

Title (en)

Cold rolled steel flat product for deep drawing applications and method for its production

Title (de)

Kaltgewalztes Stahlflachprodukt für Tiefziehenanwendungen und Verfahren zu seiner Herstellung

Title (fr)

Produit plat en acier laminé à froid pour applications d'emboutissage profond et son procédé de fabrication

Publication

EP 2767602 B1 20190417 (DE)

Application

EP 13155226 A 20130214

Priority

EP 13155226 A 20130214

Abstract (en)

[origin: EP2767602A1] A cold-rolled flat steel product is made from a steel comprising less than 0.1 carbon, 6.5-11 wt.% aluminum, 0.02-0.2 wt.% rare-earth metal, less than 0.1 wt.% phosphorus, less than 0.03 wt.% sulfur, less than 0.1 wt.% nitrogen, and optionally one or more elements chosen from manganese, silicon, niobium, titanium, molybdenum, chromium, zirconium, vanadium, tungsten, less cobalt, nickel, boron, copper and calcium, and remainder of iron and unavoidable impurities. A cold-rolled flat steel product is made from a steel comprising less than 0.1 carbon, 6.5-11 wt.% aluminum, 0.02-0.2 wt.% rare-earth metal, less than 0.1 wt.% phosphorus, less than 0.03 wt.% sulfur, less than 0.1 wt.% nitrogen, and optionally one or more elements chosen from less than 6 wt.% manganese, less than 1 wt.% silicon, less than 0.3 wt.% niobium, less than 0.3 wt.% titanium, less than 1 wt.% molybdenum, less than 3 wt.% chromium, less than 1 wt.% zirconium, less than 1 wt.% vanadium, less than 1 wt.% tungsten, less than 1 wt.% cobalt, less than 2 wt.% nickel, less than 0.1 wt.% boron, less than 3 wt.% copper and less than 0.015 wt.% calcium, and remainder of iron and unavoidable impurities. An independent claim is included for production of cold-rolled flat steel product.

IPC 8 full level

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CPC (source: EP US)

C21D 8/0405 (2013.01 - EP US); **C21D 8/0426** (2013.01 - EP US); **C21D 8/0436** (2013.01 - EP US); **C21D 8/0463** (2013.01 - EP US); **C21D 9/48** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/004** (2013.01 - EP US); **C22C 38/005** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US)

Cited by

WO2018137973A1; DE102015116186A1; WO2017050558A1; WO2018050637A1

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DOCDB simple family (publication)

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