

Title (en)
Cobalt-free maraging steel

Title (de)
Martensit-aushärtender Stahl ohne Kobalt

Title (fr)
Acier maraging sans cobalt

Publication
EP 0931844 A1 19990728 (FR)

Application
EP 98403247 A 19981222

Priority
FR 9800694 A 19980123

Abstract (en)
A cobalt-free maraging steel, having specified nickel, molybdenum, titanium, aluminum and carbon contents, is new. A new cobalt-free maraging steel has the composition (by wt.) 18-23% Ni, 4.5-8% Mo, 1-2% Ti, 0-0.3% Al, ≤ 0.01% C, balance Fe and impurities, the sum of Ni + Mo being ≤ 27% and the sum of Ni + 3 x Mo + 20 x Ti + 10 x Al being ≥ 60%.

Abstract (fr)
Acier maraging sans cobalt dont la composition chimique comprend, en poids : 18 % <= Ni <= 23 % ; 4,5 % <= Mo <= 8 % ; 1 % <= Ti <= 2 % ; 0 % <= Al <= 0,3 % ; C <= 0,01 % ; le reste étant du fer et des impuretés, la composition chimique satisfaisant, en outre, les conditions suivantes : 23 <= Ni + Mo <= 27 % et Ni + 3 x Mo + 20 x Ti + 10 x Al >= 60 %.

IPC 1-7
C22C 38/08

IPC 8 full level
C21D 8/02 (2006.01); **C22C 38/00** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01)

CPC (source: EP US)
C21D 8/0205 (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US);
C22C 38/14 (2013.01 - EP US); **C21D 8/0236** (2013.01 - EP US)

Citation (search report)

- [A] EP 0327042 A1 19890809 - INCO ALLOYS INT [US]
- [A] US 4710347 A 19871201 - GIL KIM Y [KR], et al
- [A] FR 2127799 A5 19721013 - HITACHI LTD & GB 1355475 A 19740605 - HITACHI LTD
- [A] GB 1089690 A 19671101 - INT NICKEL LTD
- [A] EP 0051401 A1 19820512 - INCO RES & DEV CENTER INC [US] & US 4443254 A 19840417 - FLOREEN STEPHEN [US]

Cited by
FR2816959A1; EP1243812A1; US6663730B2; US6869376B2; WO0240722A1

Designated contracting state (EPC)
DE ES FR GB IT

DOCDB simple family (publication)
EP 0931844 A1 19990728; EP 0931844 B1 20020522; DE 69805495 D1 20020627; DE 69805495 T2 20021128; ES 2176934 T3 20021201;
FR 2774099 A1 19990730; FR 2774099 B1 20000225; JP H11256278 A 19990921; US 6080359 A 20000627

DOCDB simple family (application)
EP 98403247 A 19981222; DE 69805495 T 19981222; ES 98403247 T 19981222; FR 9800694 A 19980123; JP 1582499 A 19990125;
US 22956699 A 19990113