

Title (en)

Method of making thin ultra-low-carbon steel strip for manufacturing deep-drawn products for packages and thin strips obtained thereby

Title (de)

Verfahren zum Herstellen eines dünnen Bandes aus Stahl mit sehr niedriger Kohlenstoffgehalt zur Herstellung von tiefgezogene Produkten für Verpackungen und also hergestelltes dünnes Band

Title (fr)

Procédé d'élaboration d'une tôle mince en acier à ultra bas carbone pour la réalisation de produits emboutis pour emballage et tôle mince obtenue

Publication

EP 0896069 B1 20020703 (FR)

Application

EP 98401862 A 19980721

Priority

FR 9710155 A 19970807

Abstract (en)

[origin: EP0896069A1] Production of a thin ultra-low carbon steel sheet, for manufacturing deep drawn packaging products, comprises casting a slab of a killed and vacuum degassed steel of composition (by wt.) 0.10-0.35% Mn, less than 0.006% N, less than 0.025% P, less than 0.020% S, less than 0.020% Si, NOTGREATER 0.08% one or more of Cu, Ni and Cr as well as Al, balance Fe and impurities. The steel is cast into slab and hot rolled to strip above the Ar3 temperature, coiled, cold rolled to an intermediate sheet, continuously annealed below the Ac1 temperature and re-rolled to final thickness. The novelty is that the steel is refined to a carbon content of NOTGREATER 0.006% and an aluminium content of NOTGREATER 0.010% and that the hot rolled strip is coiled at below 620 (preferably 530-570) degrees C. Also claimed is a thin sheet of ultra-low carbon steel having the above composition and produced by cold rolling in two stages separated by a continuous anneal, the steel having NOTGREATER 0.006% C content, NOTGREATER 0.010% Al content, a homogeneous equiaxed grain structure, a Lankford coefficient (mean r value) of greater than 1.6 and a planar anisotropy coefficient (DELTA C) of close to zero.

IPC 1-7

C21D 8/04; C22C 38/00

IPC 8 full level

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CPC (source: EP US)

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Cited by

CN103924156A; DE10117118C1; EP1247871A3; NL1013776C2; RU2661687C2; US10184159B2; WO2015113937A1; WO0075382A1; WO2014135645A3

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