Title (en)

PEARLITE STEEL RAIL OF HIGH INTERNAL HARDNESS TYPE EXCELLENT IN WEAR RESISTANCE, FATIGUE FAILURE RESISTANCE AND DELAYED FRACTURE RESISTANCE AND PROCESS FOR PRODUCTION OF THE SAME

Title (de)

PERLITEISENSCHIENE VOM TYP HOHER INTERNER HÄRTE MIT HERVORRAGENDER VERSCHLEISSFESTIGKEIT, ERMÜDUNGSVERSAGENSBESTÄNDIGKEIT UND BESTÄNDIGKEIT GEGENÜBER VERZÖGERTEM BRUCH UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

RAIL EN ACIER PERLITIQUE À DURETÉ INTERNE ÉLEVÉE DONT LA RÉSISTANCE À L'USURE, À LA RUPTURE PAR FATIGUE ET À LA FRACTURE RETARDÉE SONT EXCELLENTES AINSI QUE SON PROCÉDÉ DE FABRICATION

Publication

EP 2196552 B1 20170510 (EN)

Application

EP 08739390 A 20080325

Priority

- JP 2008056273 W 20080325
- JP 2007264826 A 20071010

Abstract (en)

[origin: EP2196552A1] An internal high hardness type pearlitic rail with excellent wear resistance, rolling contact fatigue resistance, and delayed fracture properties and a preferred method for producing the same are provided. Specifically, the internal high hardness type pearlitic rail has a composition containing 0.73% to 0.85% by mass C, 0.5% to 0.75% by mass Si, 0.3% to 1.0% by mass Mn, 0.035% by mass or less P, 0.0005% to 0.012% by mass S, 0.2% to 1.3% by mass Cr, 0.005% to 0.12% by mass V, 0.0015% to 0.0060% by mass N, and the balance being Fe and incidental impurities, wherein the value of [%Mn]/[%Cr] is greater than or equal to 0.3 and less than 1.0, where [%Mn] represents the Mn content, and [%Cr] represents the Cr content, and the value of [%V]/[%N] is in the range of 8.0 to 30.0, where [%V] represents the V content, and [%N] represents the N content, and wherein the internal hardness of a rail head is defined by the Vickers hardness of a portion located from a surface layer of the rail head to a depth of at least 25 mm and is greater than or equal to 380Hv and less than 480Hv.

IPC 8 full level

C22C 38/00 (2006.01); **B21B 1/085** (2006.01); **B21B 3/00** (2006.01); **C21D 1/02** (2006.01); **C21D 6/00** (2006.01); **C21D 8/00** (2006.01); **C21D 9/04** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/24** (2006.01); **C22C 38/48** (2006.01)

CPC (source: EP US)

C21D 1/02 (2013.01 - EP US); **C21D 6/00** (2013.01 - EP US); **C21D 6/002** (2013.01 - EP US); **C21D 6/005** (2013.01 - EP US); **C21D 8/005** (2013.01 - EP US); **C21D 9/04** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); B21B 1/085 (2013.01 - EP US); C21D 2211/009 (2013.01 - EP US); C21D 2221/00 (2013.01 - EP US); C21D 2221/02 (2013.01 - EP US)

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CN105838981A; CN112501417A; EP2980231A4; US10253397B2; US8241442B2; US8721807B2; US9512501B2

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DOCDB simple family (application)

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