Title (en)

Process for manufacturing iron-nickel alloy strip from a continuously cast thin strip

Title (de)

Verfahren zum Herstellen eines dünnes Bandes aus Eisen-Nickel-Legierung ausgehend von einem stranggegossenem Dünnband

Title (fr)

Procédé de fabrication d'une bande en alliage du type fer-nickel à partir d'une bande mince coulée en continu

Publication

EP 0905263 A1 19990331 (FR)

Application

EP 98402020 A 19980807

Priority

FR 9710533 A 19970821

Abstract (en)

Production of iron-nickel alloy strip from a continuously cast slab or strip includes homogenization treatment to obtain a standard segregation ratio for nickel of less than 0.4%. In the production of a strip of iron-nickel alloy, of composition (by wt.) 25-50% Ni, 50-75% Fe, optionally less than 8% one or more alloying elements (especially Co, Cr, Mo, Mn, Si, V, Ta, Ti and/or Al) and balance impurities, from a continuously cast slab or strip, the above homogenization treatment is carried out. Independent claims are also included for: (i) hot rolled strip of less than 10 mm thickness, produced as described above; (ii) cold rolled strip obtained by cold rolling a hot rolled strip produced as described above; (iii) cold rolled strip produced from a continuously cast iron-nickel alloy having the above composition, the Ni content being 35-37% and the coercive field strength (Hc) of the strip being less than 45 A/m after annealing at 750[deg]C for 15 mins.; and (iv) cold rolled strip produced from a continuously cast iron-nickel alloy having the above composition, the Ni content being 32-34%, the Co content being 3.5-6.5% and the coercive field strength (Hc) of the strip being less than 55 A/m after annealing at 750[deg]C for 15 mins.

Abstract (fr)

Procédé de fabrication d'une bande en alliage du type fer-nickel contenant, principalement, de 25% à 50% en poids de nickel et de 50% à 75% en poids de fer, et, éventuellement, un ou plusieurs éléments d'alliage tels que, notamment, le cobalt, le chrome, le molybdène, le manganèse, le silicium, le vanadium, le tantale, le titane, l'aluminium, en des teneurs inférieures à 8 % en poids, le reste étant des impuretés résultant de l'élaboration, selon lequel on coule en continu une bande mince d'épaisseur inférieure à 10 mm, on lamine la bande mince, et on effectue avant ou après laminage, un traitement d'homogénéisation consistant en un maintien à une température T (en °C) pendant un temps t (en heures) tels que : t > 0,5 x 10<-12> exp(38000/(T + 273)), de façon à obtenir un « taux de ségrégation standard » du nickel inférieure à 0,4 %.

IPC 1-7

C21D 6/00; C21D 8/02; C22C 38/08

IPC 8 full level

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