

Title (en)

Steel product made from bainitic steel and process for making the steel product

Title (de)

Stahlprodukt aus bainitischem Stahl sowie Verfahren zur Herstellung des Stahlproduktes

Title (fr)

Produit sidérurgique en acier ayant une structure bainitique et procédé pour la fabrication du produit sidérurgique

Publication

EP 0845544 B1 20030102 (FR)

Application

EP 97402787 A 19971120

Priority

FR 9614434 A 19961126

Abstract (en)

[origin: EP0845544A1] A steel section comprises by weight 0.06-0.11% carbon, 1-1.7% manganese, 0.15-0.40% silicon, 0.025-0.10% sulphur, up to 0.025% phosphorous, 0-0.25% nickel, 0.5-1.2% chromium, 0.08-0.13% molybdenum, 0-0.25% copper, 0.003-0.035% aluminium, 0-0.035% titanium, 0-0.10% vanadium, 0-0.06% niobium, 0.0008-0.0040% boron and 0.0060-0.011% nitrogen, with optionally up to following levels- 0.010% tellurium, 0.025% selenium, 0.13% bismuth, 0.090% lead and 0.0040% calcium, the remainder being iron and impurities. The sum Mn+Cr+Mo is at least 2.1%, the sum V+Nb+Ti is between 0.015 and 0.13%, Al+Ti is at least 0.020% and the ratio Mn/S is at least 12. The section has a bainitic structure and exhibits following mechanical properties at 20 degrees C- tensile strength at least 1000 MPa, ratio of elastic limit to tensile strength at least 0.78, resilience at least 45 J/cm<2> and contraction of area at least 55%. Also claimed are making such a section and machining it to form a finished article.

IPC 1-7

C22C 38/32; **C21D 1/20**

IPC 8 full level

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CPC (source: EP)

C21D 1/19 (2013.01); **C21D 1/20** (2013.01); **C21D 8/0263** (2013.01); **C22C 38/32** (2013.01); **C21D 2211/002** (2013.01)

Cited by

US6818072B2; EP1138796A1; FR2807068A1; FR2958660A1; CN102985569A; EP2103704A1; FR2802607A1; WO2011124851A3; WO2013117953A1; EP2453026A1; EP2453027A1

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