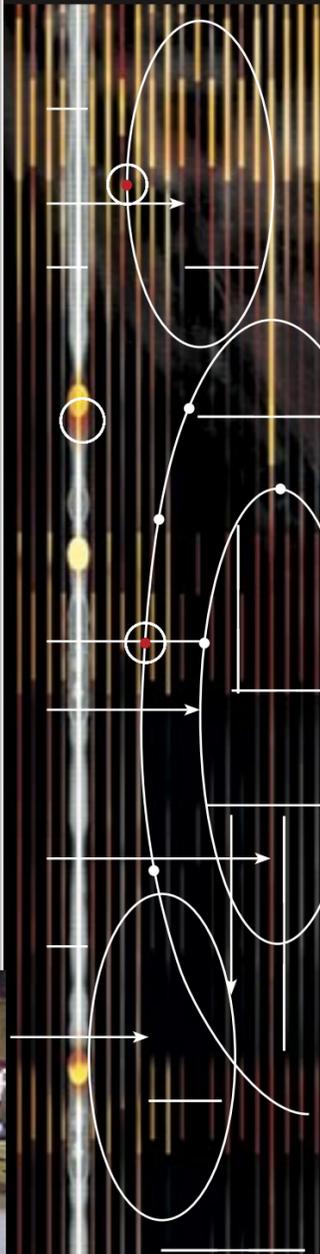


## We'll Stock Your Spares

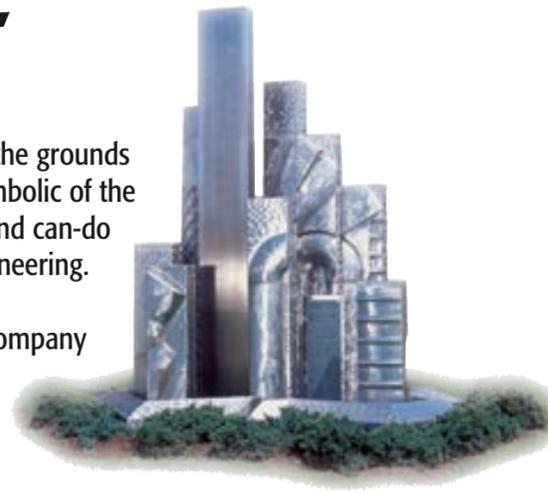
Our Managed Inventory Program will keep your furnaces up and running wherever they are—in one plant or in several geographically dispersed facilities. Proactively, we will work with you to anticipate on-going replacement unit and component needs. Then, we'll stock stores of critical units and components in our warehouse so they'll be ready when you need them.

With just-in-time delivery, we'll eliminate fabrication and component-acquisition delays and you can forget about maintaining costly inventories. You can count on Alloy Engineering to help minimize lost production due to emergency shut-downs.



## A Vision of Quality, Dedication, Ideals

The stainless steel sculpture adorning the grounds of the company's headquarters is symbolic of the materials used, products produced, and can-do spirit that is the essence of Alloy Engineering.



**Since 1943**, The Alloy Engineering Company has pioneered the design and manufacture of high-quality, alloy equipment for furnace and high-temperature and corrosive industrial applications. Our complete furnace-component offering provides customers with the synergistic technical and economic advantages of one-stop-shopping with the industry's leader.

## Our complete offering . . .

High temperature, corrosion-resistant radiant tubes, fans, recuperator tubes, muffles, retorts for batch AGF rotary retort furnaces, continuous rotary retorts, pickling hooks, catalyst baskets, ASME Code vessels (authorized to build to ASME Section VIII, Division 1 specifications), forced-air coolers, hydrogen annealing equipment, vacuum hot zones

Contact one of our highly trained, experienced sales engineers and application specialists, or call or visit our web site—[www.alloyengineering.com](http://www.alloyengineering.com)—to discover how Alloy Engineering can raise your productivity and lower costs.



