Title (en)

HOT-ROLLED FLAT STEEL PRODUCT AND METHOD FOR THE PRODUCTION THEREOF

Title (de)

WARMGEWALZTES STAHLFLACHPRODUKT UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

PRODUIT D'ACIER PLAT LAMINÉ À CHAUD ET SON PROCÉDÉ DE FABRICATION

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2021213647A1] The invention relates to a hot-rolled flat steel product of a thickness of < 1.5 mm which has optimized mechanical properties and is particularly suitable for application of a Zn-based corrosion protection layer by hot-dip coating. For this purpose, the flat steel product consists of, in % by mass, C: 0.04 - 0.23 %, Si: 0.04 - 0.54 %, Mn: 1.4 - 2.9 %, Ti + V , wherein the sum of %Ti+%V of the contents in Ti and V is such that 0.005 % < %Ti+%V < 0.15 %, and, in each case, optionally one or more elements of the group „Al, Cr, Mo, B" with contents that are, if applicable, as follows: Al: 0.01 - 1.5 %, sum of %Cr+%Mo of the contents in Cr and M: 0.02 < %Mo+%Cr < 1.4 %, B: 0.0005 - 0.005 %, the remainder consisting of iron and inevitable impurities, among these inevitable impurities being < 0.02 % P, < 0.005 % S, < 0.01 % N and < 0.005 % Nb. The structure of the flat steel product consists of, in percent by area, in sum, 50 - 90 % ferrite and bainite ferrite, 5 - 50 % martensite, 2 - 15 % residual austenite and < 10 % other structure elements. At the same time, the flat steel product has a yield point Rp0,2 > 290 MPa, a tensile strength Rm > 490 MPa and an elongation at break A80 which is calculated according to the following formula (1): A80 [%] = B - Rm / 37 with 31 < B < 51. To at least one surface of the flat steel product a Zn coating is applied by hot-dip coating. The invention also relates to a method for producing a flat steel product of this kind.

IPC 8 full level

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