batch furnace designed and manufactured by Nutec Bickley. The installation was at the facility in St-Joseph-de-Sorel, Québec, Canada, the largest production unit for open die forgings in that country.

The furnace is used in the manufacture of large carbon steel forgings up to a weight of 27,000kg (59,000lb) with a maximum in-furnace load capacity of 110 tons. Normal operating temperature range is 510°C-1010°C (950°F-1850°F), with a maximum temperature of 1090°C (2000°F).

Interior dimensions of this large furnace are 8.97m (29ft 5in) long by 3.28m (10ft 9in) wide by 3m (10ft) high. It is a highly flexible heat treatment system, suitable for processes such as normalizing, austenitizing for quenching, annealing, tempering etc.

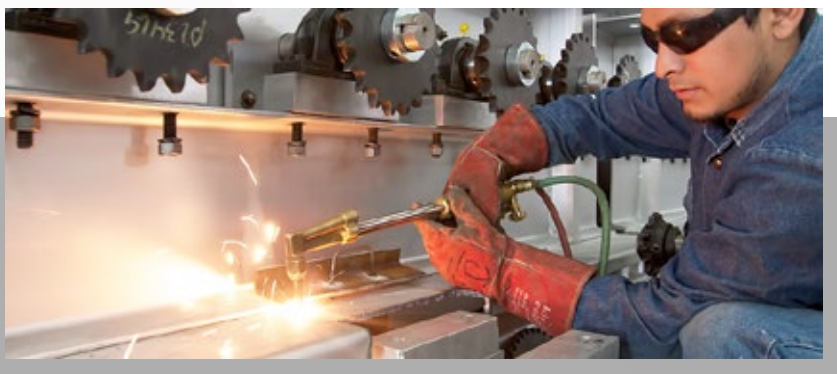
"Sorel Forge has invested in a strong modernization program and we are extremely pleased to have been chosen to be part of that process," commented Arturo Arechavaleta, VP Metal Furnaces at Nutec Bickley. "Sorel Forge's prehardened mold steel is recognized worldwide for its uniform hardness and stable microstructure and our advanced furnace technology plays an important part in the process. The furnace has been working to specification since 2015 and I am very glad to say that its performance and reliability have resulted in an order for a further unit that will shortly be delivered to the customer."

The furnace already in operation has a total of 15 high-velocity burners positioned to heat over the load in a staggered pattern and that are arranged in three temperature control zones. The combustion system at Sorel Forge benefits from Nutec Bickley's proprietary Integrated Multizone Pulsing System (IMPS). This concept employs, among other things, an automatic pulse cycling valve on each burner.

The incorporation of pulse firing allows for better temperature uniformity and reduced fuel consumption while running cycles at high temperatures: this combustion system provides a number of key advantages, such as:

- Energy savings.
- Improved process control.
- Utilization of the maximum kinetic energy available from the burners.
- Improved temperature uniformity without the need for excess air.
- High turndown ratio.
- Easy rezoning of the furnace through the software program.
- High gas recirculation volumes.
- Better energy transfer from the gases to the product.
- Reduced NOx generation.

The efficiency of the furnace at Sorel Forge is further enhanced through its advanced insulation system, based on Nutec HP ceramic fiber modules on roof, sidewalls and door, which allow faster heating and cooling cycles.



Are you planning the installation of a new, high-performance metallurgical furnace?

Contact us today to discuss how we can efficiently and cost effectively bring your next project to life:

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Kilns and Furnaces
Email: sales@nutec.com

Spare Parts
Email: spares@nutec.com

Technical Support
Email: techsupport@nutec.com

HEADQUARTERS

Carr. Saltillo - Monterrey No. 100 (Km. 62.5)
Santa Catarina, N.L. 66359, México.

Phone: +52 (81) 8151.0800
US Phone: +1 (855) 299.9566

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