Title (en)

Nickel-based heat-resistant alloy for dies.

Title (de)

Hitzebeständige Legierung auf Nickelbasis für Matrize.

Title (fr)

Alliage à base de nickel résistant à la chaleur pour estampes.

Publication

EP 0460678 A1 19911211 (EN)

Application

EP 91109312 A 19910606

Priority

JP 14931290 A 19900607

Abstract (en)

Disclosed herein is a nickel-based heat-resistant alloy for dies containing: 0.01-0.5 wt% Zr, 0.04-0.2 wt% Mn, 0.04-2.5 wt% Si, at least one selected from the group consisting of 3.0-8.5 wt% Al, 1.7-4.8 wt% Ti and 0.87-2.5 wt% Nb, and one or both of 13-25.0 wt% Mo and 6.7-13 wt% W, and having 30-88% by volume of the gamma phase, 12-60% by volume of the gamma ' phase and 2.5-11% by volume of the alpha phase, the balance being essentially Ni. The alloy may further contain at least one selected from the group consisting of 0.03-2 wt% Hf, 0.3-3 wt% Ta and 3-10 wt% Cr. The alloy has excellent strength, ductility and oxidation resistance, and is excellent in high-temperature strength at 1000 DEG C or above. Therefore, the nickel-based heat-resistant alloy for dies exhibits high performance as a material for dies to be used for forging at high temperatures. <IMAGE>

IPC 1-7

C22C 19/03; C22C 19/05

IPC 8 full level

C22C 19/03 (2006.01); **C22C 19/05** (2006.01)

CPC (source: EP)

C22C 19/03 (2013.01); **C22C 19/057** (2013.01)

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