

Title (en)

Process for heat treatment of a nickel-base superalloy

Title (de)

Wärmebehandlungsverfahren für Superlegierung auf Nickelbasis

Title (fr)

Procédé de traitement thermique d'un superalliage à base de nickel

Publication

EP 0792945 B1 19981202 (FR)

Application

EP 97400438 A 19970227

Priority

FR 9602534 A 19960229

Abstract (en)

[origin: EP0792945A1] A method for heat treating nickel superalloy forgings containing 11-13 wt % of Cr, 8-17 wt % of Co, 6-8 wt % of Mo, 4-5 wt % of Ti, 4-5 wt % of Al, no more than 0.5 wt % of Nb, and no more than 500 ppm of Hf, the balance to 100 wt % being Ni, is disclosed. According to the method, an intermediate heat treatment is carried out at a temperature between the gamma ' solvus minus 95 DEG C and the gamma ' solvus minus 30 DEG C, following hot forging at a temperature between the gamma ' solvus minus 95 DEG C and the gamma ' solvus minus 45 DEG C, with a strain rate of 5.10×10^{-5} to 2.10×10^{-2} , and a deformation ratio higher than 0.1, and prior to a supersolvus heat treatment at a temperature between the gamma ' solvus plus 5 DEG C and the gamma ' solvus plus 25 DEG C for 1 to 4 hours.

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