

### Kilns

**Project Name:** Afterburner  
**Location:** Mooresville, NC

#### Furnace Information

**Furnace Type:** Afterburner of a batch kiln  
**Fuel Type:** Natural Gas  
**Substrate:** Insulating Firebrick

**Operating Temp:** 1440 °F (782°C)

**Background:** The kiln's cycle is 48 hours. In these 48 hours, 25% of total fuel usage is used by the afterburner to ramp-up and maintain the temperature of 1400°F. The customer wanted to see a decrease in fuel use and shorter ramp-up time to reach 1400°F

#### Application Information

The afterburner chamber is 80 feet long, six feet tall and 42 inches across. The application was done in December 2002.

#### Emisshield® Benefits

The natural gas burners are controlled by thermocouples that hang in the afterburner. The burners are normally kept open at a rate setting of 35%. In the three months after the application, the burners were open to between 25% - 29%. This translates into energy savings of 23% in the afterburner chamber for the entire year based upon the fuel flow for each setting. The customer realized a payback in less than three months.

By reradiating energy back into the afterburner chamber, the amount of fuel needed to keep the afterburner at 1400°F was reduced. This 23% fuel savings was estimated as a savings of \$360,000 per year

Without Emisshield® Systems



With Emisshield® Systems

