

Title (en)

Methods and apparatus for molten metal fume suppression.

Title (de)

Verfahren und Vorrichtung zur Beseitigung von Abgasen aus Metallbädern.

Title (fr)

Procédé et appareil éliminant des émanations gazeuses d'un bain métallique.

Publication

**EP 0071359 A1 19830209 (EN)**

Application

**EP 82303664 A 19820713**

Priority

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- US 32546081 A 19811127

Abstract (en)

Methods and apparatus for the suppression of fume from a body of molten metal is described. One method involves blanketing the molten metal bath with a mixture of pressurized inert gas and finely divided or atomized particles of water. The inert gas may be argon, nitrogen or steam. An apparatus for carrying out this method comprises an array of nozzles supported adjacent the mouth of a receiver vessel and connected to sources of the inert gas and water. Another method entails burning fuel in the immediate vicinity of the molten metal surface to consume and/or displace ambient air thereby to starve the bath of oxygen and, concomitantly, to suppress the formation of the fume-producing metallic oxide. An apparatus for carrying out this method, particularly adapted for suppressing fume generated in the flow of molten metal through the runner system of a blast furnace cast house, includes a burner from which fuel and air in predetermined amounts are discharged to create flame and disperse it along the axis of the runners. The flame operates to consume ambient air in the combustion process thereby to starve the region over the metal streams of oxygen that would otherwise combine with metal vapors to create fume-producing metallic oxides.

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