

Title (en)

METHOD AND FURNACE FOR THERMAL TREATMENT OF A HIGH-RESISTANCE STEEL STRIP INCLUDING A TEMPERATURE HOMOGENISATION CHAMBER

Title (de)

VERFAHREN UND OFEN FÜR DIE WÄRMEBEHANDLUNG EINES HOCHWIDERSTANDSFÄHIGEN STAHLBANDES, DER EINE TEMPERATUR-HOMOGENISIERUNGSKAMMER UMFASST

Title (fr)

PROCÉDÉ ET FOUR POUR LE TRAITEMENT THERMIQUE D'UNE BANDE D'ACIER DE HAUTE RÉSISTANCE COMPRENANT UNE CHAMBRE D'HOMOGENÉISATION EN TEMPÉRATURE

Publication

EP 3686534 B1 20210310 (FR)

Application

EP 19218200 A 20191219

Priority

BE 201905038 A 20190123

Abstract (en)

[origin: US2020232063A1] Method for thermally treating a scrolling steel strip (5), said method comprising the following steps: heating the strip (5) in a zone for heating with a direct flame (10); temperature homogenisation of the strip (5) in a homogenisation chamber (20) comprising at least one radiant heating tube (25), so as to homogenise the strip (5) in temperature after the passing thereof into the zone for heating with a direct flame (10) of the preceding step; oxidation of the strip (5) in an oxidation chamber (30) with an oxidising atmosphere having an oxygen volume concentration greater than 1%; reduction of the strip (5) in a reduction zone (40).

IPC 8 full level

C21D 1/34 (2006.01); **C21D 1/52** (2006.01); **C21D 9/46** (2006.01); **C21D 9/56** (2006.01); **C23C 8/10** (2006.01); **C23C 8/18** (2006.01); **C23C 8/80** (2006.01); **F27B 9/28** (2006.01)

CPC (source: CN EP KR RU US)

C21D 1/26 (2013.01 - CN); **C21D 1/34** (2013.01 - EP RU); **C21D 1/52** (2013.01 - CN EP RU US); **C21D 1/74** (2013.01 - CN); **C21D 1/76** (2013.01 - US); **C21D 1/773** (2013.01 - US); **C21D 9/46** (2013.01 - EP RU); **C21D 9/56** (2013.01 - RU); **C21D 9/561** (2013.01 - CN EP KR US); **C21D 9/562** (2013.01 - US); **C21D 9/563** (2013.01 - KR); **C23C 8/10** (2013.01 - EP RU); **C23C 8/18** (2013.01 - EP RU); **C23C 8/80** (2013.01 - EP RU); **F27B 9/28** (2013.01 - EP RU)

Citation (opposition)

Opponent : JOHN COCKERILL SA

- US 2017137906 A1 20170518 - FAN DONGWEI [US], et al
- US 2010173072 A1 20100708 - BORREL PIERRE-JEROME [FR]
- KR 20160085830 A 20160718 - ARCELORMITTAL [LU]
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- "INDUSTRIAL COMBUSTION TESTING", article MICHAEL FLAMME: "24 Radiant 2011 Tube Burners", pages: 487 - 504, XP055893689

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EP4303516A1; WO2024008480A1

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DOCDB simple family (publication)

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DOCDB simple family (application)

EP 19218200 A 20191219; BE 201905038 A 20190123; BR 102020001356 A 20200122; CN 201911325696 A 20191220; ES 19218200 T 20191219; KR 20190172013 A 20191220; MX 2019015493 A 20191218; RU 2019142708 A 20191220; SI 201930065 T 20191219; US 201916722637 A 20191220; US 202318532051 A 20231207