

Title (en)

PROCESS FOR THE PRODUCTION OF A FINE-GRAINED WORK PIECE OF A NICKEL BASE SUPERALLOY

Publication

EP 0142668 B1 19870513 (DE)

Application

EP 84111204 A 19840920

Priority

CH 525283 A 19830928

Abstract (en)

[origin: US4612062A] A fine-grained workpiece having improved mechanical properties is produced from a nickel-based superalloy by two-part forging, a blank being converted, in a first isothermal hot-forming step (curve b) above the solution-annealing temperature for the gamma '-phase (line a), into an intermediate form and the latter then being finally forged to give the end form in a second isothermal hot-forming step (curve c) just below the solution-annealing temperature for the gamma '-phase. For the first step, a degree of deformation epsilon of of at least 0.7 at a mean deformation rate epsilon of about 10x10⁻³s⁻¹ is required here. The second step is carried out at deformation rates epsilon which are one to two powers of 10 lower than those of the first step.

IPC 1-7

C22F 1/10

IPC 8 full level

C22C 19/05 (2006.01); **B21J 5/02** (2006.01); **C22F 1/00** (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP US)

C22F 1/10 (2013.01 - EP US)

Citation (examination)

GB 1253861 A 19711117 - UNITED AIRCRAFT CORP [US]

Cited by

EP0790324A1; US5900078A; EP0792945A1; FR2745588A1; EP0330858A1; US4957703A; CH675256A5; WO9732052A1

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