

Slag formation and control in electric furnace steel making

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Abstract

Because of their fusibility, low density, chemical activity and dissolving capacity, slags provide an effective means for separating impurities from liquid metal in steel making processes. As poor conductor of heat, slags also help to thermally insulate the bath.

The primary objectives in ensuring proper slag formation and control are to :

- (a) neutralize the acid bath constituents to allow for a basic furnace practice
- (b) remove undesirable impurities (P&S) from the steel, and
- (c) minimize chemical attack on refractory lining

This paper addresses above issues for electric arc furnace steel making with special focus on practices which use alternative sources of metallics like, direct reduced iron, in addition to scrap as basic feed materials.