

Title (en)

Process for manufacturing steel product made from carbon steel particularly suitable for galvanisation.

Title (de)

Herstellungsverfahren von Stahlprodukt aus Kohlenstoffstahl insbesondere für Galvanisieren.

Title (fr)

Procédé de réalisation d'un produit sidérurgique en acier au carbone, notamment destiné à la galvanisation.

Publication

EP 1323837 B1 20111005 (FR)

Application

EP 02293146 A 20021218

Priority

FR 0116831 A 20011224

Abstract (en)

[origin: EP1323837A1] The product is made from galvanized carbon steel composed the following elements by weight: carbon at 0.0005 to 0.15%; manganese at 0.08 to 2%; silicon at equal or less than 0.04%; aluminum at equal or less than 0.004%; oxygen at 0.005 to 0.05%; phosphorus at equal or less than 0.2%; sulfur at equal or less than 0.1%; and copper, chromium, nickel, molybdenum, wolfram, and cobalt each at equal or less than 1%. <??>Other elements include titanium, niobium, vanadium, zirconium each at equal or less than 0.5%; boron at equal or less than 0.1%; nickel at equal or less than 0.04%; and tin, antimony and arsenic each at equal or less than 0.1%. The remaining composition of the product is iron and impurities than result during production. Independent claims are also included for the following: <??>(a) a metallurgical intermediate product manufacturing method; and <??>(b) a metallurgical product manufacturing method.

IPC 8 full level

B22D 11/00 (2006.01); **C21D 8/02** (2006.01); **B22D 11/06** (2006.01); **B22D 11/12** (2006.01); **C21C 7/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/04** (2006.01); **C22C 38/60** (2006.01); **C21D 8/12** (2006.01)

CPC (source: EP KR US)

C21D 8/0215 (2013.01 - EP US); **C22C 38/00** (2013.01 - KR); **C22C 38/002** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C21D 8/1277** (2013.01 - EP US); **Y10T 428/12799** (2015.01 - EP US)

Cited by

EP1852514A4; WO2006088223A1; WO2012104306A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)

EP 1323837 A1 20030702; **EP 1323837 B1 20111005**; AT E527386 T1 20111015; AU 2002318875 B2 20071025; CA 2415244 A1 20030624; CA 2415244 C 20101214; FR 2833970 A1 20030627; FR 2833970 B1 20041015; JP 2003247044 A 20030905; JP 4323166 B2 20090902; KR 100943014 B1 20100218; KR 20030055126 A 20030702; US 2003116232 A1 20030626; US 7374623 B2 20080520

DOCDB simple family (application)

EP 02293146 A 20021218; AT 02293146 T 20021218; AU 2002318875 A 20021218; CA 2415244 A 20021218; FR 0116831 A 20011224; JP 2002367812 A 20021219; KR 20020082563 A 20021223; US 32388602 A 20021220