

HIGH-ACCURACY COERCIVITY MEASUREMENT BEYOND VSM LIMITS

High accuracy ($0.2 \text{ A/m} = 0.0025 \text{ Oe}$) coercivity meter to complement VSM's accuracy limit and internal stress by drying of the plastic cement

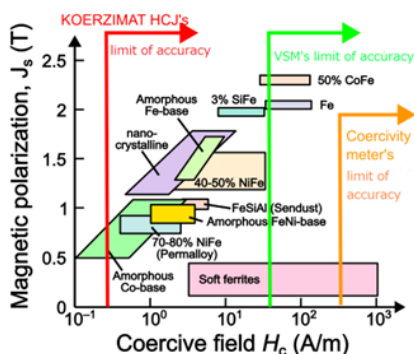


THE CHALLENGE

Advanced soft magnetic materials for EVs and renewable energy systems require extremely low coercivity values – often below 50 A/m and in cutting-edge developments even around 1 A/m . Conventional vibrating sample magnetometers (VSM) typically reach reliable accuracy only in the range of several hundred A/m . Measurement deviations of several tens of A/m make precise characterization of ultra-soft materials practically impossible. Additionally, internal stresses caused by sample fixation (e.g., drying of plastic cement) further distort VSM results.

THE SOLUTION

The KOERZIMAT HCJ measures coercivity with an accuracy of 0.2 A/m (0.0025 Oe) in accordance with IEC 60404-7 (open magnetic circuit method). Unlike VSM systems, no mechanical clamping or cement fixation introduces internal stress into the specimen. The geometry-independent method enables precise measurement of very low coercivity values within only a few minutes.



THE RESULT

Ultra-soft magnetic materials with coercivity values near 1 A/m can be reliably characterized. The measurement accuracy bridges the gap left by VSM systems and supports the development of next-generation high-efficiency materials. Precise coercivity control contributes directly to minimizing energy losses and improving electromagnetic performance.

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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