

Title (en)

CALIBER-CONTAINING CENTRIFUGALLY CAST ROLL FOR HOT ROLLING

Title (de)

KALIBERHALTIGE ZENTRIFUGAL GEGOSSENE WALZE ZUM WARMWALZEN

Title (fr)

CYLINDRE COULÉ PAR CENTRIFUGATION, CONTENANT UN CALIBRE, POUR LAMINAGE À CHAUD

Publication

EP 3135392 B1 20181219 (EN)

Application

EP 15810994 A 20150626

Priority

- JP 2014132083 A 20140627
- JP 2015003239 W 20150626

Abstract (en)

[origin: EP3135392A1] Provided is a centrifugal cast caliber roll for a hot rolling mill having excellent wear resistance, excellent fatigue resistance, and excellent slip resistance. The roll has a chemical composition containing, by mass%, C: 1.8% or more and 3.0% or less, Si: 0.2% or more and 1.0% or less, Mn: 0.2% or more and 1.5% or less, Cr: 5% or more and 9% or less, Mo: 4.0% or more and 7.0% or less, V: 4.0% or more and 7.0% or less, Nb: 0.5% or more and 2.0% or less, and the balance being Fe and inevitable impurities, in which the relationship $0.6 \leq (C - 0.24V - 0.13Nb) \leq 1.4$ (where, C, V, and Nb each denote the content (mass%) of the corresponding chemical element) is satisfied, and has a surface hardness of Hs 67 or higher and Hs 76 or lower in terms of shore hardness. With this, it is possible to obtain a caliber roll with which it is possible not only to inhibit wear and fatigue but also to prevent slip even in a harsh hot rolling environment in which a high rolling load is applied. In addition, there is an effect of improving the productivity of steel materials (such as a steel pipe), significantly improving the quality of products, and improving roll life.

IPC 8 full level

B21B 27/00 (2006.01); **B21B 27/02** (2006.01); **B22D 13/02** (2006.01); **C21D 5/00** (2006.01); **C22C 37/00** (2006.01)

CPC (source: EP US)

B21B 27/02 (2013.01 - EP US); **B21B 27/024** (2013.01 - EP US); **B22D 13/02** (2013.01 - EP US); **B22D 25/02** (2013.01 - EP US); **C21D 5/00** (2013.01 - EP US); **C22C 37/00** (2013.01 - EP US); **C22C 37/04** (2013.01 - EP US); **C22C 37/06** (2013.01 - EP US); **C22C 37/10** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP US); **C22C 38/36** (2013.01 - EP US); **B21B 2267/26** (2013.01 - EP US)

Cited by

EP3859025A4

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

DOCDB simple family (publication)

EP 3135392 A1 20170301; **EP 3135392 A4 20170524**; **EP 3135392 B1 20181219**; BR 112016030707 A2 20170822; BR 112016030707 A8 20210928; BR 112016030707 B1 20220802; JP 5907318 B1 20160426; JP WO2015198612 A1 20170420; MX 2016016893 A 20170327; US 2017209906 A1 20170727; WO 2015198612 A1 20151230

DOCDB simple family (application)

EP 15810994 A 20150626; BR 112016030707 A 20150626; JP 2015003239 W 20150626; JP 2015547198 A 20150626; MX 2016016893 A 20150626; US 201515321575 A 20150626