

NewSonic

SonoDur2 – Vickers-Hardness Testing Made Easy

Worldwide unique in the field of portable Hardness Testing:

- Hardness to Hardness and Hardness to tensile strength for all material tables in EN ISO 18265:2014, ASTM E140-12b^{E1} (2013) and DIN50150 (2000, Table 1, Steel).
- Immediately ready for testing on selecting a material table due to pre-adjustment corresponding to the specific Young's modulus.
- SonoDur2 is the most versatile hardness tester compared to all others because of testing from soft Aluminum (20HB) to hardmetals (ca. 1600HV) with one probe.
- 1N to 8.6N motor probes for motor driven and manual testing, 10N to 100N handhelds



Portable, fast and easy to handle – your testlab on-site

Some instrument features:
Can be used everywhere, because it is light weight (~280 gr), handsome and robust with IP54 protection
100% availability due to fast exchangeable LiPol Battery-Pack with optional charger station
All information at a glance, bright TFT-colour-display (readable even in sunlight)
Field-updates of firmware and operating system allows you to keep pace with current developments
Intuitive Instrument navigation through the menu and settings via Touch-Screen und illuminated Keypad
„Unlimited“ storage capacity for Data (32 GByte max.), transfer via USB, Bluetooth, WLAN

Measuring Specification	
Measuring principle	UCI Method, corresponds to DIN 50159, ASTM A1038
Test indenter	Vickers diamond 136°
Test loads Newton scale (1kgf = 9.81 N)	Motor probes: 1N (0.1 kgf), 3N (0.3kgf) and 8.6 N (0.8 kgf) Handheld Probes: 10N (1 kgf), 49N (5kgf), 98N (10kgf) (Other test loads on request)
Hardness scales and range accord. to standard conversion tables Note: Conversions are acc. to ASTM E140-12b ^{E1} (2013), EN ISO 18265-2014, and DIN 50150-2000 (solely table 1, low-alloyed steel). Conversions into tensile strength for 98N (10kgf) test load only.	Vickers HV 10 – ca. 2000 Brinell HB 76 – 618 Knoop HK 87 – 920 (ASTM only) Rockwell HRB 41 – 105 Rockwell HRF 82,6 – 115,1 Rockwell HRC 20,3 – 68 Rockwell HRA 60,7 – 85,6 Rockwell HRD 40,3 - 76,9 (EN ISO 18265 only) HR45N 19,9 – 75,4 Tensile Strength MPa (N/mm ²) 255 – 2180 (EN ISO 18265 only)
Measurement uncertainty	< 3% of the average out of 5 measurements relative to the plate value
Relative repeatability	< 3% (range relative to the average out of 5 measurements on reference block 300HV using motor probe 8.6N)
Mechanical and Environmental (Instrument and probe)	
Operating time	>8h use (depending on instrument performance, temperature and instrument -settings), up to 6h continuous use, fast exchangeable battery pack
Operating Temperature	Probe: 0°C to ~ +50 °C Instrument: -10° ~ +50°C
Storage Temperature	-20°C ~ +60°C
Humidity	Max. 90%, non-condensing
Dimensions	Instrument ca. 132mmx78mmx22mm Motor probe Handheld probe L-Handheld probe
Weight	Instrument ca. 280gr. Motor probe ca. 370gr. Handheld probe ca. 280gr.
Instrument	
Processor and Memory	TI Cortex A8 / 256 MB SDRAM / 512 MB Flash / micro SD Card up to 32GB
Operating system	Windows Embedded Handheld (WM 6.5)
Power Input	21-keys with illumination and alphanumeric software keypad
Display Size (Inch/mm) Luminance	Main battery: 3,7V / 2600mAh, LiPo Battery pack, fast changer Charging time: <2h up to 80% capacity (instrument switched off) AC mains/charger: 90VAC - 264VAC 50/60Hz to 5VDC
Interfaces Probe Digital Input / Output Communication	3.5" transfective TFT (320x240) with 4W-resistive Touch-Screen, can be used in sunlight, brightness with LED-backlight (440 Cd/m ² max.) adjustable
Dust/Water-splash proof	USB1.1 (Host and Device), Micro-SD-Card, WLAN, Bluetooth Version 2.1 +EDR, CLASS2
Instrument Language	IP54 (accord. to IEC60529)
Drop test	1.2m
tumble test	150 (1.65 ft./0.5m) tumble (equivalent to 300 subsequent drop tests) at room temperature; meets and exceeds applicable IEC jiggle specifications
Vibration test	MIL-STD 810G Method 514.5, