

Abstracts of Papers

(Oral and Poster)

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2/POSTER

Mathematical modelling of ductile erosion behaviour of impacted fly ash particles on steel components of a coal fired boiler

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In coal-fired power stations, about 20% of the ash produced in the boilers is deposited on the boiler walls, economisers, air-heaters and super-heater tubes. An *ab-initio*, first principle based mathematical model embodying the mechanisms of erosion involving cutting, wear, plastic deformation wear and effect of temperature on erosion behaviour has been developed to predict erosion rates on the coal fired boiler components such as boiler tubes, economiser and air-preheater assemblies at room and elevated temperature.

7/POSTER

PROSPECTS OF COREX PROCESS

G. Prasad Goud, L.Siva Jyoth Reddy, Rizwan Abdul Rahman, Rashid and G.Rajkiran

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This paper stresses on COREX process – an innovative ironmaking process to use untreated fine ore and non-coking coal without preprocessing. It explains the process feasibility, satisfying with technical targets developing such as hot metal production without coking and sintering processes, use of low grade and low cost raw materials and environmental friendliness.

10/POSTER

PROSPECTS OF FINEX PROCESS

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13/POSTER

APPLICATION OF CERAMIC FIBRE IN SAIL PLANT FURNACES FOR ENERGY CONSERVATION

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Thermal efficiency of furnaces are improved with the adoption of ceramic fibre in various forms. For the hot face fibres are utilised in the forms of veneering, wall paper lining, modular lining and sealant in different furnaces to conserve energy. This is derived because of the unique property of ceramic fibre of low thermal mass, easier and quicker to install and light weight. Use of ceramic fibre has shown fuel saving to the tune of 5-25%.

15/POSTER

AUDITS OF SECONDARY COOLING SYSTEMS IN EXISTING CASTERS AS A METHOD TO ENHANCE PRODUCT QUALITY AND PRODUCTIVITY

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Consistent production of prime quality over extended steel grade range requires an increased operational and maintenance flexibility which may be lacking in the existing casters. The secondary cooling system is a key technology area and its modification can greatly contribute to the increased production, quality and flexibility. The paper describes the basic philosophy of secondary cooling auditing process, systematic approach to conduct the investigation and the benefits which can be achieved.

47/POSTER

FACTORS CONTROLLING THE RDI OF IRON ORE PELLET

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Lower RDI means lower fines generation hence desirable. Fines deteriorate the permeability and other aspects of operation. Corex and the blast furnace demand lower RDI of pellets preferably below 11 percent. The clue to low RDI pellets with our kind of raw materials is a little unclear. The present investigation explains the observations made in analysing the pellet plant data at JSW Steel Ltd.

59/POSTER

INFLUENCE OF COAL PARTICLE SIZE ON THE PERFORMANCE OF COREX

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JSW Steel Limited operates two COREX units each of 0.8