

PRODUCTION QUALITY MONITORING FOR SOFT MAGNETIC COMPOSITES

Magnetic performance of SMCs depends on powder quality and heat treatment. KOERZIMAT 1.097 measures coercivity without specimen preparation.



THE CHALLENGE

Soft magnetic composites (SMCs) are increasingly used in high-frequency applications due to reduced eddy current losses and design flexibility. Their magnetic performance depends on powder quality, compaction, density and heat treatment. Coercivity and saturation polarization are key indicators for microstructure, mechanical stress and alloy composition, requiring reliable monitoring during production.

THE SOLUTION

Magnetic quality control is performed using the KOERZIMAT 1.097 HCJ and MS systems in accordance with IEC 60404-7. The devices measure coercivity and weight-specific saturation polarization on powders, green bodies and pressed components without specimen preparation. Geometry-independent testing enables efficient evaluation of complex-shaped SMC parts.



THE RESULT

Precise HcJ measurement supports assessment of heat treatment quality and hysteresis loss behavior, while changes in saturation polarization indicate density and composition variations. Fast and reproducible magnetic testing ensures stable production processes and optimized energy efficiency of SMC components in motor and transformer applications.

THE PRODUCTS

KOERZIMAT 1.097 HCJ/J-H

System for measuring coercive field strength HCJ, J(H) hysteresis and relative permeability $\mu_r(H)$



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