

Title (en)  
Chromium steel

Title (de)  
Chrom-Stahllegierung

Title (fr)  
Acier au chrome

Publication  
**EP 1306457 A3 20031022 (DE)**

Application  
**EP 02023592 A 20021023**

Priority  
DE 10152293 A 20011023

Abstract (en)  
[origin: EP1306457A2] Chromium/steel alloy comprises 10.5-20% chromium, 0.2-9% nickel, 0.1-3% manganese, 0.1-1.5% silicon, 0.01-2.0% molybdenum, 0.05-0.45% carbon, 0.02-0.15% nitrogen, 0.3-0.8% copper, 0.002-0.05% aluminum, 0.003-0.1% titanium, 0.003-0.1% vanadium, 0.001-0.05% niobium, 0.01-0.2% titanium+vanadium+niobium, up to 0.006% boron, and the balance of iron to satisfy the equation:  $10x(\%Ti + \%V + \%Nb) = Ax(\%C + \%N)$   $1 \leq A \leq 1.7$ . An Independent claim is also included for a process for annealing the above alloy for 15 minutes to 2 hours at 180-480 degrees C. Preferably the alloy contains 16-18% chromium, 6-8% nickel, 0.5-1.5% manganese, 0.3-1.5% silicon, 0.4-1% molybdenum, 0.1-0.3% carbon, 0.05-0.1% nitrogen, 0.002-0.006% boron, 0.003-0.1% titanium, 0.003-0.1% vanadium and 0.001-0.05% niobium.

IPC 1-7  
**C22C 38/40**; **C21D 8/02**

IPC 8 full level  
**C21D 1/30** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01); **C22C 38/54** (2006.01); **C21D 6/00** (2006.01); **C21D 9/00** (2006.01); **C21D 9/02** (2006.01)

CPC (source: EP)  
**C21D 1/30** (2013.01); **C21D 9/46** (2013.01); **C22C 38/001** (2013.01); **C22C 38/42** (2013.01); **C22C 38/44** (2013.01); **C22C 38/46** (2013.01); **C22C 38/48** (2013.01); **C22C 38/50** (2013.01); **C22C 38/54** (2013.01); **C21D 6/004** (2013.01); **C21D 9/0025** (2013.01); **C21D 9/02** (2013.01)

Citation (search report)  
• [X] EP 0750687 B  
• [X] EP 1106705 A1 20010613 - NIPPON STEEL CORP [JP]

Cited by  
AT505665B1; CN113481434A; WO2006045383A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)  
**EP 1306457 A2 20030502**; **EP 1306457 A3 20031022**; **EP 1306457 B1 20071205**; AT E380262 T1 20071215; DE 10152293 A1 20030515; DE 10152293 B4 20040408; DE 50211315 D1 20080117

DOCDB simple family (application)  
**EP 02023592 A 20021023**; AT 02023592 T 20021023; DE 10152293 A 20011023; DE 50211315 T 20021023