

Material Hardness Tester PCE-5000



PCE-5000 Material Hardness Tester Uses the ASTM A1038 ultrasonic contact impedance (UCI) method for metal and alloy hardness testing

PCE-5000 is a portable material hardness tester that uses the ASTM A1038 ultrasonic contact impedance (UCI) method to measure the hardness of metals and alloys with a minimum thickness of 2 mm / .08 in. Ultrasonic hardness testing is considered nondestructive, as it creates a microscopic indentation only visible when using a high-powered microscope.

Featuring a quick 2-second measurement time, this UCI hardness tester is the ideal tool for weld inspection, hardness control of metal coatings and hardness measurement of fine-grained metals, small forgings, cast materials, heat-affected zones, ion-nitrided stamping dies and molds, forms, presses, thin-walled structures and parts, bearings, tooth flanks, pipes, tanks, steel sheets and products with intricate or complex shapes.

Additional measuring sensors can be connected to the ultrasonic meter, which vary in their test force, which is applied to measure the hardness. The different sensors measure the hardness of the objects depending on the roughness of their surface. For example, the standard sensor with 20 N measures surfaces with a roughness of less than 5 μm . The 10 N sensor measures a roughness of less than 3.2 μm and the one with 98 N measures a roughness of less than 15 μm .

- ▶ Measures the hardness of metals and alloys with a minimum thickness of 2 mm / .08 in
- ▶ Displays measurements in Rockwell A (HRA), Rockwell B (HRB), Rockwell C (HRC), Brinell (HB), Vickers (HV) and MPa (N/mm²) SI units
- ▶ Measuring range: 61 ... 85.6 HRA, 41 ... 100 HRB, 20.3 ... 68 HRC, 85 ... 650 HB, 50 ... 999 HV, 255 ... 2180 MPa (N/mm²)
- ▶ Accuracy: ± 1.5 HR, $\pm 3\%$ HB, $\pm 3\%$ HV
- ▶ Stores up to 2000 measurement groups / 20 calibration sets to memory
- ▶ Provides measurements in just 2 seconds
- ▶ Probe fits into small spaces and hard-to-reach places
- ▶ Features a large and easy-to-read LCD screen, simple calibration and an RS-232 interface

Specifications

Measuring range

Rockwell A B C	61 ... 85.6 HRA, 41 ... 100 HRB, 20.3 ... 68 HRC
Brinell	85 ... 650 HB
Vickers	50 ... 999 HV
Tensile strength	255 ... 2180 N/mm ²

Accuracy

Rockwell	± 1.5 HR
Brinell	± 3% HB
Vickers	± 3% HV

General specifications

Measurement method	Ultrasoniccontact impedance (UCI) per ASTM A1038
Direction of measurement	360°
Measurement time	2seconds
Hardness units	HRA, HRB, HRC, HB, HV, MPa
Display	LCD with backlight
Minimummaterial thickness	2mm
Datamemory	Upto 2000 measurement groups Up to 20 calibration sets
Measurement probe	20 N (standard)
Probe cable length	1.5m / .06 in
Functions	Single value, min / max, average value
Power supply	4.2V rechargeable battery, 4800-mAh
Battery life	Approx.10 hrs of operation at full charge (without backlight)
Dimensions	162x 81 x 31 mm / 6.38 x 3.19 x 1.22 in
Operating conditions	-10... 40°C / 14 ... 104°F, ≤ 85% RH
Storage conditions	-20... 60°C / -4 ... 140°F, ≤ 85% RH
Weight	Approx. 755 g / 1.67 lb (including probe)

More information

Manual



More product info



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