

Title (en)

PROCESS FOR MAKING A STEEL PART, AND STEEL PART SO OBTAINED

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES STAHLTEILS UND IN DIESEM VERFAHREN HERGESTELLTES TEIL

Title (fr)

PROCÉDÉ DE FABRICATION D'UNE PIÈCE D'ACIER ET PIÈCE D'ACIER AINSI OBTENUE

Publication

EP 2812455 A1 20141217 (EN)

Application

EP 12719049 A 20120210

Priority

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Abstract (en)

[origin: WO2013117953A1] Process for making a steel part, characterized in that: - a half-product is prepared, having the following composition: * $0.30\% < C \leq 0.46\%$; * $1\% \leq Mn \leq 2\%$; * $1\% \leq Cr \leq 1.5\%$; * $2.3\% \leq Mn + Cr \leq 3\%$ * traces $\leq Si \leq 1.5\%$; * traces $\leq Ni \leq 2\%$, preferably traces $< Ni \leq 0.5\%$; * $0.04\% \leq Mo \leq 0.50\%$, preferably $0.04\% \leq Mo \leq 0.25\%$; * traces $\leq Cu \leq 0.5\%$; * $0.005 \leq Ti + Nb \leq 0.06\%$; * traces $\leq V \leq 0.3\%$; * $0.001\% \leq Al \leq 0.1\%$; * traces $\leq B \leq 0.01\%$, preferably $0.0005\% \leq B \leq 0.01\%$; * traces $\leq S \leq 0.1\%$, preferably $0.002\% \leq S \leq 0.1\%$; * traces $\leq N \leq 200$ ppm; * traces $\leq P \leq 0.020\%$; * traces $\leq O \leq 35$ ppm; the remaining elements being Fe and impurities resulting from the steelmaking process; * with $M_s = 561 - (474 \times C\%) - (33 \times Mn\%) - (17 \times Cr\%) - (21 \times Mo\%) - (17 \times Ni\%)$ °C ≤ 330 °C; - this half product is hot-formed at 1100-1300 °C by rolling or forging; - it undergoes an isothermal bainitic quench at a temperature T_b in the bainitic range, with a duration sufficient so as to give it a bainitic structure with less than 20% of martensite and/or pearlite and/or ferrite; Steel part made according to this process.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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Cited by

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