

PRODUCTION PROCESS MONITORING FOR COMPONENTS OF ELECTROMAGNETIC ACTUATORS

Forming processes can change the magnetic properties of soft magnetic materials. KOERZIMAT reliably monitors coercivity throughout production.



THE CHALLENGE

During cold forming of actuator components, magnetic properties of soft magnetic steels can deteriorate significantly. Mechanical deformation increases coercivity, while subsequent annealing restores magnetic performance. Without systematic monitoring, deviations in HcJ may remain undetected and affect actuator efficiency. Stable production therefore requires continuous control of magnetic parameters throughout manufacturing.

THE SOLUTION

Process monitoring is implemented using the KOERZIMAT 1.097 HcJ system in accordance with IEC 60404-7. The device enables fast, preparation-free measurement of coercivity on semi-finished and finished components with complex geometries. High sensitivity allows detection of magnetic changes caused by forming and verification of annealing effectiveness directly within production.



THE RESULT

Precise HcJ measurement supports verification of process stability and heat treatment quality. Variations, such as changes from 800 A/m before annealing to 150 A/m after treatment, can be clearly identified. Reliable coercivity monitoring reduces production risk and ensures consistent magnetic performance of automotive actuator components.

THE PRODUCTS

KOERZIMAT 1.097 HCJ/J-H

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



foerstergroup.com



The FOERSTER Group is represented by subsidiaries and representatives in over 60 countries worldwide. You can find a complete overview on our website.

Headquarters

Institut Dr. Foerster GmbH & Co. KG

In Laisen 70
72766 Reutlingen
Germany

+49 7121 140 0
info@foerstergroup.com