

## CASE STUDY:

### Thermafiber Gains Clear Operational Efficiencies with New Material Handling System from Custom Engineering & Fabrication, Inc.

friendly insulation products. Like other successful manufacturing operations, the company's growth created an intense work schedule with few allowances for

stoppages. Yet, as production increased, so did unplanned downtime; Thermafiber's aging cyclones were struggling under the demands of full-capacity production. After multiple fixes and repeated work stoppages, Thermafiber decided it was time for new cyclones and ductwork.

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"The decision to completely replace the cyclones came down to the amount of operational delays we were experiencing," said Eric Ryder, plant manager at Thermafiber. "More than half of the holdups in that production line were caused by the faulty cyclones, they would plug up constantly. It was clear they had exceeded their life expectancy."

Thermafiber's cyclones are integral to the process of manufacturing its mineral or 'rock' wool, which consists

of melting blast furnace slag and other forms of rock at 2600°F. As such, the company decided to have new cyclones built that closely matched their existing ones to keep overall plant modifications to a minimum.

"We didn't want an entirely new system. Instead we chose to replicate the old cyclones with some slight modifications so the new equipment would ensure product integrity and operate seamlessly with our existing processes."

The project included several factors that influenced Thermafiber's contractor criteria. For example, blueprints were not available for the old cyclones so the provider would need to perform thorough measuring and drafting. In addition, the project completion date was selected to work with the planned closure of Thanksgiving weekend, which limited the project timeline to just eight weeks.

Ryder continued, "We were specifically looking for a provider that could offer a complete package. Not only did they need to deliver excellent fabrication and installation services, they had to have extensive project management and equipment design capabilities to provide cyclones similar to ours in the timeframe we set."

#### Overview

When Thermafiber, Inc. decided to eliminate the problems caused by its aging cyclones, the leading mineral wool manufacturer turned to Fort Wayne, Ind.-based Custom Engineering & Fabrication, Inc. (CE&F) for a replacement solution. Far from an off-the-shelf job, the project consisted of unique parameters that required exceptional planning and execution. The following illustrates how CE&F exceeded Thermafiber's expectations with its comprehensive project management capabilities, expert engineering, high-quality fabrication and installation, and non-stop commitment to customer satisfaction.

#### Objective: Bring Thermafiber's Cyclones Up To Speed

Over the past decade, Thermafiber's Wabash, Ind. facility steadily increased production to meet the rising demand for its environmentally



## **Solution: New Cyclones, Ductwork, and a Whirlwind Installation**

Compared to the project's challenges, choosing a provider to tackle them was relatively easy. After reviewing several quotes submitted for the work, Thermafiber knew that CE&F was the standout candidate because, according to Ryder, "they provided the best value." With its proven specialty of developing one-of-a-kind solutions, CE&F was ready to take on the job.

"Top manufacturers like Thermafiber need specific equipment to maintain their successful formula," said Bob Hatfield, founder and president of CE&F. "We were dedicated to addressing every detail and delivering the exact solution they needed to increase their efficiency. This project was a great opportunity for us to demonstrate our range of capabilities and commitment to working with the customer every step of the way."

With less than two months to complete the project, CE&F quickly got down to work. After developing a strategic project plan, the company's engineers arrived at Thermafiber and took extensive measurements of the cyclones and ductwork located on the facility's roof. CE&F then transformed the measurements into complete, precise drawings of the new equipment.

"We worked with CE&F to make some slight alterations to the designs. They were very receptive to making changes so we could get exactly what we needed. When we said we wanted wear resistant lining in the new cyclones, they said 'no problem.'"

With drawings approved, fabrication of the 10' diameter cyclones began in CE&F's 35,000 sq. ft. facility. During nine days – even Thanksgiving

weekend – the company's installation team used 80- and 40-ton cranes to remove the old, fragile cyclones and several hundred feet of ductwork. On the project completion date, the new equipment was fully installed and tested to Thermafiber's satisfaction.

"The installation was seamless. We didn't miss a single scheduled production day during the entire process," said Ryder.

## **Results: Thermafiber Realizes Enhanced Capacity, Refined Workflow**

Since completion of the project, Thermafiber has received multiple benefits from its improved material handling system. As it has drastically reduced equipment-related work stoppages, the plant has optimized its workflow and increased production.

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"Our overall goal was to reduce the amount of downtime in the line," Ryder said. "With the new cyclones from CE&F we've actually eliminated all the plug-ups and realized increased capacity while producing the same great product, if not better."

## **Summary**

By relying on CE&F to bring its cyclones up to speed, Thermafiber has gained a range of advantages, from significantly reduced delays to increased capacity and resources. Ryder points to the planning CE&F invested on the project's front-end as reason for this successful outcome as well as the way CE&F stands apart from the competition.

"Communication during the project was strong. The CE&F team was highly proactive and the sales staff was heavily involved in making the project a success. CE&F is a great resource for companies that need the package deal of engineering and fabrication capabilities and the project management skills to carry out work with little direction and a lot of commitment."

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## **About Thermafiber, Inc.**

Thermafiber, Inc., headquartered in Wabash, Indiana, is one of the largest manufacturers of mineral wool in the Americas, serving the insulation industry since 1934. With recycled blast furnace slag comprising 80 percent of its raw material, Thermafiber is a leading source of environmentally friendly, "green" insulating products. The company supports construction markets, power and process markets, and a wide variety of industrial and OEM markets. For more information about Thermafiber, call (888) 834-2371 or visit [www.thermafiber.com](http://www.thermafiber.com).

## **About Custom Engineering & Fabrication, Inc.**

Custom Engineering & Fabrication, Inc. (CE&F) is a leading provider of manufacturing solutions to a wide variety of industries, such as automotive, foundry, asphalt, scrap recycling, steel, glass, foam, wood, and paper. Founded in 1999 to meet manufacturing needs that call for truly unique, custom solutions, CE&F is committed to exceeding expectations and adding value to every client's operation. The company supports clients across the country and internationally from its Ft. Wayne, Ind. corporate headquarters. For more information, please call (260) 745-9299 or visit the CE&F Web site at [www.ceandf.com](http://www.ceandf.com).