

Title (en)

Process for manufacturing of articles from carburized or carbonitrided steel and steel for the manufacturing of said articles

Title (de)

Herstellungsverfahren für Bauteile aus zementierter oder carbonitrierter Stahl und Stahl für die Herstellung dieser Bauteile

Title (fr)

Procédé de fabrication d'une pièce en acier cimentée ou carbonitrurée et acier pour la fabrication de cette pièce

Publication

EP 0890653 B1 20030813 (FR)

Application

EP 98400447 A 19980225

Priority

FR 9708770 A 19970710

Abstract (en)

[origin: EP0890653A1] A novel carburising or carbonitriding steel has the composition (by wt.) 0.2-0.26% C, 0.05-0.5% Si, 1 to less than 1.6% Mn, 0.4-1.5% Cr, 0.08 to less than 0.27% Mo, 0 to less than 0.6% Ni, 0.003-0.06% Al, 0-0.3% Cu, 0-0.1% S, less than 0.03% P, optionally up to 0.02% Te, up to 0.04% Se, up to 0.07% Pb and up to 0.005% Ca, balance Fe and impurities. Also claimed is a process for manufacturing a mechanical steel part by subjecting a rough steel part to surface carburising or carbonitriding, the steel having (a) the composition (by wt.) 0.15-0.35% C, 0-0.6% Si, 0 to less than 5% Mn + Cr + Ni + Mo, 0-0.1% Al, 0 to less than 0.5% Cu, 0-0.15% S, less than 0.03% P, optionally up to 0.02% Te, up to 0.04% Se, up to 0.07% Pb and up to 0.005% Ca, balance Fe and impurities; (b) a Jominy curve in which J3 = 45-50 HRC, J11 = 39-47 HRC and J25 = 31-40 HRC; and (c) average values J3m, J11m, J15m and J25m of five Jominy tests such that MOD(J11m - J3m x 13 divided by 22 - J25m x 8 divided by 22) = ≤ 2.5 HRC and J3m - J15m = ≤ 9 HRC.

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Cited by

EP2208804A1; FR2868083A1; EP1167561A3; DE10315416A1; EP1757711A3; DE102007041519A1; FR2935988A1; WO2006114453A1; WO2005098070A3; US8394207B2

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