

Title (en)

Method of making a composite soft magnetic material and composite soft magnetic material

Title (de)

Verfahren zur Herstellung eines weichmagnetischen Komposit-Materials und weichmagnetisches Komposit-Material

Title (fr)

Procédé de preperation d'un matériau composite magnétiquement doux et matériau composite magnétiquement doux

Publication

EP 0541887 B1 19960522 (EN)

Application

EP 92101639 A 19920131

Priority

- JP 23101991 A 19910819
- JP 33389991 A 19911122

Abstract (en)

[origin: EP0541887A1] A composite soft magnetic material is produced from soft magnetic metal (e.g., Sendust) particles by coating the particles with a non-magnetic metal oxide (e.g., alpha -alumina) in a mechano-fusion manner, or heat treating the particles to form a diffusion layer of alpha -alumina thereon, coating the coated particles with a high resistance soft magnetic substance (e.g., ferrite), and sintering the double coated particles under pressure as by hot pressing or plasma activated sintering. It exhibits high saturation magnetic flux density, magnetic permeability, and electric resistivity. The non-magnetic metal oxide intervening between the soft magnetic metal and the high resistance soft magnetic substance is effective in reducing core loss. <IMAGE>

IPC 1-7

H01F 1/33

IPC 8 full level

H01F 1/33 (2006.01)

CPC (source: EP)

H01F 1/33 (2013.01)

Citation (examination)

- Journal of Magnetisme and Magnetic Materials 7 (1978) 52-57,
- Physical Review, Vol. 99, No. 6, pages 1788-1798.

Cited by

EP1148520A1; DE10031923A1; CN111261357A; US2021104342A1; US2023230735A1; DE102008039326A1; US6726740B1; WO0145116A1

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

EP 0541887 A1 19930519; EP 0541887 B1 19960522; DE 69210954 D1 19960627; DE 69210954 T2 19970116

DOCDB simple family (application)

EP 92101639 A 19920131; DE 69210954 T 19920131