

Preventing Molten Metal Explosions in Smelters

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Abstract

Molten metal safety in many smelters is an afterthought. This mistake comes back to haunt them later when molten metal incidents occur in the potlines, casthouses, and rodshops. Not only are workers injured and killed. Production stoppages are commonplace. There is a gap in literature detailing molten iron and aluminium safety in a smelter. This paper will explain why explosions occur with aluminium as well as iron. This paper will review specific molten metal incidents and explain how they could have been prevented. Common reasons for molten metal explosions in smelters will be discussed. Failure to consider both molten iron and molten aluminium safety in smelter not only endangers workers but the smelter as a whole.

Keywords: Explosion, Molten metal safety, Molten aluminium, Molten iron.