

Low NOx Combustion Technology for Minimizing NOx

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Abstract : A noble low NOx 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 NOx and CO are experimentally investigated. This newly developed combustion technology is successfully applied to industrial furnace, and showed extremely low NOx emission levels.

Keywords : low NOx, 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