

Title (en)

OUTER LAYER MATERIAL FOR HOT-ROLLING ROLL, AND COMPOSITE HOTROLLING ROLL

Title (de)

MATERIAL DER ÄUSSEREN SCHICHT FÜR WARMWALZWALZEN UND WARMWALZVERBUNDWALZEN

Title (fr)

MATÉRIAU DE COUCHE EXTÉRIEURE POUR ROULEAU À CHAUD ET ROULEAU À CHAUD COMPOSITE

Publication

EP 3859025 B1 20230503 (EN)

Application

EP 19889262 A 20191108

Priority

- JP 2018221998 A 20181128
- JP 2019043844 W 20191108

Abstract (en)

[origin: EP3859025A1] To provide a composite hot-rolling roll and an outer layer material for a hot-rolling roll that have a wear resistance and fatigue resistance comparable to or higher than those of the related art and in which porosities and shrinkage cavities are reduced. An outer layer material for a hot-rolling roll, the outer layer material having a chemical composition that contains, in mass%, C: 1.6 to 2.5%, Si: 0.2 to 1.5%, Mn: 0.2 to 1.6%, Cr: 4.5 to 7.0%, Mo: 1.0 to 5.0%, V: 4.0 to 6.0%, and Nb: 0.5 to 2.5%, in which a sum of contents of N and O of the chemical composition is 100 to 400 mass ppm, and a balance of the chemical composition is Fe and incidental impurities.

IPC 8 full level

B21B 27/00 (2006.01); **B22D 13/02** (2006.01); **B22D 13/10** (2006.01); **B22D 19/16** (2006.01); **C21D 1/25** (2006.01); **C21D 5/00** (2006.01); **C21D 8/10** (2006.01); **C21D 9/14** (2006.01); **C21D 9/38** (2006.01); **C22C 37/06** (2006.01); **C22C 37/10** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/36** (2006.01); **C21D 6/00** (2006.01); **C21D 6/02** (2006.01)

CPC (source: EP KR)

B21B 27/00 (2013.01 - KR); **B22D 13/02** (2013.01 - EP KR); **B22D 13/102** (2013.01 - EP); **B22D 19/16** (2013.01 - EP); **C21D 1/25** (2013.01 - EP); **C21D 5/00** (2013.01 - EP KR); **C21D 8/105** (2013.01 - EP); **C21D 9/14** (2013.01 - EP); **C21D 9/38** (2013.01 - EP KR); **C22C 37/06** (2013.01 - EP); **C22C 37/10** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR); **C22C 38/02** (2013.01 - EP); **C22C 38/04** (2013.01 - EP); **C22C 38/06** (2013.01 - EP); **C22C 38/22** (2013.01 - EP KR); **C22C 38/24** (2013.01 - EP KR); **C22C 38/26** (2013.01 - EP KR); **C22C 38/36** (2013.01 - EP); **C22C 38/38** (2013.01 - KR); **C21D 6/002** (2013.01 - EP); **C21D 6/005** (2013.01 - EP); **C21D 6/02** (2013.01 - EP); **C21D 2251/02** (2013.01 - EP)

Citation (examination)

- JP H05339673 A 19931221 - KAWASAKI STEEL CO
- JP 2009274092 A 20091126 - JFE STEEL CORP, et al
- JP 2013087333 A 20130513 - JFE STEEL CORP
- JP 2001247928 A 20010914 - NIPPON STEEL CORP

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