

Title (en)
Shaft furnace operating method

Title (de)
Verfahren zum Betreiben eines Schachtofens

Title (fr)
Méthode por opérer un four à cuve

Publication
EP 1035392 A3 20021211 (DE)

Application
EP 00104380 A 20000302

Priority
DE 19909742 A 19990305

Abstract (en)
[origin: EP1035392A2] Metal-producing shaft furnace operation comprises oxygen and coal dust supply through burners with annular outlets arranged concentrically about a central outlet. A method of operating a metal-producing shaft furnace comprises continuously or periodically filling the shaft with a charge, withdrawing melt the shaft bottom and supplying the shaft, especially in its lower region, with oxygen or oxygen-containing gas and coal dust or coal dust-containing material through one or more burners (especially high velocity burners), having annular outlet opening regions arranged concentrically about a central outlet opening, and/or one or more oxygen lances fitted with the burner. Preferred Features: The coal dust or coal dust-containing material is supplied through the central opening.

IPC 1-7
F27B 1/20; **F27B 1/16**; **F23D 14/22**; **C21C 5/46**; **F27B 1/10**; **C21B 5/00**; **C21B 11/02**; **F23D 1/00**

IPC 8 full level
C21B 5/00 (2006.01); **C21C 1/08** (2006.01); **F27B 1/16** (2006.01); **F27D 23/00** (2006.01); **F27D 99/00** (2010.01)

CPC (source: EP)
C21B 5/003 (2013.01); **C21C 1/08** (2013.01); **F27B 1/16** (2013.01); **F27D 99/0033** (2013.01)

Citation (search report)
• [X] EP 0792938 A1 19970903 - NIPPON KOKAN KK [JP]
• [A] DE 29711593 U1 19970904 - WESTFALEN AG [DE]
• [A] PATENT ABSTRACTS OF JAPAN vol. 004, no. 093 (C - 017) 5 July 1980 (1980-07-05)

Cited by
EP0992754A3; AU2006311226B2; EA013386B1; WO2007054308A3; US8173064B2; US8444910B2; JP2009515049A

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
DE 19909742 A1 20000907; EP 1035392 A2 20000913; EP 1035392 A3 20021211

DOCDB simple family (application)
DE 19909742 A 19990305; EP 00104380 A 20000302