

Title (en)

A METHOD OF PRODUCING A HIGH SPEED STEEL ALLOY

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER HOCHGESCHWINDIGKEITSSTAHLLEGIERUNG

Title (fr)

PROCÉDÉ DE PRODUCTION D'UN ALLIAGE D'ACIER À HAUTE VITESSE

Publication

**EP 3870730 A1 20210901 (EN)**

Application

**EP 19876810 A 20191024**

Priority

- SE 1851330 A 20181026
- IB 2019001160 W 20191024

Abstract (en)

[origin: WO2020084352A1] A method of producing a high speed steel alloy containing, in percent by weight (wt.%): C 1.00-1.10, N 0.005-0.025, Cr 3.80- 4.40, Mo 3.90-4.50, W 0-1.0, Co 0-0.99, V 1.8-2.2, Nb 0-0.30, Mn 0.20-0.40, Si 1.40-1.55, Ni 0-0.50, and Cu 0-0.50, the balance being Fe and normally occurring impurities, and wherein said method comprises the following steps: providing a melt of said alloy, casting said melt followed by solidification thereof, hot forming the alloy into a predetermined body, soft annealing the solidified alloy, and hardening said body of the alloy at a hardening temperature T in the range of 1100°C-1200°C for a predetermined time t which is in the range of t1-t2, wherein t1 is a time which is sufficient for carbide-forming elements of the alloy to be dissolved in an austenitic structure presented by the alloy. Maximum hardening time t2 is below a time at which a medium austenite grain size of the alloy, as measured with the Snyder- Graff method, is such that the Snyder-Graff intercept grain size number (SG) is at least 13.

IPC 8 full level

**C22C 38/42** (2006.01); **C21D 1/18** (2006.01); **C21D 6/00** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/30** (2006.01)

CPC (source: EP SE)

**C21D 1/18** (2013.01 - EP SE); **C21D 1/25** (2013.01 - EP); **C21D 1/78** (2013.01 - EP); **C21D 6/001** (2013.01 - SE); **C21D 6/002** (2013.01 - EP SE); **C21D 6/005** (2013.01 - SE); **C21D 6/007** (2013.01 - SE); **C21D 6/008** (2013.01 - SE); **C21D 8/005** (2013.01 - EP); **C21D 8/065** (2013.01 - EP); **C21D 9/0068** (2013.01 - EP); **C22C 38/001** (2013.01 - EP); **C22C 38/02** (2013.01 - EP); **C22C 38/04** (2013.01 - EP); **C22C 38/22** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/34** (2013.01 - EP); **C22C 38/42** (2013.01 - EP SE); **C22C 38/44** (2013.01 - EP); **C22C 38/46** (2013.01 - EP); **C22C 38/48** (2013.01 - EP); **C22C 38/52** (2013.01 - EP); **B21C 25/00** (2013.01 - EP); **C21D 6/004** (2013.01 - SE); **C21D 2211/001** (2013.01 - EP SE); **C21D 2211/008** (2013.01 - EP); **C22C 1/02** (2013.01 - EP); **C22C 38/20** (2013.01 - EP); **C22C 38/22** (2013.01 - SE); **C22C 38/24** (2013.01 - SE); **C22C 38/26** (2013.01 - EP); **C22C 38/30** (2013.01 - EP SE)

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