Title (en)

AUSTENITIC IRON-NICKEL-CHROMIUM-COPPER ALLOY

Title (de)

AUSTENITISCHE EISEN-NICKEL-CHROM-KUPFER-LEGIERUNG

Title (fr)

ALLIAGE AUSTENITIQUE FER-NICKEL-CHROME-CUIVRE

Publication

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Application

EP 08787849 A 20080326

Priority

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- EP 07290382 A 20070330
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Abstract (en)

[origin: EP1975269A1] Austenitic alloy of iron-nickel-chromium-copper composition, comprises: nickel (Ni) (= 36%); chromium (Cr) (>= 0.02%); copper (Cu) (>= 0.1%); mixture of copper and cobalt (Co) (= 15%); manganese (Mn) (0.02-2%); mixture of aluminum (Al) and titanium (Ti) (0-3%); carbon (C) (0-2%); mixture of vanadium (V) and tungsten (W) (0-6%); mixture of niobium (Nb) and zirconium (Zr) (0-0.5%); molybdenum (Mo) (0-8%); tin (Sn) (= 1%); boron (B) (0-0.006%); mixture of sulfur (S), selenium (Se) and antimony (Sb) (= 0.008%); and mixture of calcium (Ca) and magnesium (Mg) (0-0.020%). Austenitic alloy of iron-nickel-chromium-copper composition, comprises: nickel (Ni) (= 36%); chromium (Cr) (>= 0.02%); copper (Cu) (>= 0.1%); mixture of copper and cobalt (Co) (= 15%); manganese (Mn) (0.02-2%); mixture of aluminum (Al) and titanium (Ti) (0-3%); carbon (C) (0-2%); mixture of vanadium (V) and tungsten (W) (0-6%); mixture of niobium (Nb) and zirconium (Zr) (0-0.5%); molybdenum (Mo) (0-8%); tin (Sn) (= 1%); boron (B) (0-0.006%); mixture of sulfur (S), selenium (Se) and antimony (Sb) (= 0.008%); and mixture of calcium (Ca) and magnesium (Mg) (0-0.020%). Where: the rest is iron and the impurities resulting from the elaboration, the percentages in Ni, Cr, Cu and Co alloy satisfying the following conditions: Co is less than Cu; Co is less than 4%, if Cr is greater than 7.5%; Ni+1.2Cr+(Cu/5) (I) is greater than 28%; and Cr is 7.5%, if Ni is greater than 32.5%; and the manganese content satisfying the following conditions if 6Ni-2.5X+4(Cu+Co) (III) (where X is Cr+V+W+silicon (Si)+Al) >= 205, Mn = Ni- 27.5 + Cu- Cr, if 180.5 = (III) = 205, Mn = 4%, and if (III) = 180.5, Mn = 2%. Independent claims are included for: (1) an electromagnetic device with self-regulation of temperature comprising the alloy; (2) a device with self-regulation of magnetic flux comprising the alloy; (3) a device with controlled dilation comprising the alloy; (4) current sensors, measurement transformers or magneto-harmonic sensor comprising the alloy; (5) electromagnetic motors and actuators comprising the alloy; (6) stators for horology engines comprising the alloy; (7) inductors or transformers for power electronics comprising the alloy; (8) bimetals comprising the alloy; (9) coil layer of horology engines or high sensitive electromagnetic relay comprising the alloy; and (10) temperature measurement devices or temperature marking devices, without contact, comprising the alloy; and (11) hypertextured substrates for epitaxy comprising the alloy.

IPC 8 full level

C22C 38/08 (2006.01); **C22C 19/00** (2006.01); **H01F 10/12** (2006.01)

CPC (source: EP KR US)

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