

Title (en)

Fe-base soft magnetic alloy and process for making same.

Title (de)

Weichmagnetische Legierung auf Eisenbasis und Herstellungsverfahren.

Title (fr)

Alliage magnétiquement doux à base de fer et procédé de fabrication.

Publication

EP 0575190 A2 19931222 (EN)

Application

EP 93304762 A 19930617

Priority

JP 15833892 A 19920617

Abstract (en)

A Fe-base soft magnetic alloy of formula $\text{Fe}_{100-a-b-c-d}\text{PaMbM}'\text{cCu}_d$ where M is at least one element selected from Zr, Hf, Nb, Mo, W, Ta, Ti, V, Cr, Mn, Y and Ce; M' is at least one element selected from Si, Al, Ga, Ge, Ru, Co, Ni, Sn, Sb and Pd; a, b, c and d each are an atomic % and satisfy the relations: $0 < a \leq 25$, $0 < b \leq 15$, $0 \leq c \leq 20$, and $0 \leq d \leq 5$ having excellent soft magnetic properties, especially low magnetostriction and low iron loss is made by adding a determined amount of a specific element M, a determined amount of Cu is further added to the alloy and the quenched alloy composition is shaped and heat-treated to provide the Fe-base soft magnetic alloy.

IPC 1-7

H01F 1/153; **H01F 3/00**

IPC 8 full level

C21D 6/00 (2006.01); **C22C 38/00** (2006.01); **C22C 38/40** (2006.01); **C22C 45/02** (2006.01); **H01F 1/14** (2006.01); **H01F 1/153** (2006.01)

CPC (source: EP KR)

C22C 45/02 (2013.01 - EP); **H01F 1/04** (2013.01 - KR); **H01F 1/15308** (2013.01 - EP)

Cited by

CN111640550A; DE4444482A1; CN102360670A; US11349113B2; WO2022059966A1

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