

Title (en)

PROCESS FOR THE CARBOTHERMIC OR ELECTROTHERMIC PRODUCTION OF CRUDE IRON OR BASE PRODUCTS

Title (de)

VERFAHREN ZUR CARBOTHERMISCHEN ODER ELEKTROTHERMISCHEN HERSTELLUNG VON ROHEISEN ODER BASISPRODUKTEN

Title (fr)

PROCÉDÉ DE FABRICATION CARBOTHERMIQUE OU ÉLECTROTHERMIQUE DE FONTE BRUTE OU DE PRODUITS DE BASE

Publication

EP 2791369 A1 20141022 (DE)

Application

EP 12821015 A 20121207

Priority

- DE 102011121507 A 20111216
- EP 2012005048 W 20121207

Abstract (en)

[origin: WO2013087171A1] A process serves for the carbothermic/electrothermic production of crude iron or other base products in furnaces (23) by using mixtures comprising iron ore, oxides and/or carbonates of calcium (A) and carbonaceous materials, with formation of carbon monoxide-containing gases. In order to provide a novel process having an increased level of energy efficiency which provides high quality grade synthesis gas, it is proposed that the iron ore and/or the oxides and/or carbonates of calcium are, in whole or in part, first used as bulk material together with organic materials (3) in an upstream vertical moving-bed reactor (2) constructed as a counterflow gasifier, which moving-bed reactor has a bulk material at least in part comprising alkaline substances as moving bed, and a reduction (12) and oxidation zone (6), the organic materials are in whole or in part converted to synthesis gas (9) by gasification with oxygen-containing gases (8) and the remaining bulk material (22) is at least in part provided as raw material mixture for the carbothermic production of crude iron or electrothermic production of base products.

IPC 8 full level

B09B 3/00 (2006.01); **C01B 31/32** (2006.01); **C01B 32/942** (2017.01); **C10J 3/00** (2006.01); **C21B 3/00** (2006.01)

CPC (source: EP US)

C01B 3/02 (2013.01 - US); **C10J 3/06** (2013.01 - EP US); **C21B 3/00** (2013.01 - EP US); **C21B 5/007** (2013.01 - US); **C21B 5/06** (2013.01 - US); **C21B 11/10** (2013.01 - US); **C01B 2203/0233** (2013.01 - US); **C01B 2203/0255** (2013.01 - US); **C01B 2203/042** (2013.01 - US); **C01B 2203/06** (2013.01 - US); **C10J 2300/0916** (2013.01 - EP US); **C10J 2300/092** (2013.01 - EP US); **C10J 2300/0946** (2013.01 - EP US); **C10J 2300/0956** (2013.01 - EP US); **C10J 2300/0993** (2013.01 - EP US); **C10J 2300/0996** (2013.01 - EP US); **C10J 2300/1223** (2013.01 - EP US); **C21B 2100/44** (2017.04 - EP US); **Y02P 20/10** (2015.11 - EP US); **Y02P 20/145** (2015.11 - EP US)

Citation (search report)

See references of WO 2013087171A1

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)

WO 2013087171 A1 20130620; CN 104024439 A 20140903; DE 102011121507 A1 20130620; EP 2791369 A1 20141022; JP 2015507082 A 20150305; RU 2014128940 A 20160210; US 2014373677 A1 20141225

DOCDB simple family (application)

EP 2012005048 W 20121207; CN 201280062333 A 20121207; DE 102011121507 A 20111216; EP 12821015 A 20121207; JP 2014546345 A 20121207; RU 2014128940 A 20121207; US 201214365339 A 20121207