Title (en)

Process and installation to monitor the slag state and the arc stability of the arc furnace

Title (de)

Verfahren und Vorrichtung zur Erfassung des Schlackezustandes und der Lichtbogenstabilität in Lichtbogenöfen

Title (fr)

Procédé et dispositif pour surveiller l'état du laitier et la stabilité de l' arc d'un four à arc

Publication

EP 0896067 B1 20021113 (DE)

Application

EP 98114023 A 19980727

Priority

DE 19733130 A 19970731

Abstract (en)

[origin: EP0896067A1] The method for determining the slag state in electric arc furnaces involves using a signal derived from the current i(t) flowing through the electrode (2). An n-th derivative of i(t) with respect to time is determined at given instants or continuously, where n may be equal to 2, 3 or 4. The effective value of this derivative is expressed as a mean square value over a specified integration period T. This value is compared with given limiting values to establish as to whether the slag state and the electrode cover are optimal. Also claimed is an apparatus which includes a current measurement unit (3), a differentiating unit (4), a checking unit (7) which produces a signal corresponding to the slag state. One or more lances (9) serve for introduction of carbonaceous material or oxygen into the furnace.

IPC 1-7

C21C 5/52; F27D 21/00

IPC 8 full level

C21C 5/52 (2006.01); **F27B 3/08** (2006.01); **F27B 3/22** (2006.01); **F27B 3/28** (2006.01); **F27D 21/00** (2006.01)

CPC (source: EP)

F27B 3/085 (2013.01); **F27B 3/225** (2013.01); **F27B 3/28** (2013.01)

Cited by

RU2725489C2; EP1269796A4; RU2606672C2; US11122654B2; US10145612B2; WO2014048595A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

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