

## Low NO<sub>x</sub> Combustion Technology for Minimizing NO<sub>x</sub>

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**Abstract :** A noble low NO<sub>x</sub> combustion technology, based on partial oxidation combustion concept in a fuel rich combustion zone, is successfully applied in this research. The burner is designed such that a portion of fuel is heated and pre-vaporized in the furnace then injected into a fuel rich combustion zone so that a partial oxidation reaction occurs. The effects of equivalence ratio, thermal load, and fuel distribution ratio on the emissions of NO<sub>x</sub> and CO are experimentally investigated. This newly developed combustion technology is successfully applied to industrial furnace, and showed extremely low NO<sub>x</sub> emission levels.

**Keywords :** low NO<sub>x</sub>, combustion, burner, fuel rich

**Conference Title :** ICEBESE 2014 : International Conference on Environmental, Biological, Ecological Sciences and Engineering

**Conference Location :** Melbourne, Australia

**Conference Dates :** December 11-12, 2014