Title (en)

Cold reduced non-aging deep drawing steel and method for producing

Title (de)

Kaltverformtes und nichtalterndes Tiefziehblech aus Stahl und Herstellungsverfahren

Title (fr)

Tôle en acier formé à froid pour emboutissage avec une résistance au vieillissement et procédé de fabrication

Publication

EP 0510249 B1 20000308 (EN)

Application

EP 91114828 A 19910903

Priority

- US 69014291 A 19910423
- US 72096691 A 19910625

Abstract (en)

[origin: EP0510249A2] A cold reduced, non-aging, aluminum killed steel characterized by an elongated grain structure and having an rm value at least 1.8 produced from a slab having a reduced hot rolling temperature. A slab consisting essentially of </= 0.08% carbon, </= 0.1% acid sol. aluminum, </= 0.2% manganese, all percentages by weight, the balance iron and unavoidable impurities, is hot rolled to a sheet from a temperature less than 1260 DEG C. Preferably, the slab is continuously cast from a melt consisting essentially of 0.03-0.08% acid sol. aluminum, 0.003-0.007% total nitrogen, < 0.20% manganese, wherein % acid sol. aluminum x % total nitrogen is within the range of 1 x 10<->4> to 5 x 10<->4> and is hot rolled from a temperature of 1093-1175 DEG C. The hot rolled sheet is descaled, cold reduced, batch annealed and temper rolled. Preferably, the cold reduced sheet is annealed in the range of 538-649 DEG C and the temper rolled sheet has a tensile strength of 284.5-313.9 N/mm<2> (29-32 kg/mm<2>), a total elongation of at least 42% and an rm value of at least 2.0.

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