

Title (en)
COLD ROLLED STEEL SHEET AND RECRYSTALLISATION-ANNEALED STEEL FLAT PRODUCT AND METHOD FOR PRODUCING THE SAME

Title (de)
KALTGEWALZTES UND REKRISTALLISIEREND GEGLÜHTES STAHLFLACHPRODUKT UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)
PRODUIT PLAT EN ACIER LAMINÉ À FROID ET RECRYSTALLISANT, AINSI QUE SON PROCÉDÉ DE FABRICATION

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Application
EP 15762569 A 20150909

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Abstract (en)
[origin: WO2016055227A1] The invention relates to a cold-rolled and recrystallisation annealed flat steel product with a ferritic micro-structure, having an optimised formability and suitability for painting. In addition, the flat steel product is formed by a steel having C: 0.0001-0.003 wt.%, Si: 0.001-0.025 wt.%, Mn: 0.05-0.20 wt.%, P: 0.001-0.015 wt.%, Al: 0.02-0.055 wt.%, Ti: 0.01-0.1 wt.%, as well as respectively optionally Cr: 0.001-0.05 wt.%, V: up to 0.005 wt.%, Mo: up to 0.015 wt.%, N: 0.001-0.004 wt.%. In addition, the flat steel product has the following mechanical characteristics: $R_{p0.2} \leq 180$ MPa, $R_m \leq 340$ MPa, $A_{80} \leq 40\%$, n -value ≤ 0.23 . Furthermore, on at least one of the surfaces thereof, the flat steel product has an arithmetic roughness average R_a of 0.8-1.6 μm and a peak value RP_c of 75/cm. The production of the flat steel product involves, in a continuous process in a N₂-H₂- annealing atmosphere, the recrystallisation annealing thereof, and an overaging process. Subsequently, the flat steel product undergoes a skin-pass rolling by means of a working roller and with a skin-pass rate D of 0.4-0.7%, the circumferential surface of which working roller has a roughness average R_a of 1.0-2.5 μm and a peak value $RP_c \geq 100/\text{cm}$, wherein the peaks and depressions shaped into the surface of the skin-pass working roller are provided in a stochastically distributed manner.

IPC 8 full level
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Citation (examination)
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