

Title (en)
COLD-ROLLED STEEL SHEET AND GALVANIZED COLD-ROLLED STEEL SHEET WHICH ARE EXCELLENT IN FORMABILITY AND BAKING HARDENABILITY, AND PRODUCTION THEREOF

Title (de)
KALTGEWALZTES STAHLBLECH UND GALVANISIERTES KALTGEWALZTES STAHLBLECH MIT HERVORRAGENDER FORMBARKEIT UND EINBRENNHÄRTBARKEIT UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)
TOLE D'ACIER LAMINEE A FROID ET TOLE D'ACIER GALVANISEE PRESENTANT UNE BONNE APTITUDE AU FORMAGE ET A LA TREMPER AU FOUR, ET SA PRODUCTION

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Application
EP 92905304 A 19920220

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Abstract (en)
[origin: EP0572666A1] A cold-rolled steel sheet, which may be further galvanized if desired, is produced by hot rolling steel containing, on a mass base, 0.0010 to 0.0040 % of C, at most 0.0030 % of N, at most 0.5 % of Si, 0.02 to 1.5 % of Mn, at most 0.08 % of P, at most 0.01 % of S, 0.005 to 0.07 % of acid-soluble Al, at most 0.05 % of Nb (where $0 < Nb \% - 93/12 C \% \leq 0.025 \%$), 24/14 N % to 72/14N % of Ti, and the balance of Fe and unavoidable impurities at a finish terminating temperature of the Ar3 transformation point or above, rapidly cooling the steel within 2 s after the hot rolling at a cooling rate of 30 DEG C/s to the extend of temperature fall of at least 100 DEG C, winding at 650 to 770 DEG C, cold rolling at the rolling reduction of 72 to 92 %, conducting recrystallization annealing at 820 to 880 DEG C for at least 20 s, and cooling from this temperature to room temperature at a cooling rate of a least 3 DEG C/s. The obtained sheet contains carbon in solid solution form formed by dissolving deposited carbides through recrystallization annealing and has a recrystallization texture wherein the value of $\log(I_{\{222\}}/I_{\{200\}})$ is 2.7 or above, wherein $I_{\{222\}}$ and $I_{\{200\}}$ are the intensities of diffraction of the {222} plane and the {200} plane, respectively, in X-ray diffractometry. The sheet is excellent in formability and workability in chemical conversion coating and high in work hardenability and baking hardenability. <IMAGE>

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Cited by
FR2798871A1; EP2123785A4; CN107201477A; EP0785283A1; US5879479A; US5656102A; EP0918098A4; EP0816524A1; US5853903A; US5556485A; EP3498877A4; US6852180B1; US11421294B2; WO0121844A1; WO2021151896A1; KR100233690B1; EP3498877B1

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