

PRESS RELEASE

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ArcelorMittal Asturias commissions SMS group to replace old coke-oven gas burners with hybrid SMS EcoFlame PLUS burners in the Aviles hot strip mill

Modifications will enable ArcelorMittal to drastically reduce CO₂ und NOx emissions



The modifications of the furnace burners, designed by SMS group, will enable ArcelorMittal Asturias to drastically reduce NOx and CO₂ emissions.

ArcelorMittal Asturias, Spain, has awarded SMS group the order to supply a new combustion system for the existing walking beam furnaces 2N, 3N and 4N in the Aviles hot strip mill.

The supply consists of replacing the existing burners with the SMS EcoFlame^{PLUS} dual fuel burners in the zones that will be upgraded and converted to basic oxygen furnace (BOF) gas utilization, instead of the simple replacement of the gas feeding lances. 22 burners will be replaced on each furnace. This solution will guarantee more efficient combustion, an optimal flame mix resulting in a reduction of NOx emissions. These modifications will enable ArcelorMittal to drastically reduce NOx emissions to lower than 150 mg/Nm³ and decrease global CO₂ emissions.

The new burners can be fed either with a mix of BOF gas and natural gas (NG) or with BOF gas only. Thus, it is possible to use the gas from the upstream processes, making the works of ArcelorMittal more sustainable and environmentally friendly. Converting the three furnaces to heating and pre-soaking using 100 percent BOF or natural gas (or any mix of the two gases) will maximize the BOF gas flow rate in every operative condition (e.g. utilization of the maximum BOF gas flow rate of 40,000 Nm³/h with two furnaces working at 50 percent of their thermal power). Switching between the two gases will be performed automatically.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 14,000 employees who generate worldwide sales of more than EUR 2.8 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.