

Title (en)
A method for producing high speed steel

Title (de)
Verfahren zur Herstellung von Schnelldrehstahl

Title (fr)
Procédé de production d'acier à haute vitesse

Publication
EP 2570507 A1 20130320 (EN)

Application
EP 11181771 A 20110919

Priority
EP 11181771 A 20110919

Abstract (en)
A method for producing a high speed steel that with reference to its chemical composition consists of the following elements: 1-3 wt-% carbon (C), 3-6 wt-% chromium (Cr), 0-7 wt-% molybdenum (Mo), 0-15 wt-% tungsten (W), 3-14 wt-% vanadium (V), 0-10 wt-% cobalt (Co), 0-3 wt-% niobium (Nb), 0-0.5 wt-% nitrogen (N), 0.2-1 wt-% yttrium (Y), and remainder iron (Fe) and unavoidable impurities, and wherein Mo+0.5W = 2-10 weight%, characterised in that the method comprises the steps of: providing a powder comprising the elements of said high speed steel, forming a body of said powder, and subjecting said body to elevated heat and pressure such that a consolidation of the powder thereof is achieved.

IPC 8 full level
C22C 38/00 (2006.01); **B22F 3/15** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/36** (2006.01)

CPC (source: EP US)
B22F 3/15 (2013.01 - EP US); **C22C 33/0257** (2013.01 - US); **C22C 33/0285** (2013.01 - EP US); **C22C 38/005** (2013.01 - EP US);
C22C 38/22 (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/36** (2013.01 - EP US)

Citation (applicant)

- US 5989491 A 19991123 - ISOMOTO TATSURO [JP], et al
- JP H01142055 A 19890602 - HITACHI METALS LTD
- JP S63213641 A 19880906 - HITACHI METALS LTD
- CN 101037760 A 20070919 - UNIV XI AN JIAOTONG [CN]
- JP H01159349 A 19890622 - HITACHI METALS LTD
- JP H01142056 A 19890602 - HITACHI METALS LTD
- CN 101078090 A 20071128 - ZHENGZHOU INST OF AERONAUTICAL [CN]
- JP H06299298 A 19941025 - HITACHI METALS LTD
- CN 1693527 A 20051109 - JIUQUAN IRON & STEEL GROUP CO [CN]
- JP S57143468 A 19820904 - DAIDO STEEL CO LTD
- JP 2005281839 A 20051013 - KOGI CORP
- CN 101831590 A 20100915 - JIANGSU DONGYE ROLLER CO LTD
- JP H0841592 A 19960213 - DAIDO STEEL CO LTD
- JP S57143471 A 19820904 - DAIDO STEEL CO LTD
- JP 2003253396 A 20030910 - KOGI CORP
- JP S648252 A 19890112 - HITACHI METALS LTD
- JP S5785952 A 19820528 - DAIDO STEEL CO LTD
- J.H. ARPS ET AL., SURFACE AND COATINGS TECHNOLOGY, vol. 84, 1996, pages 579 - 583
- G. DEARNLEY: "Ion beam modification of metals", NUCLEAR INSTRUMENTS AND METHODS IN PHYSICS RESEARCH, vol. B50, 1990, pages 358 - 367

Citation (search report)

- [XA] JP H02194144 A 19900731 - DAIDO STEEL CO LTD
- [A] US 5578773 A 19961126 - WISELL HENRY [SE]
- [A] JP H06299298 A 19941025 - HITACHI METALS LTD
- [A] JP S62211354 A 19870917 - DAIDO STEEL CO LTD

Cited by
US10612432B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2570507 A1 20130320; CN 103814145 A 20140521; EP 2758558 A1 20140730; JP 2014530294 A 20141117; US 2014356218 A1 20141204;
WO 2013041558 A1 20130328

DOCDB simple family (application)
EP 11181771 A 20110919; CN 201280045555 A 20120919; EP 12759474 A 20120919; EP 2012068428 W 20120919;
JP 2014530277 A 20120919; US 201214345413 A 20120919