

Title (en)

SMART HYDROGEN PRODUCTION FOR DRI MAKING

Title (de)

INTELLIGENTE WASSERSTOFFHERSTELLUNG ZUR DRI-HERSTELLUNG

Title (fr)

PRODUCTION INTELLIGENTE D'HYDROGÈNE POUR LA FABRICATION DE DRI

Publication

EP 4032991 A1 20220727 (EN)

Application

EP 21153083 A 20210122

Priority

EP 21153083 A 20210122

Abstract (en)

The invention relates to the production of direct reduced iron, DRI, where a hydrogen direct reduction is synergistically operated in the context of an industrial plant. The hydrogen reduction operates with reducing gas comprising at least 85 vol.% hydrogen, and receives a make-up hydrogen stream. At least part of the make-up hydrogen stream is produced on site. by at least one of (i) electrolysis means configured to produce hydrogen from steam recovered from one or more components of the industrial plant and/or from steam generated using waste heat and/or hot gases emitted by the one or more components; and (ii) gas shift reactor means configured to convert CO-bearing gas emitted by at least one component of the industrial plant into hydrogen and to remove CO₂.

IPC 8 full level

C21B 13/00 (2006.01)

CPC (source: EP)

C21B 13/0073 (2013.01); **C21B 2100/24** (2017.04); **C21B 2100/26** (2017.04); **C21B 2100/64** (2017.04)

Citation (search report)

- [X] WO 2020245070 A1 20201210 - TENOVA SPA [IT]
- [A] US 2020385827 A1 20201210 - ASTORIA TODD MICHAEL [US], et al

Cited by

WO2024039282A1; WO2024039280A1

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

Designated extension state (EPC)

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DOCDB simple family (publication)

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