

Title (en)

High strength flat steel product with bainitic-martensitic structure and method for manufacturing such a flat steel product

Title (de)

Hochfestes Stahlflachprodukt mit bainitisch-martensitischem Gefüge und Verfahren zur Herstellung eines solchen Stahlflachprodukts

Title (fr)

Produit en acier plat de haute résistance avec une structure bainitique-martensitique et procédé de fabrication d'un tel produit acier plat

Publication

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Application

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Priority

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Abstract (en)

[origin: CA2936733A1] A flat steel product according to the invention, which not only has optimum mechanical properties, such as a high strength combined with good toughness, but also has good suitability for welding, has, in the hot-rolled state, a ferrite-free microstructure consisting to an extent of = 95% by volume of martensite and bainite, with a martensite proportion of = 5% by volume and in total = 5% by volume residual austenite and also production-related unavoidable microstructure constituents. In addition to Fe and unavoidable impurities, the flat steel product according to the invention additionally comprises (in % by weight) 0.08 - 0.10% C, 0.015 - 0.50% Si, 1.20 - 2.00% Mn, 0.020 - 0.040% Al, 0.30 - 1.00% Cr, 0.20 - 0.30% Mo, 0.020 - 0.030% Nb, 0.0015 - 0.0025% B, up to 0.025% P, up to 0.010% S, up to 0.006% N, in particular 0.001 - 0.006% N. The impurities include up to 0.12% Cu, up to 0.090% Ni, up to 0.0030% Ti, up to 0.009% V, up to 0.0090% Co, up to 0.004% Sb and up to 0.0009% W. The invention additionally provides a method which makes it possible to produce a flat steel product according to the invention reliably and with reduced complexity.

IPC 8 full level

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