

Title (en)  
STEEL FOR WARM WORKING, METHOD OF WARM WORKING OF THE STEEL, AND STEEL MATERIAL AND STEEL PART OBTAINED BY THE SAME

Title (de)  
STAHL ZUM WARMUMFORMEN, VERFAHREN ZUM WARMUMFORMEN DES STAHL UND DADURCH ERHALTENES STAHLMATERIAL UND STAHLTEIL

Title (fr)  
ACIER POUR ÉCROUISSAGE A CHAUD, PROCEDE D'ÉCROUISSAGE A CHAUD DE L'ACIER, ET MATERIAU D'ACIER ET PIECE EN ACIER OBTENUS AVEC LE PROCEDE

Publication  
**EP 1956100 A4 20111109 (EN)**

Application  
**EP 06833094 A 20061121**

Priority  
• JP 2006323248 W 20061121  
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Abstract (en)  
[origin: EP1956100A1] There are provided a steel for warm working, to be subjected to warm working as various structures, components of cars, and the like, a warm working method thereof, and a steel material and a steel component obtainable from the warm working method. [Solving Means] A steel is to have a particle dispersion type fiber structure formed in the matrix by warm working. The steel is characterized in that the total amount of the dispersed second-phase particles at room temperature is  $7 \times 10^{-3}$  or more in terms of volume fraction, and the Vickers hardness (HV) is equal to or larger than the hardness H of the following equation (2):  $H = (5.2 - 1.2 \times 10^{-4} \times \text{»}) \times 10^2 \dots (2)$  when the steel is subjected to any of annealing, tempering, and aging treatments in the as-unworked state under conditions such that a parameter » expressed by the following equation (1):  $\text{»} = T(\log t + 20)$  (T; temperature (K), t; time (hr)) ... (1) is  $1.4 \times 10^4$  or more in a prescribed temperature range of 350°C or more and Ac1 point or less. This steel is taken as the steel for warm working.

IPC 8 full level  
**C21D 8/06** (2006.01); **C21D 8/02** (2006.01); **C21D 8/04** (2006.01); **C21D 9/46** (2006.01); **C21D 9/52** (2006.01); **C22C 38/00** (2006.01)

CPC (source: EP US)  
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Citation (search report)  
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