

Title (en)

Fe-based soft magnetic alloy and dust core made therefrom.

Title (de)

Weichmagnetische Legierung auf Eisenbasis und daraus hergestellter Pulverkern.

Title (fr)

Alliage magnétique mou à base de fer et noyau en poudre fait à partir de celui-ci.

Publication

EP 0342922 A2 19891123 (EN)

Application

EP 89304926 A 19890516

Priority

- JP 11833588 A 19880517
- JP 30068688 A 19881130

Abstract (en)

Fe-based soft magnetic alloy having improved soft magnetic characteristics with high saturated magnetic flux density, characterized in having fine crystal grains and defined by formula (I) $\text{Fe}_{100-a-b-c}\text{Cu}_a\text{M}_b\text{Y}_c$ (I) wherein "M" is at least one element from: groups IVa, Va, VIa of the periodic table, Mn, Co, Ni, Al, and the Platinum group, "Y" is at least one of: Si, B, P, and C, and wherein a, b and c, in atomic % are defined thus: $3 < a \leq 8$, $0.1 < b \leq 8$, $3.1 \leq a+b \leq 12$, $15 \leq c \leq 28$. A dust core made from an alloy powder having fine crystal grains is defined by formula (II) $\text{Fe}_{100-a-b-c-d-e}\text{Cu}_a\text{M}_{\text{min}}\text{bM}_{\text{sec}}\text{cSi}_d\text{Be}_e$ (II) wherein "M min" is at least one element from: Groups IVa, Va, VIa of the periodic table; "M sec" is at least one element from: Mn, Co, Ni, Al, and the Platinum group; and wherein a, b, c, d and e, in atomic %, are defined thus $3 < a \leq 8$, $0.1 < b \leq 8$, $0 \leq c \leq 15$, $8 \leq d \leq 22$, $3 \leq e \leq 15$, $15 \leq d+e \leq 28$.

IPC 1-7

C21D 6/00; **C22C 38/16**; **H01F 1/14**

IPC 8 full level

C22C 45/02 (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

US5628840A; US6093261A; US5622768A; US5804282A; EP1850334A1; US6187112B1; WO9632518A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0342922 A2 19891123; **EP 0342922 A3 19900131**; **EP 0342922 B1 19950208**; DE 68921021 D1 19950323; DE 68921021 T2 19950601; KR 900019068 A 19901224; KR 930011234 B1 19931129

DOCDB simple family (application)

EP 89304926 A 19890516; DE 68921021 T 19890516; KR 890006739 A 19890517