Title (en)

COLD-ROLLED FLAT STEEL PRODUCT ANNEALED IN A BELL-TYPE FURNACE, AND METHOD FOR THE PRODUCTION OF SAID PRODUCT

Title (de)

KALTGEWALZTES, HAUBENGEGLÜHTES STAHLFLACHPRODUKT UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

PRODUIT PLAT EN ACIER LAMINÉ À FROID, RECUIT SUR BASE, ET PROCÉDÉ DE FABRICATION S'Y RAPPORTANT

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Application

EP 17743317 A 20170720

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Abstract (en)

[origin: WO2018188766A1] The invention relates to a cold-rolled flat steel product which consists of a steel belonging to the high-manganese steels and, after annealing in a bell-type furnace, has a combination of properties which makes it suitable for use in particular in manufacturing car bodies. The cold-rolled flat steel product annealed in a bell-type furnace according to the invention has for this purpose an elastic limit Rp0.2 > 350 MPa, an elongation at break A80 of ≥ 35% and a tensile strength Rm of ≥ 800 MPa, a stacking fault energy of 7-15 mJ/m2 and a structure which has a grain size of ≥ ASTM 13 and a carbide density per unit area of ≤ 250 carbide particles per 1000 µm2 and consists of a steel containing (in wt%) C: 0.1-0.8%, Mn: 10-25%, Al: 0.3-2%, one or more elements from the group "V, Nb, Ti" with the proviso that the sum of "V, Nb, Ti" is 0.01-0.5%, Si: up to 0.5%, Cr: < 1.5%, S: < 0.03%, P: < 0.08%, N: < 0.1%, Mo: < 2%, Co: ≤ 0.5%, B: < 0.01%, Ni: < 8%, Cu: < 5%, Ca:≤ 0.015%, Mg: ≤ 0.0015%, Sb: ≤ 0.2%, Sn: up to 0.2%, one or more elements from the group "Zr, Ta, W" with the proviso that the sum of the contents of Zr, Ta and W is ≤ 2%, rare earth metals: ≤ 0.2%, remainder iron and unavoidable impurities. The invention also relates to a method for producing such a cold-rolled flat steel product.

IPC 8 full level

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CPC (source: EP KR)

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