

Title (en)

High hardness and wear resistant nickel based alloy for use as high temperature tooling

Title (de)

Hochharte Nickelbasislegierung für verschleissfeste Hochtemperaturwerkzeuge

Title (fr)

Alliage de nickel résistant à l'usure et a dureté élevée, et son utilisation comme un outil à haute température

Publication

EP 1647606 B1 20080416 (DE)

Application

EP 05450151 A 20050909

Priority

AT 17132004 A 20041013

Abstract (en)

[origin: EP1647606A1] Precipitation hardened Ni based alloy containing at least 10 vol.% primary metal carbide of composition (wt.%):C (0.5-1.8), Mn (0.5-3.0), Cr (6.0-25.0), Mo (8.0-18.0), W (8.0-10.0), Nb (8.0-3.0), Al (2.5-6.0), Fe 2.5-20.0), Co (2.5-40.0), Ti (2.5-3.0), Hf (2.5-1.5), Ta (2.5-.0), Zr (2.5-0.5) and V (2.5-3.0). Independent claims are included for: (1) a method of preparing an object from the Ni based alloy containing the above elements in the amounts listed from a powder compact with calcining over the temperature range between the solution temperature of the gamma'-phase and the solidus temperature; (2) a tool, especially a welding tool or thermally loaded transformation tool comprising the Ni based alloy as described above; (3) a starting material for preparation of a welding tool or thermally loaded transformation tool comprising the Ni based alloy as described above.

IPC 8 full level

C22C 19/05 (2006.01); **C22C 32/00** (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP)

C22C 19/056 (2013.01); **C22C 32/0052** (2013.01); **C22F 1/10** (2013.01); **B22F 2003/248** (2013.01); **B22F 2005/001** (2013.01); **B22F 2998/10** (2013.01)

Cited by

CN114574788A; FR3105041A1; CN114700495A; EP4129533A4; CN109112327A; US7799271B2; WO2008105788A3; JP2009540131A; WO2020093783A1

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