

Title (en)
SOFT MAGNETIC MATERIAL AND METHOD FOR PRODUCING SAME

Title (de)
WEICHMAGNETISCHES MATERIAL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
MATERIAU A AIMANTATION TEMPORAIRE ET PROCEDE DE FABRICATION

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Application
EP 04772795 A 20040903

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Abstract (en)
Disclosed are a soft magnetic material having an optimum electrical resistivity and a method for producing such a soft magnetic material. The soft magnetic material comprises a plurality of composite magnetic particles (30). Each of the composite magnetic particles (30) comprises a metal magnetic particle (10) and an insulating coating film (20) which covers the surface of the metal magnetic particle (10) and contains at least one substance selected from the group consisting of zirconium oxide, aluminum oxide and silicon oxide. The soft magnetic material has an electrical resistivity of not less than 3,000 $\mu\Omega\text{cm}$ and not more than 50,000 $\mu\Omega\text{cm}$, and a magnetic permeability μ of not less than 2,000 and not more than 4,000. A method for producing such a soft magnetic material comprises a step for pressure forming a compaction by compressing a plurality of the composite magnetic particles (30) and a step for subjecting the compaction to a first heat treatment at not less than 400°C and not more than 900°C.

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