

Title (en)

Workpiece made of a high-strength steel alloy and its use

Title (de)

Werkstück aus einer hochfesten Stahllegierung und dessen Verwendung

Title (fr)

Pièce en acier à haute résistance mécanique et sa utilisation

Publication

EP 1881083 A1 20080123 (DE)

Application

EP 07014185 A 20070719

Priority

DE 102006033813 A 20060719

Abstract (en)

Workpiece made from a high strength steel alloy contains (in wt.%) 0.11-0.18 carbon, 0.10-0.30 silicon, 1.60-2.20 manganese, less than 0.0015 phosphorus, less than 0.010 sulfur, 1.00-2.00 chromium, less than 0.020 nitrogen, 0.020-0.060 niobium, 0.001-0.004 boron, 0.001-0.050 titanium and a balance of iron. A semi-finished product in the form of sheet metal or tube with a ductile ferritic-perlitic structure is heat treated by austenizing, cooling in air and then optionally tempered. The workpiece has a tensile strength Rm of more than 1.200 MPa at a fraction elongation A5 of more than 12 %.

Abstract (de)

Werkstück aus einer hochfesten Stahllegierung, die in Massenanteilen aus Kohlenstoff (C) 0,11 - 0,18 Silizium (Si) 0,10 - 0,30 Mangan (Mn) 1,60 - 2,20 Phosphor (P) < 0,0015 Schwefel (S) < 0,010 Chrom (Cr) 1,00 - 2,00 Stickstoff (N) < 0,020 Niob (Nb) 0,020 - 0,060 Bor (B) 0,001 - 0,004 Titan (Ti) 0,001 - 0,050 und Eisen sowie erschmelzungsbedingter Verunreinigungen als Rest besteht, welches ausgehend vom Halbzeug Blech oder Rohr im luftgehärteten Zustand eine Zugfestigkeit Rm > 1.200 MPa bei einer Bruchdehnung A5 > 12 % aufweist. Das Werkstück eignet sich insbesondere als für den Einsatz luftgehärteter Kraftfahrzeugbauteile.

IPC 8 full level

C22C 38/00 (2006.01)

CPC (source: EP)

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Citation (search report)

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