

Title (en)

Hot-rolled long product and method for its manufacture

Title (de)

Warmgewalztes Langprodukt und Verfahren zu dessen Herstellung

Title (fr)

Produit longitudinal laminé à chaud et son procédé de fabrication

Publication

EP 2103704 A1 20090923 (DE)

Application

EP 08004335 A 20080310

Priority

EP 08004335 A 20080310

Abstract (en)

Hot-rolled longitudinal product contains (in wt.%) 0.20-0.25 carbon, 0.90-1.35 silicon, up to 0.20 nickel, up to 0.50 molybdenum, 0.04-0.25 sulfur, up to 0.01 aluminum, up to 0.035 phosphorus, up to 0.0008 boron, up to 0.02 titanium, up to 0.3 lead, up to 0.3 bismuth, up to 1.93 manganese, up to 4.0 chromium, up to 0.02 nitrogen and up to 0.01 oxygen bound in oxidic inclusions. Manganese content - 1.72 sulfur content 1.50% and chromium content + (manganese content - 1.72 sulfur content) 2.6 wt.%. The product has the following constituents: 50-90% bainite, up to 50% martensite, up to 10% ferrite and up to 10% residual austenite. An independent claim is also included for a method for the production of a hot-rolled longitudinal product.

Abstract (de)

Ein warmgewalztes Langprodukt weist Gewichtsanteile von 0.20 bis 0.25% Kohlenstoff, 0.90 bis 1.35% Silizium, bis zu 0.20% Nickel, 0.1 bis 0.5% Molybdän, 0.04 bis 0.25% Schwefel, bis zu 0.01% Aluminium, bis zu 0.035% Phosphor, bis zu 0.0008% Bor, bis zu 0.02% Titan, bis zu 0.3% Blei, bis zu 0.3% Wismut, bis zu 0.02% Stickstoff, bis zu 1.93% Mangan bis zu 4.0% Chrom bis zu 0.02% Stickstoff und bis zu 0.01% in oxidischen Einschlüssen gebundener Sauerstoff sowie weitere stahlübliche Beimengungen auf, wobei (Mangangehalt-1.72 Schwefelgehalt) < 1.50% und Chromgehalt + (Mangangehalt - 1.72 Schwefelgehalt) > 2.6 Gew.-% ist Es liegen folgende Gefügebestandteile vor: 50 bis 90% Bainit, bis 50% Martensit, bis zu 10% Ferrit und bis zu 10% Restaustenit.

IPC 8 full level

C22C 38/02 (2006.01); **C22C 38/04** (2006.01); **C22C 38/18** (2006.01)

CPC (source: EP)

C21D 6/002 (2013.01); **C21D 6/005** (2013.01); **C21D 6/008** (2013.01); **C21D 8/0226** (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/18** (2013.01); **C21D 2211/002** (2013.01); **C21D 2211/004** (2013.01); **C21D 2211/008** (2013.01)

Citation (applicant)

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Citation (search report)

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- [A] US 5922145 A 19990713 - WATARI KOJI [JP], et al
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Designated contracting state (EPC)

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