

Title (en)  
Procedure for manufacturing of steel starting material by warm deforming

Title (de)  
Verfahren zum Herstellen von Vormaterial aus Stahl durch Warmverformen

Title (fr)  
Procédure de fabrication de la matière brute de l'acier par déformer à chaud

Publication  
**EP 1780293 B1 20130918 (DE)**

Application  
**EP 06022284 A 20061025**

Priority  
DE 102005052069 A 20051028

Abstract (en)  
[origin: EP1780293A2] Production of an initial material by thermal deformation involves subjecting a manganese-, chromium-, molybdenum-, nickel- and boron-containing steel (I), of specific composition, to controlled cooling from the thermal deformation temperature to give a martensitic-bainitic structure. Production of an initial material by thermal deformation involves subjecting a steel (I) to controlled cooling from the thermal deformation temperature to give a martensitic-bainitic structure. (I) contains (by weight, apart from iron and smelting impurities) 0.08-0.25% carbon, up to 1% silicon, 0.5-2.5% manganese, up to 0.035% phosphorus, up to 0.055% sulfur, 0.1-1.5% chromium, 0.1-0.5% molybdenum, 0.2-1.5% nickel, up to 0.06% aluminum, 0.0010-0.0060% boron, up to 0.040% titanium, up to 0.04% vanadium, up to 0.04% niobium, up to 0.5% copper and up to 0.010% nitrogen.

IPC 8 full level  
**C22C 38/02** (2006.01); **C21D 1/00** (2006.01); **C21D 1/20** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01); **C22C 38/54** (2006.01)

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Cited by  
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