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Technical Material Tester PCE-COM 20

PCE-COM 20 Conductivity Tester for Metals

Large measuring range up to 112% IACS or 65 MS/m with lift-off and temperature compensation, memory, PC-compatible software, factory calibration certificate and 60 kHz operating frequency

PCE-COM 20 is a portable handheld non-destructive conductivity tester for metals. This non-destructive testing (NDT) device uses eddy current to determine the electrical conductivity of non-ferrous metals such as aluminum and copper.

Featuring an operating frequency of 60 kHz, the conductivity meter has a large measuring range of 0.51 ... 112% IACS with an accuracy of +/- 0.5% at 20 ° C / 68 ° F. Thanks to a resolution of up to 0.01% IACS, automatic temperature compensation (ATC) and lift-off compensation (up to 500 µm), the device ensures quick, easy, accurate and reproducible measurements of coated or corroded pieces during changing ambient conditions.

Measurement of the electrical conductivity of non-ferrous metals, such as aluminum, copper, titanium, magnesium or bronze, is necessary in applications involving electrical conductors and the characterization of alloys. Typical application areas are the assessment of strength differences in heat-treated or hardened materials, the authenticity testing of coin alloys, the verification of alloy inhomogeneities in critical components and the sorting of materials.

The conductivity meter is powered by an internal battery that can be charged via the interface on the bottom of the unit. In addition to the connection for the charging adapter, there is a USB interface allowing for the transfer of measurement data to a PC for more detailed analysis.

- Eddy current measuring principle
- For non-ferrous metals and alloys
- Non-destructive testing (NDT)
- 60 kHz operating frequency
- Large measuring range up to 112% IACS or 65 MS/m
- Memory for up to 500 groups of measurements
- Automatic temperature compensation (ATC)
- Lift-off compensation up to 500 µm
- Automatic calibration
- Adjustable backlighting

- Internal rechargeable battery
- Portable, handheld
- User friendly

Technical specifications:

Operating frequency	60 kHz, sine wave
Conductivity measuring range	0.51% IACS ... 112% IACS 0.3 MS/m ... 65 MS/m
Resistance range	0.015388 ... 3.33333 $\Omega \cdot \text{mm}^2 / \text{m}$
Conductivity measuring resolution	0.01% IACS (at <51% IACS) 0.1% IACS (at 51% IACS ... 112% IACS)
Conductivity measuring accuracy	$\pm 0.5\%$ at +20 ° C / +68 ° F $\pm 1\%$ in the range 0 ... +40 ° C / +32 ... +104 ° F
Lift-off compensation	0.5 mm / $\approx 0.0197''$
Temperature measuring range	0 ... + 50 ° C / +32 ... +122 ° F
Temperature measuring accuracy	$\pm 0.5 \text{ }^\circ$
Temperature compensation	Automatic adjustment of conductivity result to the value at 20 ° C / +68 ° F
Operating conditions	0 ... + 50 ° C / +32 ... +122 ° F, 0 ... 95% relative humidity (RH)
Display	LCD, backlit
Menu languages	English, German, Chinese (simplified)
Power supply	Internal, rechargeable battery
Probe diameter	$\varnothing 14 \text{ mm} / \approx 0.55''$
Memory	Stores up to 500 groups of measurement values
Data interface	USB port connection
Dimensions	$\approx 220 \times 95 \times 35 \text{ mm} / 8.66 \times 3.74 \times 1.38''$
Weight	$\approx 415 \text{ g} / 1 \text{ lb}$ (with probe)

Delivery contents:

- 1 x PCE-COM 20 conductivity tester for metals
- 1 x sine wave measuring probe
- 1 x set of calibration plates
- 1 x factory calibration certificate
- 1 x PC-compatible software
- 1 x USB to RS-232 data cable
- 1 x charging adapter
- 1 x hex wrench
- 1 x carrying case
- 1 x user manual