

Title (en)
METHOD FOR THE DIRECT REDUCTION OF IRON ORE

Title (de)
VERFAHREN ZUR DIREKTREDUKTION VON EISENERZ

Title (fr)
PROCÉDÉ DE RÉDUCTION DIRECTE DE MINÉRAI DE FER

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Application
EP 22726608 A 20220428

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Abstract (en)
[origin: WO2022238132A1] The invention relates to a method for the direct reduction of iron ore to sponge iron, wherein: the iron ore passes through a reduction zone (11) for reducing the iron ore to sponge iron; in the reduction zone (11), a reducing gas flows through the iron ore; the reducing gas (11.1) introduced into the reduction zone (11) comprises at least one compound of carbon and hydrogen and/or at least one compound of carbon and oxygen and/or hydrogen; the process gas (11.2) discharged from the reduction zone (11) comprises hydrogen and at least one compound of carbon and oxygen and/or at least one hydrogen-containing compound and unavoidable impurities; the process gas (11.2) is fed to at least a first process step, in which at least one compound of the process gas (11.2) and/or at least portions of the unavoidable impurities are separated out and/or removed. According to the invention, after the first process step the process gas (11.2) is processed in such a way that hydrogen is obtained as a by-product, said hydrogen either a) being completely fed to the reduction zone (11), b) being partly fed to the reduction zone (11) while the remaining portion is stored or is provided for an off-site use, or c) being completely stored or completely provided for an off-site use.

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