

Title (en)

STEEL, FLAT STEEL PRODUCT, STEEL COMPONENT AND METHOD FOR PRODUCING A STEEL COMPONENT

Title (de)

STAHL, STAHLFLACHPRODUKT, STAHLBAUTEIL UND VERFAHREN ZUR HERSTELLUNG EINES STAHLBAUTEILS

Title (fr)

ACIER, PRODUIT PLAT EN ACIER, ÉLÉMENT EN ACIER ET PROCÉDÉ DE FABRICATION D'UN ÉLÉMENT EN ACIER

Publication

EP 2553133 B1 20140827 (DE)

Application

EP 11711594 A 20110401

Priority

- EP 10158923 A 20100401
- EP 2011055117 W 20110401
- EP 11711594 A 20110401

Abstract (en)

[origin: EP2374910A1] Steel comprises carbon (0.15-0.40 wt.%), manganese (1-2 wt.%), aluminum (0.2-1.6 wt.%), silicon (0-1.4 wt.%), phosphorus (0-0.10 wt.%), sulfur (0-0.03 wt.%), chromium (0-0.5 wt.%), molybdenum (0-1 wt.%), nitrogen (0-0.01 wt.%), nickel (0-2 wt.%), niobium (0.012-0.04 wt.%), titanium (0-0.40 wt.%), boron (0.0010-0.0050 wt.%), calcium (0-0.0050 wt.%), iron (remaining quantity) and inevitable impurities, where the sum of quantity of silicon and aluminum is 0.25-1.6 wt.%. Independent claims are included for: (1) a flat steel product for producing a steel component comprising at least a region containing the high-strength steel; (2) a steel component made of the flat steel product, having a structure in the region of high-strength steel consisting of martensite, austenite and up to 20% of ferrites; and (3) a method for producing the steel component comprising providing the flat steel product, heating the flat steel product at 780-950[deg] C, hot-deforming the flat steel product to steel component, and accelerated cooling the steel component so that the steel component obtained after cooling exhibits at least a structure in the region of high-strength steel consisting of martensite, austenite and up to 20% ferrite.

IPC 8 full level

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CPC (source: EP KR US)

C21D 6/00 (2013.01 - EP KR US); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/12** (2013.01 - EP KR US); **C21D 2211/001** (2013.01 - EP KR US); **C21D 2211/005** (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US)

Cited by

EP4324950A1; WO2024038037A1; WO2023020931A1; WO2023020932A1

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