

Title (en)
Iron-nickel alloy and cold-rolled strip with cubic texture

Title (de)
Eisen-Nickel-Legierung und kaltgewalztes Band mit kubischer Textur

Title (fr)
Alliage fer-nickel et bande laminée à froid à texture cubique

Publication
EP 0792943 A1 19970903 (FR)

Application
EP 97400203 A 19970129

Priority
FR 9602404 A 19960227

Abstract (en)
Iron-nickel alloy has the composition (by wt.): 30-85%Ni + Co, 0-10% Co + Cu + Mn, 0-4% Mo + W + Cr, 0-2% V + Si, 0-1% Nb + Ta, 0.003-0.05% C, 0.003-0.15% Ti, 0.003-0.15% Ti + Zr + Hf, 0.001-0.015% (exclusive) S + Se + Te, 0-1% Nb + Ta + Ti + Al, balance Fe and impurities. Also claimed are: (i) a method of producing a cubic textured cold rolled strip of the above alloy; and (ii) a method of producing a toric magnetic core of the above alloy. Also claimed are: (i) a cold rolled strip of the above iron-nickel alloy, having a cubic recrystallisation texture of (100)(001) type; (ii) use of this strip for making a shadow mask for a CRT; and (iii) a toric magnetic core of the above alloy having a cubic texture. Preferably, the alloy contains 0.005-0.05% Ti, 0.001-0.025% Hf + Zr, 0.002-0.007% S, 0.005-0.02% C, 0.05-1% Mn and $\leq 0.05\%$ Nb + Ta. The impurities preferably comprise less than 0.001% Mg, less than 0.0025% Ca, less than 0.05% Al, 0.0025% O, less than 0.005% N, less than 0.01% P and less than 0.01% total of Sc, Y, La, Ce, Pr, Nd and Sm.

Abstract (fr)
Alliage fer-nickel dont la composition chimique comprend, en poids: $30\% \leq \text{Ni} + \text{Co} \leq 85\%$; $0\% \leq \text{Co} + \text{Cu} + \text{Mn} \leq 10\%$; $0\% \leq \text{Mo} + \text{W} + \text{Cr} \leq 4\%$; $0\% \leq \text{V} + \text{Si} \leq 2\%$; $0\% \leq \text{Nb} + \text{Ta} \leq 1\%$; $0,003\% \leq \text{C} \leq 0,05\%$; $0,003\% \leq \text{Ti} \leq 0,15\%$; $0,003\% \leq \text{Ti} + \text{Zr} + \text{Hf} \leq 0,15\%$; $0,001\% < \text{S} + \text{Se} + \text{Te} < 0,015\%$; le reste étant du fer et des impuretés résultant de l'élaboration, la composition chimique satisfaisant, en outre, la relation: $0\% \leq \text{Nb} + \text{Ta} + \text{Ti} + \text{Al} \leq 1\%$. Bande laminée à froid à texture cubique et utilisations. figure pour l'abrégé: néant

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Citation (search report)

- [X] FR 2507627 A1 19821217 - KAWASAKI STEEL CO [JP]
- [X] US 3723106 A 19730327 - SCHLENKER J, et al
- [A] US 3425043 A 19690128 - OLSEN KARL M, et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 16, no. 375 (C - 973) 12 August 1992 (1992-08-12)

Cited by
CN1057136C; DE10258356B3; EP1156126A1; FR2819825A1; US10633728B2; US9309592B2; WO2015136333A1; WO2006064030A1; US7226515B2; US7419634B2; US7435307B2

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