Dynamic process control for the EAF

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Historically, steelmakers have relied on static process information and highly simplified models to operate and control their EAF's. The adoption of real-time off-gas analysis has provided many steel-makers with a tool for understanding the dynamics of their process; but the benefits of off-gas analysis do not end there.

The dynamic process simulator, together with the EFSOP® off gas analysis system, permits to achieve a dynamic control of the EAF melting process in order to reach the required tapping condition – temperature and carbon content (or oxygen activity) – at the same moment, reducing to the minimum the overoxidation of the bath.

At its most basic level, the system provides process models to elucidate, from the profile of off-gas composition, important steel-making information; and thereby providing process engineers with a deeper understanding of their furnace operation. This understanding, in turn, is indispensable for achieving improvements in the process itself.

Keywords

EAF Control, off-gas analysis, EFSOP