CHASE NEDROW INDUSTRIES

CASE STUDY

Aluminum Pusher Furnace

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Customer

Novelis, Korea

Overview

- **Application:**
  Aluminum Pusher Furnacer
- **Substrate:**
  Cast Refractory, IFB, Ceramic Fiber

Application of Emisshield™

Emisshield was provided information about the Novelis pusher furnace. From this information, the greatest temperature change in the aluminium ingots occurred in Zone 1.

After coating the walls and roof of Zone 1 with Emisshield, burners were turned down to reduce heat which provided fuel savings. The result was a decrease in the amount of time required to bring the ingots to 600°C, as indicated by the green line in the heat-up graphic versus the red normal heat up line. Emisshield caused the existing heat in the furnace to be more effectively reradiated to the ingots. Less fuel was needed to maintain the internal temperature of the furnace and ingots during the remaining soak period.

Emisshield Benefits

REPORTED RESULT WAS 8-10% ENERGY SAVINGS BY NOVELIS

Novelis had two options post Emisshield application:

Option 1: Keep the amount of time of all the ingots to remain in the furnace the same and reduce fuel consumption, because less fuel will be required to bring the ingots to the desired temperature in the same amount of time. (Energy savings)

Option 2: Keep the fuel usage the same and increase the number of aluminium ingots produced during the same time period. (Production increase)

Novelis did Option 1, energy savings.

The heat-up time was improved by 6 hours to bring the ingots to 600°C. Temperature of the outside walls and exterior decreased an average of 25°C, measured by a thermograph at regular intervals.

8-10%
Energy Savings

Emisshield®

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