

Title (en)

METHOD FOR FORGING TITANIUM ALLOY AND FORGED TITANIUM ALLOY MATERIAL

Title (de)

VERFAHREN ZUM SCHMIEDEN VON TITANLEGIERUNG UND GESCHMIEDETES TITANLEGIERUNGSMATERIAL

Title (fr)

PROCEDE DE FORGEAGE D'ALLIAGE DE TITANE ET MATERIAU D'ALLIAGE DE TITANE FORGE

Publication

EP 1500715 A4 20050629 (EN)

Application

EP 02722818 A 20020426

Priority

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Abstract (en)

[origin: WO03091468A1] A method for forging a titanium alloy having a beta-transformation temperature of T_{β} (°C), which comprises satisfying the relationships of $(T_{\beta} - 400)^{\circ}\text{C} \leq T_m$ and $400^{\circ}\text{C} \leq T_d \leq 700^{\circ}\text{C}$, wherein T_m and T_d represent the temperature of a material to be forged and the temperature of a mold, respectively, and carrying out the forging of the alloy at a strain rate of $2 \times 10^{-4} \text{ s}^{-1}$ to 1 s^{-1} , and preferably further satisfying the relationship of $T_m - T_d \leq 250^{\circ}\text{C}$ and/or using a titanium alloy having a specific chemical composition. A titanium alloy material having been forged by the above method has a microstructure being fine and controlled so as to have a predetermined structure, and thus exhibits material properties being nearly uniform in the thickness direction thereof, is excellent in ductility and fatigue characteristics, is easy to finish the surface after forging, is less susceptible to cracking, and exhibits excellent formability.

IPC 1-7

C22F 1/18; **C22C 14/00**

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

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