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TESTING THE PURITY OF COPPER BY CONDUCTIVITY MEASUREMENT

Impurities in copper can reduce electrical conductivity and component performance. Conductivity measurement with SIGMATEST quickly and reliably tests purity.

THE CHALLENGE

In electrical shielding, wiring and electronic components, copper purity directly determines performance. Even small deviations in alloy composition reduce electrical conductivity and may lead to costly production losses. Both raw material suppliers and processors must therefore verify the purity of copper reliably and quickly, especially given the high material value.

THE SOLUTION

The SIGMATEST 2.070 as well as the SIGMATEST TCM uses eddy current technology to measure electrical conductivity with high precision. Pure copper exhibits a conductivity of approximately 58 MS/m. Deviations from this value indicate impurities or alloying elements. With a measuring frequency up to 960 kHz and small probe options (down to 3.5 mm), even thin sheets and slim wires can be tested accurately.

THE RESULT

The system enables fast, non-destructive verification of copper purity directly at incoming inspection or during production. High measurement accuracy ensures reliable differentiation between pure copper and copper alloys. The compact and cost-efficient solution supports quality assurance while minimizing financial risk.

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SIGMATEST

Portable conductivity meter for fast and reliable testing of non-ferromagnetic metals

SIGMATEST TCM

Electrical conductivity measurement of non-ferromagnetic metals

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