

Title (en)
LOW-ALLOY, HIGH-STRENGTH STRUCTURAL STEEL

Title (de)
NIEDRIGLEGIERTER HOCHFESTER BAUSTAHL

Title (fr)
ACIER STRUCTUREL FAIBLEMENT DOPÉ AYANT UNE PLUS GRANDE RÉSISTANCE

Publication
EP 2803749 A4 20150506 (DE)

Application
EP 13861471 A 20130611

Priority
• RU 2012152045 A 20121204
• RU 2013000485 W 20130611

Abstract (en)
[origin: RU2505618C1] FIELD: metallurgy.SUBSTANCE: steel contains the following, wt %: carbon 0.15 - 0.20, manganese 1.3 - 1.5, silicon 0.05 - 0.45, phosphorus not more than 0.02, sulphur 0.02 - 0.05, copper not more than 0.25, vanadium 0.03 - 0.055, nitrogen 0.004 - 0.015, and iron and impurities are the rest. Steel has homogeneous fine grained ferrite-pearlite structure with grain grade of 7 - 9 and is characterised by value of carbon equivalent C? 0.47%.EFFECT: hot-rolled products manufactured from steel have increased yield point, increased ductility parameter, good weldability, increased processibility, reducing tendency to mechanical ageing, possible use at negative temperatures, possibility of excluding additional heat treatment with maintaining a strength interval.1 dwg, 2 tbl, 1 ex

IPC 8 full level
C22C 38/12 (2006.01); **C21D 6/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP)
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Citation (search report)
• [X] CN 101509097 A 20090819 - TANGSHAN IRON & STEEL [CN]
• [A] RU 2330895 C2 20080810 - OSKOL SKIJ EHLEKTROMETALLURGIC [RU]
• [A] "High-Strength Low-Alloy Steels", ALLOYING: UNDERSTANDING THE BASICS, 1 December 2001 (2001-12-01), XP055175947
• [A] I. F. PEMOV ET AL: "Development of economically alloyed structural steel of strength classes 345 and 390", METALLURGIST (RUSSIAN ORIGINAL NOS. 7-8, JULY-AUGUST, 2011), vol. 56, no. 5-6, 1 September 2012 (2012-09-01), pages 370 - 377, XP055175466, ISSN: 0026-0894, DOI: 10.1007/s11015-012-9585-9
• [A] SHANMUGAM S ET AL: "Impact toughness and microstructure relationship in niobium- and vanadium-microalloyed steels processed with varied cooling rates to similar yield strength", MATERIALS SCIENCE AND ENGINEERING A: STRUCTURAL MATERIALS:PROPERTIES, MICROSTRUCTURE & PROCESSING, LAUSANNE, CH, vol. 437, no. 2, 15 November 2006 (2006-11-15), pages 436 - 445, XP027953081, ISSN: 0921-5093, [retrieved on 20061115]
• See references of WO 2014088454A1

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Designated extension state (EPC)
BA ME

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