

Application**brief**

- Eclipse Product:** ExtensoJet Burners
- Submitted by:** A. Gracia and R. Pocurull, Eclipse Spain
- Application:** Tunnel Kiln for rough ceramics
- Description:** Due to good service and excellent product quality, performance and reliability, Eclipse Spain has enjoyed a mutually beneficial working relationship with one of Spain's most important ceramics groups. In fact, over the last five years alone they have purchased and installed almost 600 Eclipse ExtensoJet burners in their various factories.
- One such installation was the conversion of a tunnel kiln rated for 285,000 metric tons (314,160 tons) per year of rough ceramics manufacturing. The kiln measures 104.4m (342') long by 6.7m (22') wide by 2.7m (9') high. The process and temperature curve is controlled by a PLC. Total thermal capacity installed is 21.4 MW (72.76 MM Btu/hr) on natural gas.
- The system was configured with high velocity burners in the preheat zone (<750°C / 1380°F) and with lance burners in the heating zone (>750°C / 1380°F) with programmable pulse firing. The first stage of the conversion was to install 8 ExtensoJet burners in the sidewalls of the preheating zone. These were an upgrade from the previous system configured with high velocity burners. The customer was experiencing problems with the roof mounted lance burners, so these were also replaced with ExtensoJet burners.
- At the second stage of the conversion, Eclipse supplied 1 group of 16 ExtensoJets with flame detection in the preheating zone and 6 groups of 16 ExtensoJets with no flame detection in the heating zone.
- There were several benefits to the customer:
- Improved temperature uniformity
 - Kiln flexibility increased, allowing for the production of more types of products
 - Better ignition reliability
 - Reduced heat up time
 - Increased production
 - Lower fuel consumption
- There were no problems encountered during installation and start-up. The new ExtensoJet burners were swapped-out during actual production making the change over even more attractive to the customer.

Note: See page 2 for photographs.



Roof mounted Eclipse ExtensoJet burners on the heating zone of the furnace.



Additional view showing combustion air supply lines and electrical wiring.