

Title (en)

METHOD FOR CHARGING STARTING MATERIAL INTO BLAST FURNACE

Title (de)

VERFAHREN ZUM LADEN EINES AUSGANGSMATERIALS IN EINEN HOCHOFEN

Title (fr)

PROCÉDÉ DE CHARGEMENT D'UNE MATIÈRE PREMIÈRE DANS UN HAUT-FOURNEAU

Publication

EP 2851435 B1 20190731 (EN)

Application

EP 13790679 A 20130517

Priority

- JP 2012114866 A 20120518
- JP 2013003171 W 20130517

Abstract (en)

[origin: EP2851435A1] A method for charging blast furnace raw material into a blast furnace, comprising, when charging blast furnace raw material including coke and ore material such as sinter, pellet, or lump ore into the blast furnace using a rotating chute, forming a central coke layer at a shaft central portion of the blast furnace; and forming a mixed layer of the coke and the ore material on the outside of the central coke layer with a coke mixing ratio varying in a continuous or stepwise manner from the shaft of the blast furnace towards the furnace wall in the blast furnace radial direction. The method ensures gas permeability in the blast furnace, stabilizes blast furnace operations, and improves thermal efficiency even when an operation to blow in a large amount of pulverized coal is performed.

IPC 8 full level

C21B 5/00 (2006.01); **C21B 7/20** (2006.01)

CPC (source: EP KR)

C21B 5/00 (2013.01 - KR); **C21B 5/001** (2013.01 - KR); **C21B 5/006** (2013.01 - EP); **C21B 5/007** (2013.01 - EP KR); **C21B 5/008** (2013.01 - EP KR); **C21B 7/18** (2013.01 - KR); **C21B 7/20** (2013.01 - EP)

Citation (examination)

JP 2007051306 A 20070301 - JFE STEEL KK

Cited by

US11680748B2; US12098437B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 2851435 A1 20150325; **EP 2851435 A4 20151230**; **EP 2851435 B1 20190731**; CN 104302784 A 20150121; JP 5910735 B2 20160427; JP WO2013172045 A1 20160112; KR 20150004879 A 20150113; WO 2013172045 A1 20131121

DOCDB simple family (application)

EP 13790679 A 20130517; CN 201380025051 A 20130517; JP 2013003171 W 20130517; JP 2014515506 A 20130517; KR 20147032829 A 20130517