

Title (en)

ENAMEL STEEL HAVING HIGH-TEMPERATURE BAKING HARDENABILITY AND MANUFACTURING METHOD THEREFOR

Title (de)

EMAILLESTAHL MIT HOCHTEMPERATUREINBRENNHÄRTBARKEIT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ACIER ÉMAILLÉ POSSÉDANT UNE TREMPABILITÉ PAR CUISSON À HAUTE TEMPÉRATURE ET SON PROCÉDÉ DE FABRICATION

Publication

**EP 3196328 A1 20170726 (EN)**

Application

**EP 15841538 A 20150916**

Priority

- CN 201410483551 A 20140919
- CN 2015089695 W 20150916

Abstract (en)

Disclosed is an enamel steel having a high-temperature baking hardenability, comprising chemical elements in mass percentage: C: 0.008-0.020%, Mn: 0.05-0.50%, S: 0.021-0.035%, Al: 0.005-0.050% or Als: 0.003-0.045%,  $0 < N < 0.003\%$ ,  $0 < O \leq 0.010\%$ , and element Ti in a mass percentage meeting  $N \times Ti \leq 3 \times 10^{-4}$ ,  $S \times Ti \leq 2 \times 10^{-3}$  and  $Ti \leq 3.43N + 1.5S + 0.02$ , the balance being Fe and inevitable impurity elements. Also disclosed is a method for manufacturing the above-mentioned enamel steel, comprising the steps of: a liquid iron pretreatment ## smelting with a converter ## refining ## continuous casting ## hot rolling. The enamel steel having a high-temperature baking hardenability of the present invention has a better formability, a good welding property, an excellent enamelling firing property and a good enamelling property.

IPC 8 full level

**C22C 38/14** (2006.01); **C21D 8/02** (2006.01)

CPC (source: EP)

**C21D 1/02** (2013.01); **C21D 8/021** (2013.01); **C21D 8/0226** (2013.01); **C21D 8/0236** (2013.01); **C21D 8/0242** (2013.01); **C21D 8/0263** (2013.01); **C21D 8/0273** (2013.01); **C21D 8/041** (2013.01); **C21D 8/0426** (2013.01); **C21D 8/0436** (2013.01); **C21D 8/0442** (2013.01); **C21D 8/0463** (2013.01); **C21D 8/0473** (2013.01); **C21D 9/46** (2013.01); **C21D 9/48** (2013.01); **C22C 1/02** (2013.01); **C22C 38/002** (2013.01); **C22C 38/04** (2013.01); **C22C 38/08** (2013.01); **C22C 38/12** (2013.01); **C22C 38/14** (2013.01); **C22C 38/16** (2013.01); **C22C 38/18** (2013.01); **C21D 2211/004** (2013.01)

Cited by

KR20220060934A

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 3196328 A1 20170726**; **EP 3196328 A4 20180418**; **EP 3196328 B1 20190814**; CN 104250705 A 20141231; CN 104250705 B 20170118; WO 2016041490 A1 20160324

DOCDB simple family (application)

**EP 15841538 A 20150916**; CN 201410483551 A 20140919; CN 2015089695 W 20150916