

Title (en)

METHOD FOR ROLLING A PRODUCT TO BE ROLLED

Title (de)

VERFAHREN ZUM WALZEN EINES WALZGUTES

Title (fr)

PROCEDE DE LAMINAGE D'UN PRODUIT DE LAMINAGE

Publication

EP 3238843 A1 20171101 (DE)

Application

EP 16167662 A 20160429

Priority

EP 16167662 A 20160429

Abstract (en)

[origin: WO2017186910A1] The invention relates to a method for rolling a product to be rolled (3), wherein the product to be rolled (3) is fed through a rolling gap (11) between two working rollers (9, 10) of a roll stand (1) and a cooling lubricant is introduced into a contact zone (15, 16), in which a contact surface (17, 18) of the product to be rolled (3) lies against a working roller (9, 10), in order to lubricate the contact zone (15, 16). Furthermore, a lubrication demand of the contact zone (15, 16) is determined in accordance with at least one process parameter of the rolling process and an additional lubricant is applied to the contact surface (17, 18) of the product to be rolled (3) before the rolling gap (11) at a specified application distance (D) if a cooling lubricant amount (C) presently introduced into the contact zone (15, 16) does not cover the lubrication demand. The application distance (D) is sized in such a way that adhesion of the additional lubricant to the contact surface (17, 18) is increased and the lubricating effect in the contact zone (15, 16) is improved in comparison with application immediately before the rolling gap (11). In addition, the lubricant amount (C) introduced into the contact zone (15, 16) is reduced if additional lubricant is applied to the contact surface (17, 18).

Abstract (de)

Die Erfindung betrifft ein Verfahren zum Walzen eines Walzgutes (3), wobei das Walzgut (3) durch einen Walzspalt (11) zwischen zwei Arbeitswalzen (9, 10) eines Walzgerüstes (1) geführt wird und in eine Kontaktzone (15, 16), in der eine Kontaktoberfläche (17, 18) des Walzgutes (3) an einer Arbeitswalze (9, 10) anliegt, ein Kühlsmiermittel zur Schmierung der Kontaktzone (15, 16) eingebracht wird. Ferner wird ein Schmierungsbedarf der Kontaktzone (15, 16) in Abhängigkeit von wenigstens einem Prozessparameter des Walzprozesses bestimmt und vor dem Walzspalt (11) in einem vorgegebenen Aufbringabstand (D) wird ein Zusatzschmiermittel auf die Kontaktoberfläche (17, 18) des Walzgutes (3) aufgebracht, wenn eine momentan in die Kontaktzone (15, 16) eingebrachte Kühlsmiermittelmenge (C) den Schmierungsbedarf nicht deckt.

IPC 8 full level

B21B 37/44 (2006.01); **B21B 45/02** (2006.01)

CPC (source: EP RU US)

B21B 27/10 (2013.01 - EP US); **B21B 37/32** (2013.01 - EP US); **B21B 37/44** (2013.01 - EP US); **B21B 45/02** (2013.01 - RU);
B21B 45/0251 (2013.01 - EP US)

Citation (applicant)

- EP 2651577 B1 20150128 - SIEMENS VAI METALS TECH GMBH [AT]
- WO 2013029886 A1 20130307 - SIEMENS VAI METALS TECH GMBH [AT], et al
- WO 0064605 A1 20001102 - SCHLOEMANN SIEMAG AG [DE], et al
- EP 1750864 B2 20160106 - SMS GROUP GMBH [DE]
- EP 0794023 A2 19970910 - HITACHI LTD [JP]
- WO 2013120750 A1 20130822 - SIEMENS VAI METALS TECH GMBH [AT]
- "Handbuch Umformen", 2012, CARL HANSER VERLAG
- J.B.A.F. SMEULDERS: "Lubrication in the Cold Rolling Process Described by a 3D Stribeck Curve", AISTECH 2013 PROCEEDINGS, 2013, pages 1681 - 1689

Citation (search report)

- [XYI] JP H01218710 A 19890831 - NIPPON STEEL CORP
- [Y] RU 2008112666 A 20091010
- [X] WO 2007025682 A1 20070308 - SMS DEMAG AG [DE], et al
- [A] WO 2005120739 A1 20051222 - SMS DEMAG AG [DE], et al

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3238843 A1 20171101; CN 109070162 A 20181221; CN 109070162 B 20201208; EP 3448592 A1 20190306; EP 3448592 B1 20200122;
JP 2019514693 A 20190606; JP 6820349 B2 20210127; MX 2018012916 A 20190522; RU 2701916 C1 20191002; US 11161161 B2 20211102;
US 2019151919 A1 20190523; WO 2017186910 A1 20171102

DOCDB simple family (application)

EP 16167662 A 20160429; CN 201780026643 A 20170428; EP 17723941 A 20170428; EP 2017060193 W 20170428;
JP 2018556441 A 20170428; MX 2018012916 A 20170428; RU 2018133704 A 20170428; US 201716094911 A 20170428