

Abstract

METHOD FOR THE PRODUCTION OF POWDER COMPOSITE CORES AND POWDER COMPOSITE CORE

A powder composite core is to be particularly dense and strong while being produced from soft magnetic alloys. In particular, the expansion of the heat-treated core is to be avoided. To produce this core, a strip of a soft magnetic alloy is first comminuted to form particles. The particles are mixed with a first binder having a curing temperature $T_{1,cure}$ and a decomposition temperature $T_{1,decompose}$ and a second binder having a curing temperature $T_{2,cure}$ and a decomposition temperature $T_{2,decompose}$, wherein $T_{1,cure} < T_{2,cure} \leq T_{1,decompose} < T_{2,decompose}$. The mix is pressed to produce a magnet core while the first binder is cured. The magnet core is then subjected to a heat treatment accompanied by the curing of the second binder at a heat treatment temperature $T_{Anneal} > T_{2,cure}$.