

Title (en)  
FE-CO ALLOY FOR HIGH DYNAMIC ELECTROMAGNETIC ACTUATOR

Title (de)  
FE-CO-LEGIERUNG FÜR EIN HOCHDYNAMISCHES ELEKTROMAGNETISCHES STELLGLIED

Title (fr)  
ALLIAGE FE-CO POUR ACTIONNEUR ÉLECTROMAGNÉTIQUE À GRANDE DYNAMIQUE

Publication  
**EP 2313895 A1 20110427 (FR)**

Application  
**EP 09720281 A 20090114**

Priority  
• FR 2009000039 W 20090114  
• EP 08290057 A 20080122  
• EP 09720281 A 20090114

Abstract (en)  
[origin: EP2083428A1] Iron-cobalt alloy comprises (e.g.): cobalt ( $\geq 6$  wt.%) and nickel (= 30 wt.%); silicon ( $\geq 0.2$ ); chromium (0.5-8 wt.%); nickel (= 4 wt.%); manganese (= 4 wt.%); aluminum (= 4 wt.%); titanium (= 1 wt.%); carbon (= 1 wt.%); molybdenum (= 3 wt.%); vanadium and tungsten (= 3 wt.%); niobium and tantalum (= 1 wt.%); silicon and aluminum (= 6 wt.%); cobalt and silicon to chromium (less than 27 wt.%); aluminum and molybdenum, and silicon, chromium and vanadium ( $\geq 1.3$  wt.%); aluminum and chromium, vanadium and molybdenum, and silicon ( $\geq 50$  wt.%); and iron and inevitable impurities (balance). Iron-cobalt alloy comprises: cobalt ( $\geq 6$  wt.%) and nickel (= 30 wt.%); silicon ( $\geq 0.2$ ); chromium (0.5-8 wt.%); nickel (= 4 wt.%); manganese (= 4 wt.%); aluminum (= 4 wt.%); titanium (= 1 wt.%); carbon (= 1 wt.%); molybdenum (= 3 wt.%); vanadium and tungsten (= 3 wt.%); niobium and tantalum (= 1 wt.%); silicon and aluminum (= 6 wt.%); oxygen, nitrogen, sulfur, phosphorus and boron (= 0.1); cobalt and silicon to chromium (less than 27 wt.%); silicon, aluminum chromium, vanadium, molybdenum and titanium ( $\geq 3.5$  wt.%); 1.23 wt.% of aluminum and molybdenum, and 0.84 wt.% of silicon, chromium and vanadium ( $\geq 1.3$  wt.%); 14.5 wt.% of aluminum and chromium, 21 wt.% of vanadium and molybdenum, and 25 wt.% of silicon ( $\geq 50$  wt.%); and iron and inevitable impurities (balance).

IPC 8 full level  
**H01F 1/147** (2006.01)

CPC (source: CN EP US)  
**C22C 38/02** (2013.01 - CN EP US); **C22C 38/04** (2013.01 - CN); **C22C 38/06** (2013.01 - CN); **C22C 38/10** (2013.01 - CN); **C22C 38/105** (2013.01 - CN); **C22C 38/18** (2013.01 - CN); **C22C 38/30** (2013.01 - CN EP US); **C22C 38/34** (2013.01 - CN); **H01F 1/14775** (2013.01 - CN EP US); **H01F 1/14716** (2013.01 - CN EP US); **H01F 1/14791** (2013.01 - CN EP US)

Citation (search report)  
See references of WO 2009112672A1

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 TR

Designated extension state (EPC)  
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**EP 2083428 A1 20090729**; AT E527669 T1 20111015; BR PI0906592 A2 20150707; BR PI0906592 B1 20200602; CN 101925969 A 20101222; CN 105525216 A 20160427; EP 2313895 A1 20110427; EP 2313895 B1 20111005; ES 2372367 T3 20120119; JP 2011525945 A 20110929; JP 5555181 B2 20140723; KR 20100115752 A 20101028; MX 2010007524 A 20100811; PL 2313895 T3 20120229; SI 2313895 T1 20111230; TW 200948987 A 20091201; TW I401322 B 20130711; US 2011018658 A1 20110127; US 8951364 B2 20150210; WO 2009112672 A1 20090917; ZA 201004418 B 20110428

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