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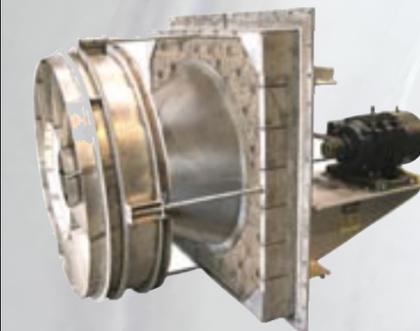
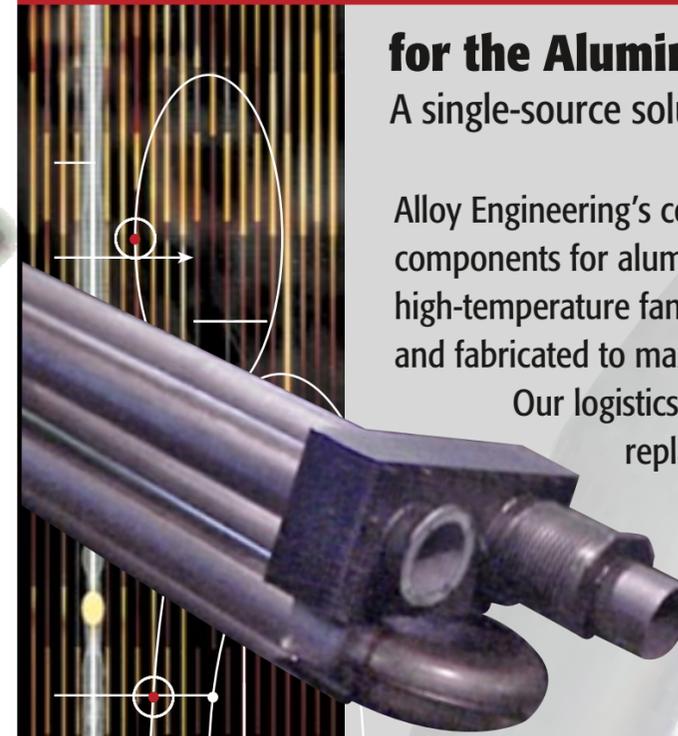
## RADIANT TUBES, HIGH TEMPERATURE FANS, RECUPERATOR BUNDLES

### for the Aluminum Industry

A single-source solution for replacement furnace components

Alloy Engineering's complete line of replacement furnace components for aluminum processing—radiant tubes, high-temperature fans, and recuperator tubes—is designed and fabricated to maximize service life and energy efficiency.

Our logistics-support program, including factory-stocked replacement components, eliminates costly supply and inventory hassles. We are dedicated to increasing your process effectiveness while reducing the cost of operations.



**THERMAL INGENUITY SINCE 1943**





# Radiant Tubes

Design and fabrication for high efficiency, long life

**Fabrication Specialists**

**Engineering**

## Radiant Tubes

Whether you smelter, recycle, roll, extrude, cast, forge, draw, galvanize, or coat aluminum, Alloy Engineering can reduce your maintenance, production, and energy costs. Alloy Engineering radiant tubes out perform and last longer than the tubes they replace. Made from ductile high-nickel, low-carbon alloys with a controlled, tight grain structure, our radiant tubes have high resistance to thermal fatigue.

We understand how and why radiant tubes fail. By using various grades of wrought materials in a fabrication, we can enhance the performance of specific areas of a tube. Our fabricated tubes have a low mass that enhances heat transfer for high efficiency while reducing energy and operating expense.

Alloy Engineering fabricates tubes in any configuration and wall thickness and supports all furnace OEM tube designs. For your convenience, we can repair or replace return bends, flanges, bungs, and straight components on site.



**Product list:**

- Straight tubes
- W-tubes
- Bungs, mounting flanges, insulation
- U-tubes
- Trident tubes

## High-Temperature Fans

Alloy Engineering offers complete replacement-fan and component service: repair, rebuild, replace, or redesign. Our engineering staff understands the effects of furnace-atmosphere dynamics and can suggest component improvements to prolong the life of your fan while lowering operating and maintenance costs. All our fans are dynamically balanced to meet, or exceed, ISO specifications.



**Product list:**

- Centrifugal fans
- Air-cooled designs
- Axial fans
- Annealing base fans

## Recuperator Tubes

Alloy Engineering's new and refurbished recuperator tubes, like our radiant tubes, benefit from specialized fabrication equipment resulting in reduced welding and fewer potential failure points. With thin walls and light weight, our tubular products resist sagging and cracking while delivering high thermal efficiency.

**Product list:**

- Tubular heat exchangers
- Flue types
- U-tube heat exchangers
- U-joint replacement
- Convection heat exchangers



Over the years, Alloy Engineering has pioneered the development of rolling, forming, and welding techniques to ensure the highest quality, most durable products available, anywhere. We are an ASME Certified Code facility, and our welders are experienced in working with stainless steels, nickel-based alloys, and exotic metals. All are certified by the American Welding Society.



Alloy Engineering's 42,000 sq-ft manufacturing facility in the Cleveland metro area houses cutting, forming, welding, positioning, and quality-control equipment. With this equipment, our experienced, highly trained manufacturing team produces products with consistently high quality that meet, or exceed, customer requirements.



With more than 60 years of high-temperature design and application experience, our engineers understand how hostile furnace environments can cut short component life. But, they also know how to maximize service life and reduce energy costs through innovative design and insightful alloy-material application.

With the latest CAD functionality, we can quickly generate design solutions or reverse-engineer products to provide drawings when they don't exist. Our engineering team analyzes all incoming projects to determine if they can suggest ways to improve performance, extend life, or reduce energy costs.

Wherever you are, our in-house engineering staff and nationwide network of field engineers is ready to help you produce more, faster, and at less cost.