

CASE OF SUCCESS

NUTEC BICKLEY HELPS MATTCO FLY HIGHER



Fast build, advanced design and superior performance are the three standout elements that characterize the latest Nutec Bickley success at Mattco Forge. The company has manufactured and installed a specialty box furnace for heating superalloy billets to forging temperature. Mattco superalloys are especially ideal for use in both the aerospace and spacecraft sectors and the company's facility in Paramount, California is close to a number of world-leading manufacturers in these fields. Mattco products also feature prominently in transportation and power generation.

The gas-fired box furnace, installed last year, has a work area of 3.35m (11ft) wide by 2.74m (9ft) long by 89cm (3ft) high. The normal operating temperature range is 760°C-1205°C (1400°F-2200°F), with a maximum temperature of 1250°C (2280°F). In line with requirements made of the Mattco portfolio, the furnace conforms to Nadcap AMS 2750E, the pyrometry specification that focuses on continual improvement in the aerospace and automotive industries by employing procedures, calibration data, timelines, record archiving, thermocouple guidelines and applications, system accuracy testing and temperature uniformity surveys.

"The quality, durability and reliability demands of end users in the aerospace and space industries are extremely high and Mattco has succeeded in becoming a preferred supplier to these sectors," commented Arturo Arechavaleta, VP Metal Furnaces at Nutec Bickley. "The fact that we were chosen to design and manufacture this system is a testament to the strong benchmarks that we set for ourselves and it means that customers such as Mattco can always have confidence in everything that we undertake on their behalf."

This high-efficiency box furnace employs Nutec's proprietary, patented Jointless™ fiber system providing for minimal maintenance, fuel economy and extended service life. The system comprises monolithic ceramic fiber modules engineered to cover a complete furnace wall, door, or roof. It's a one-piece construction, continuously shaped with ceramic fiber blanket folded and anchored. This design not only eliminates the joints between smaller modules (as commonly found in ceramic fiber linings), but also eliminates the gaps typically located around the flues which require higher maintenance. Nutec's HTZ material used on the hot face can withstand temperatures up to 1425°C (2600°F).

The combustion system at Mattco uses Nutec Bickley's proprietary Integrated Multizone Pulsing System (IMPS). 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.

Renowned for the high quality of its processes, Mattco continues to pioneer advancements in not only the technology of seamless rolled rings and other forgings, but also service and support offerings to ensure the success of aerospace customers, in particular. In a recent report on the global market for superior mechanical strength alloys, Mattco is named as one of the 10 leading international manufacturers.



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:

GET IN TOUCH!

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