

Title (en)  
Hot-worked steel alloy

Title (de)  
Warmarbeitsstahl-Legierung

Title (fr)  
Alliage d'acier pour travail à chaud

Publication  
**EP 2194155 B1 20101110 (DE)**

Application  
**EP 09450215 A 20091116**

Priority  
AT 18152008 A 20081120

Abstract (en)  
[origin: AT506790A4] The hot working steel alloy consists of alloy elements having carbon (0.37-0.40 wt.%), silicon (0.18-0.26 wt.%), manganese (0.50-0.58 wt.%), chromium (4.90-5.10 wt.%), molybdenum (1.65-1.80 wt.%), vanadium (0.52-0.60 wt.%), nitrogen (0.012-0.015 wt.%), phosphorus (0.005 wt.%), sulfur (0.003 wt.%), nickel (0.10 wt.%), tungsten (0.10 wt.%), copper (0.10 wt.%), cobalt (0.10 wt.%), titanium (0.008 wt.%), niobium (0.03 wt.%), oxygen (0.003 wt.%), boron (0.001 wt.%), arsenic (0.01 wt.%), tin (0.0025 wt.%) and/or antimony, and impurity elements and/or iron as remnant. The hot working steel alloy consists of alloy elements having carbon (0.37-0.40 wt.%), silicon (0.18-0.26 wt.%), manganese (0.50-0.58 wt. %), chromium (4.90-5.10 wt.%), molybdenum (1.65-1.80 wt.%), vanadium (0.52-0.60 wt.%), nitrogen (0.012-0.015 wt.%), phosphorus (0.005 wt.%), sulfur (0.003 wt.%), nickel (0.10 wt.%), tungsten (0.10 wt.%), copper (0.10 wt.%), cobalt (0.10 wt.%), titanium (0.008 wt.%), niobium (0.03 wt.%), oxygen (0.003 wt.%), boron (0.001 wt.%), arsenic (0.01 wt.%), tin (0.0025 wt.%), antimony (0.01 wt.%), zinc (0.001 wt.%), calcium (0.0002 wt.%) and/or magnesium (0.0002 wt.%) and impurity elements and/or iron as remnant.

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

CPC (source: EP US)  
**C21D 1/18** (2013.01 - US); **C21D 6/004** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/005** (2013.01 - US); **C22C 38/001** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/44** (2013.01 - US); **C22C 38/46** (2013.01 - US)

Cited by  
CN107400833A; US10975460B2; WO2020070917A1; EP4230759A1; EP3050649A1

Designated contracting state (EPC)  
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 SE SI SK SM TR

DOCDB simple family (publication)  
**AT 506790 A4 20091215**; **AT 506790 B1 20091215**; AT E487805 T1 20101115; AU 2009238307 A1 20100603; AU 2009238307 B2 20131219; AU 2009238307 C1 20140313; BR PI0904501 A2 20110208; CA 2686071 A1 20100520; CA 2686071 C 20140128; DE 502009000171 D1 20101223; EP 2194155 A1 20100609; EP 2194155 B1 20101110; ES 2353192 T3 20110228; PL 2194155 T3 20110429; SI 2194155 T1 20110131; US 2010150772 A1 20100617; US 2015292067 A1 20151015; ZA 200908201 B 20110223

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**AT 18152008 A 20081120**; AT 09450215 T 20091116; AU 2009238307 A 20091117; BR PI0904501 A 20091117; CA 2686071 A 20091117; DE 502009000171 T 20091116; EP 09450215 A 20091116; ES 09450215 T 20091116; PL 09450215 T 20091116; SI 200930014 T 20091116; US 201514750222 A 20150625; US 62188209 A 20091119; ZA 200908201 A 20091120