Title (en)

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

Title (de)

AUSSCHEIDUNGSHÄRTENDE 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

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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% ≤ Cr ≤ 22%, preferably 18% ≤ Cr ≤ 20%; 18% ≤ Co ≤ 22%, preferably 19% ≤ Co ≤ 21%; 4% ≤ Mo + W ≤ 8%, preferably 5.5% ≤ Mo + W ≤ 7.5%; traces ≤ Zr ≤ 0.06%; traces ≤ B ≤ 0.03%, preferably traces ≤ B ≤ 0.01%; traces ≤ C ≤ 0.1%, preferably traces ≤ C ≤ 0.06%; traces ≤ Fe ≤ 1%; traces ≤ Nb ≤ 0.01%; traces ≤ Ta ≤ 0.01%; traces ≤ S ≤ 0.008%; traces ≤ P ≤ 0.015%; traces ≤ Mn ≤ 0.3%; traces ≤ Si ≤ 0.15%; traces ≤ O ≤ 0.0025%; and traces ≤ N ≤ 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) Ti/Al ≤ 3; (2) Al + 1.2 Ti ≥ 2%; (3) (0.2 Al - 1.25)2- 0.5 Ti ≥ 0%; (4) Ti + 1.5 Al ≤ 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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