

Title (en)  
NON-LEDEBURITIC HIGH SPEED STEELS

Publication  
**EP 0264528 B1 19910206 (EN)**

Application  
**EP 87105124 A 19870407**

Priority  
PL 26139986 A 19860915

Abstract (en)  
[origin: EP0264528A1] This invention relates to non-ledeburitic high-speed steels containing tungsten and/or molybdenum as main alloying components, especially containing by weight 6.0 to 7.0 % of tungsten, or 5.0 to 6.0 % of molybdenum, or totally 1.0 to 6.0 % of tungsten and molybdenum and, moreover, 1.2 to 2.3 % of carbon, 4.0 to 7.0 % of chromium, 1.0 to 1.3 % of vanadium, up to 1.5 % of manganese, up to 4.0 % of nickel, 0.2 up to 0.5 % of zirconium, 0.4 up to 1.5 % of silicon, up to 0.03 % of sulphur, up to 0.03 per cent of phosphorus and having a total content of titanium and niobium from 1.5 up to 6.0 % and properly a balanced carbon content according to the following formula:  $0.5 + 0.2 [\% \text{Ti} + \% \text{Nb} + \% \text{Zr} + (\% \text{V} - 1)] < \% \text{C} < 0.65 + 0.26 [\% \text{Ti} + \% \text{Nb} + \% \text{Zr} + (\% \text{V} - 1)]$ .

IPC 1-7  
**C22C 38/22**; **C22C 38/24**; **C22C 38/26**; **C22C 38/28**; **C22C 38/36**

IPC 8 full level  
**C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/36** (2006.01)

CPC (source: EP)  
**C22C 38/26** (2013.01); **C22C 38/28** (2013.01); **C22C 38/36** (2013.01)

Citation (examination)  
SU 823450 A1 19810423 - KRAMATORSK NI PT I MASH [SU]

Cited by  
DE3903429A1; EP0903420A3; GB2301116A; US5674449A; GB2301116B; US7611590B2; US6200528B1; US7754142B2

Designated contracting state (EPC)  
AT DE FR GB IT SE

DOCDB simple family (publication)  
**EP 0264528 A1 19880427**; **EP 0264528 B1 19910206**; AT E60810 T1 19910215; DE 3767961 D1 19910314; PL 261399 A3 19880818

DOCDB simple family (application)  
**EP 87105124 A 19870407**; AT 87105124 T 19870407; DE 3767961 T 19870407; PL 26139986 A 19860915