

Title (en)

STEEL FOR RAILS AND A METHOD OF MANUFACTURING OF A RAIL THEREOF

Title (de)

STAHL FÜR SCHIENEN UND VERFAHREN ZUR HERSTELLUNG EINER SCHIENE DAFÜR

Title (fr)

ACIER POUR RAILS ET PROCÉDÉ DE FABRICATION D'UN RAIL ASSOCIÉ

Publication

**EP 4247987 A1 20230927 (EN)**

Application

**EP 20815939 A 20201117**

Priority

IB 2020060815 W 20201117

Abstract (en)

[origin: WO2022106864A1] A steel for rail comprising of the following elements, 0.25% # C # 0.8 %; 1.0% # Mn #2.0 %; 1.40% # Si # 2 %; 0.01% # Al # 1 %; 0.8% # Cr # 2%; 0 # P # 0.09%; 0 # S # 0.09%; 0% # N # 0.09%; 0% # Ni # 1%; 0% # Mo # 0.5%; 0% # V# 0.2%; 0% # Nb # 0.1%; 0% # Ti # 0.1%; 0% # Cu# 0.5%; 0% # B # 0.008%; 0% # Sn# 0.1%; 0% # Ce # 0.1%; 0% # Mg # 0.10%; 0% # Zr # 0.10%; the remainder composition being composed of iron and unavoidable impurities caused by processing, the microstructure of said steel comprising, by area percentage, 2% to 10% of Proeutectoid Ferrite, the balance being made of Pearlite wherein the pearlite having interlamellar spacing from 100nm to 250nm.

IPC 8 full level

**C21D 9/04** (2006.01); **C21D 11/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/18** (2006.01)

CPC (source: EP KR US)

**C21D 1/02** (2013.01 - EP KR); **C21D 1/28** (2013.01 - EP KR); **C21D 1/84** (2013.01 - US); **C21D 6/004** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/005** (2013.01 - EP KR US); **C21D 8/0226** (2013.01 - KR); **C21D 9/04** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/20** (2013.01 - EP); **C22C 38/22** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/28** (2013.01 - EP); **C22C 38/34** (2013.01 - EP KR US); **C22C 38/38** (2013.01 - EP); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/46** (2013.01 - EP KR US); **C22C 38/48** (2013.01 - KR); **C22C 38/50** (2013.01 - EP KR US); **C22C 38/58** (2013.01 - EP KR); **C22C 38/60** (2013.01 - KR); **C21D 2211/005** (2013.01 - KR US); **C21D 2211/009** (2013.01 - EP KR US)

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

Designated validation state (EPC)

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DOCDB simple family (publication)

**WO 2022106864 A1 20220527**; CA 3199316 A1 20220527; CN 116472358 A 20230721; EP 4247987 A1 20230927; JP 2023551416 A 20231208; KR 20230078799 A 20230602; MX 2023005664 A 20230526; US 2024002966 A1 20240104; ZA 202304564 B 20240530

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**IB 2020060815 W 20201117**; CA 3199316 A 20201117; CN 202080107175 A 20201117; EP 20815939 A 20201117; JP 2023529030 A 20201117; KR 20237014962 A 20201117; MX 2023005664 A 20201117; US 202018036946 A 20201117; ZA 202304564 A 20230419