



Case History

Application: Steel Support Structure of a Shaft Kiln

Operating Temperature: -1800°F

Emisshield® Product Used: Emisshield® STG-3 (US Patent 7,105,047)

Problem: The support structure of this shaft kiln was beginning to fail (warp and sag) due to flame impingement from the furnace exhaust. Because of the production line configuration, it was impossible to correct the poor design of the supporting structure which led to the failure. The steel structure was therefore reconstructed in its original design using an Emisshield® STG-3 coating to protect it from heat.

Application of Emisshield®: The steel structure was grit blasted to get down to bare metal. The steel was then washed with DURL-LUM 603 to remove grease and adjust the surface pH. Emisshield® STG-3 was applied using a high volume low pressure spray gun. The coating was air dried for 24 hours before the steel was erected.



Results after applying Emisshield®: Temperature measurements were taken and showed the surface temperature to be only 555°F, which is low enough for satisfactory service. Most of the damaging heat from the furnace exhaust was absorbed and re-radiated into the plant atmosphere. The coated steel has been in service for three years.

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