

Title (en)

Phase transformation controlled and nitride precipitation hardened heat treated steel

Title (de)

Umwandlungskontrollierter Nitrid-ausscheidungshärtender Vergütungsstahl

Title (fr)

Acier de traitement à durcissement par precipitation des nitrides et à transformation contrôlée

Publication

EP 1215299 B1 20050309 (DE)

Application

EP 01128805 A 20011204

Priority

DE 10063117 A 20001218

Abstract (en)

[origin: EP1215299A2] Heat-treatable steel contains (in wt.%): 15-18 Cr, maximum 0.5 Mn, 4-10 Ni, maximum 15 Co, maximum 4 W, maximum 4 Mo, 0.5-1 V, 0.001-0.1 of one of Nb, Ta, Hf, and Zr, 0.001-0.05 Ti, maximum 0.5 Si, maximum 0.05 C, 0.13-0.25 N, maximum 4 Cu and a balance of Fe. The weight ratio of V to N is 3.5-4.2. An Independent claim is also included for a process for heat treating a heat-treatable steel comprises solution annealing at 1,050-1,250 degrees C for 0.2-10 hours, cooling in air to room temperature, intermediate annealing at 640-780 degrees C for 0.2-10 hours and tempering at 570-630 degrees C for 0.2- hours. Preferably the steel contains (in wt.%) 1-10 Co, 0.5-1.5 Cu, 15.5-16.5 Cr, maximum 0.02 C, 0.5-0.7 V, 0.16-0.20 N, 0.01-0.07 Nb, 1.5-3 Mo, 0.02-0.4 Mn and 0.02-0.25 Si.

IPC 1-7

C22C 38/46; **C22C 38/52**; **C21D 6/02**; **C21D 6/00**

IPC 8 full level

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CPC (source: EP US)

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