

Title (en)

STEEL FOR THE MANUFACTURE OF LARGE FORGINGS AND PROCESS FOR THE TREATMENT OF THIS STEEL

Publication

EP 0164678 B1 19890419 (FR)

Application

EP 85106869 A 19850604

Priority

FR 8408785 A 19840605

Abstract (en)

[origin: US4689095A] The present invention provides a steel containing, by mass: from 0.16% to 0.22% carbon (C) less than 0.3% silicon (Si) less than 0.5% manganese (Mn) from 0.6% to 0.9% nickel (Ni) from 10.7% to 12.3% chromium (Cr) from 0.8% to 1.1% molybdenum (Mo) from 0.2% to 0.35% vanadium (V) from 0.07% to 0.20% niobium (Nb) from 0.05% to 0.11% nitrogen (N₂) less than 0.008% boron (B) and not more than the following residual percentages by mass: 0.020% sulfur, 0.020% phosphorous, 0.025% cobalt, 0.010% aluminum, 0.02% titanium, 0.02% tin, 0.10% copper, 0.015% tungsten, 0.020% arsenic, and 0.0025% antimony; the remainder of the alloy being iron; said steel having a nickel equivalent calculated using the formula: $Ni_{eq} = 30C + 0.5Mn + 2Ni + 25N_2 + 40B$, lying in the range 9 to 10.2; and a chromium equivalent calculated using the formula: $Cr_{eq} = Cr + 2Si + 1.5Mo + 5V + 1.75Nb$ lying in the range 14.5 to 15.5; the ratio between the chromium equivalent and the nickel equivalent lying in the range 1.49 to 1.65.

IPC 1-7

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CPC (source: EP KR US)

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