

Title (en)

High speed steel with good high temperature strength manufactured by powder metallurgy

Title (de)

PM-Schnellarbeitsstahl mit hoher Warmfestigkeit

Title (fr)

Acier rapide à haute résistance thermique produit selon des techniques de la metallurgie des poudres

Publication

**EP 1249511 B1 20060906 (DE)**

Application

**EP 01890331 A 20011205**

Priority

AT 5862001 A 20010411

Abstract (en)

[origin: EP1249511A1] Steel object produced by decomposing a liquid metal stream of an alloy with nitrogen to form a metal powder and compacting the powder with optional deformation comprises a chemical composition containing (in weight %) 1.51-2.5 carbon, up to 0.8 silicon, up to 1.5 manganese, 3.5-4.5 chromium, 13.3-15.3 tungsten, 2.0-3.0 molybdenum, 4.5-6.9 vanadium, 10.05-12.0 cobalt, up to 0.52 sulfur, up to 0.2 nitrogen, maximum 100 ppm oxygen, and a balance of iron. The amount of manganese minus sulfur is at least 0.19. The ratio of concentrations of tungsten to molybdenum is 52.-6.5. Preferred Features: The steel has the following composition (in weight %) 1.75-2.38 C, 0.35-0.75 Si, 0.28-0.54 Mn, 3.56-4.25 Cr, 13.90-14.95 W, 2.10-2.89 Mo, 4.65-5.95 V, 10.55-11.64 Co and 0.018-0.195 N.

IPC 8 full level

**C22C 33/02** (2006.01); **B22F 3/15** (2006.01); **C22C 38/00** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/30** (2006.01); **C22C 38/36** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)

**C22C 33/02** (2013.01 - KR); **C22C 33/0285** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/30** (2013.01 - EP US); **C22C 38/36** (2013.01 - EP US); **B22F 2005/001** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US); **B22F 2999/00** (2013.01 - EP US)

C-Set (source: EP US)

1. **B22F 2998/10 + B22F 9/082 + B22F 3/14 + B22F 3/16**
2. **B22F 2999/00 + B22F 9/082 + B22F 2201/02**

Cited by

DE102019122638A1; US7682417B2; WO2021032893A1; EP1471160A1

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DOCDB simple family (publication)

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