

ASSESSMENT OF CARBIDE GRAIN SIZE ON SMALL HARD METAL SPECIMENS

Incorrect carbide grain sizes in hard metal specimens can reduce tool life and performance. Coercivity measurement quickly and reliably determines the grain size.

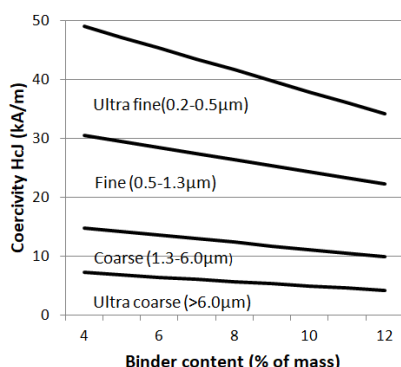


THE CHALLENGE

In cemented carbide production, coercivity is used to assess carbide grain size and related properties such as hardness and abrasion resistance. Shrinking component dimensions result in millimeter-sized specimens with very low magnetic stray flux after magnetization. Precise and sensitive measurement of HcJ is therefore essential for reliable microstructural quality control.

THE SOLUTION

Coercivity measurement is performed with the KOERZIMAT 1.097 HCJ system equipped with an internal probe. Designed for small specimens, the system enables geometry-independent and highly sensitive HcJ determination in accordance with IEC 60404-7 and ASTM B887. It measures coercive field strengths up to 25 kA/m without specimen preparation.



THE RESULT

The solution allows rapid and precise evaluation of carbide grain size through reliable HcJ measurement, even on very small parts. High sensitivity ensures stable detection despite low stray flux. Accurate coercivity assessment supports consistent quality management and controlled sintering processes in powder metallurgy.

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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