

Title (en)

PRECIPITATION HARDENING NICKEL ALLOY, PART MADE OF SAID ALLOY, AND MANUFACTURING METHOD THEREOF

Title (de)

AUSSCHIEDUNGSHÄRTENDE NICKELLEGIERUNG, AUS BESAGTER LEGIERUNG HERGESTELLTES TEIL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ALLIAGE À BASE NICKEL À DURCISSEMENT STRUCTURAL, PIÈCE EN CET ALLIAGE ET SON PROCÉDÉ DE FABRICATION

Publication

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Application

**EP 15709520 A 20150313**

Priority

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Abstract (en)

[origin: WO2015136094A1] The invention relates to a precipitation hardening nickel alloy characterized in that the composition thereof is, in wt%:  $18\% \leq \text{Cr} \leq 22\%$ , preferably  $18\% \leq \text{Cr} \leq 20\%$ ;  $18\% \leq \text{Co} \leq 22\%$ , preferably  $19\% \leq \text{Co} \leq 21\%$ ;  $4\% \leq \text{Mo} + \text{W} \leq 8\%$ , preferably  $5.5\% \leq \text{Mo} + \text{W} \leq 7.5\%$ ; traces  $\leq \text{Zr} \leq 0.06\%$ ; traces  $\leq \text{B} \leq 0.03\%$ , preferably traces  $\leq \text{B} \leq 0.01\%$ ; traces  $\leq \text{C} \leq 0.1\%$ , preferably traces  $\leq \text{C} \leq 0.06\%$ ; traces  $\leq \text{Fe} \leq 1\%$ ; traces  $\leq \text{Nb} \leq 0.01\%$ ; traces  $\leq \text{Ta} \leq 0.01\%$ ; traces  $\leq \text{S} \leq 0.008\%$ ; traces  $\leq \text{P} \leq 0.015\%$ ; traces  $\leq \text{Mn} \leq 0.3\%$ ; traces  $\leq \text{Si} \leq 0.15\%$ ; traces  $\leq \text{O} \leq 0.0025\%$ ; and traces  $\leq \text{N} \leq 0.0030\%$ . The rest consists of nickel and impurities resulting from the production of said alloy. The Al content and Ti content moreover satisfy the following conditions: (1)  $\text{Ti}/\text{Al} \leq 3$ ; (2)  $\text{Al} + 1.2 \text{ Ti} \geq 2\%$ ; (3)  $(0.2 \text{ Al} - 1.25)2 - 0.5 \text{ Ti} \geq 0\%$ ; (4)  $\text{Ti} + 1.5 \text{ Al} \leq 4.5\%$ . The invention also relates to a part made of said alloy and to the manufacturing method thereof.

IPC 8 full level

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