

Title (en)  
METHOD FOR CALCULATING THE COMBINATION OF PROPERTIES BEING ESTABLISHED FOR A DEFORMABLE LIGHTWEIGHT STEEL

Title (de)  
VERFAHREN ZUR BERECHNUNG DER SICH EINSTELLENDEN EIGENSCHAFTSKOMBINATION FÜR EINEN UMFORMBAREN LEICHTBAUSTAHL

Title (fr)  
PROCÉDÉ DE CALCUL DE LA COMBINAISON DE PROPRIÉTÉS QUI S'ÉTABLIT POUR UN ACIER DE CONSTRUCTION LÉGÈRE DÉFORMABLE

Publication  
**EP 3131691 A1 20170222 (DE)**

Application  
**EP 15735839 A 20150408**

Priority  
• DE 102014005662 A 20140417  
• DE 2015100147 W 20150408

Abstract (en)  
[origin: WO2015158328A1] The invention relates to a method for calculating the combination of properties of phase components and of mechanical properties being established of a predefined alloy composition for a deformable lightweight steel having the elements in percent by weight C 0.02 to  $\leq 1.0$ , Al 2.5 to  $\leq 8.0$ , Si 0.0 to  $\leq 1.5$ , Mn  $\geq 5.0$  to  $\leq 35.0$ , Cr  $> 1.0$  to  $\leq 14.0$ , total content of N, S, P  $\leq 0.1$ , the remainder iron and other steel-accompanying elements with some contents of Cu, Mo, Ni, and Zn of up to 1.0 wt% in total by using specific formulas on the basis of the manganese content, wherein, in the formulas, the alloy contents are used as absolute numbers without dimensions, and the calculated, dimensionless values are assigned the units MPa for Rm and Rp and % for A80. The invention further relates to a method for the further processing of a lightweight steel produced having a predefined alloy composition to form a hot-rolled strip.

IPC 8 full level  
**B22D 11/06** (2006.01); **C22C 38/02** (2006.01); **C22C 38/06** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP KR US)  
**B21B 1/463** (2013.01 - EP KR US); **B22D 11/0631** (2013.01 - EP KR US); **C21D 3/04** (2013.01 - EP US); **C21D 8/0226** (2013.01 - EP US); **C21D 8/0236** (2013.01 - EP US); **C21D 9/52** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/38** (2013.01 - EP KR US); **G01N 3/08** (2013.01 - US); **B21B 2265/14** (2013.01 - EP KR US); **C21D 2211/001** (2013.01 - EP US); **C21D 2211/005** (2013.01 - EP US)

Citation (search report)  
See references of WO 2015158328A1

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)  
**DE 102014005662 A1 20151022**; EP 3131691 A1 20170222; KR 102301544 B1 20210910; KR 20160146815 A 20161221; US 10435764 B2 20191008; US 2017037490 A1 20170209; WO 2015158328 A1 20151022

DOCDB simple family (application)  
**DE 102014005662 A 20140417**; DE 2015100147 W 20150408; EP 15735839 A 20150408; KR 20167031628 A 20150408; US 201515304743 A 20150408