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Flaky-Shaped Iron Powder "KIP MG150D" for Soft Magnetic Applications

C { c ® (Nakamura, N.) d f " ¢ \_ (Ozaki, Y.) ~ T Y " (Higuchi, K.)

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Synopsis :

A flaky-shaped reduced iron powder "KIP MG150D" gives an initial permeability at the highest level for iron dust cores. A core with a green density of approximately 90° of the theoretical iron density shows a DC relative initial permeability close to 100, which is about 30° higher than that of a normal reduced powder core through the same compaction process therein no flake shaping is effected. Furthermore, another advantage of the flaky-shaped powder is that the improvement of the initial permeability is attained without deterioration of core loss or its frequency characteristics. The powder particle planes align along the direction of the magnetic field applied to the core. This lamellar structure is considered to contribute to the improvement of magnetic properties through the reduction of demagnetizing effect and the eddy current loss.

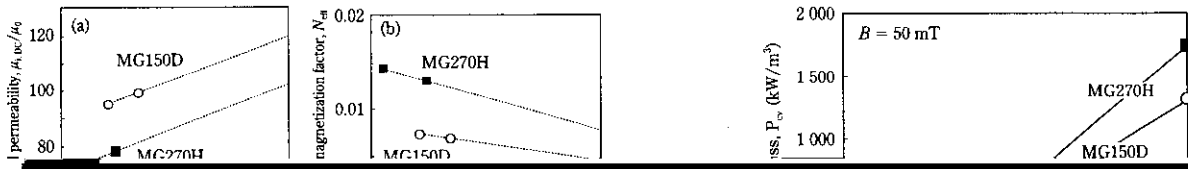
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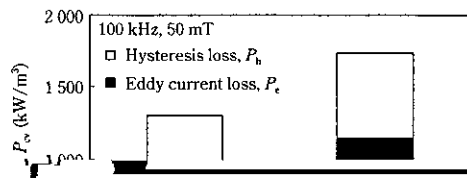
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ている。

5.1 節で述べたように MG150D の平均粒子厚は  $15\mu\text{m}$  であるので、粒子をこの厚さの板と仮定する。(4) 式によれば、この厚さの板状粒子と同じ  $P_0$  を球状粒子で得ようとする、その直径は MG270H の平均粒径の約  $1/2$  に相当する  $27\mu\text{m}$  以上は必要である。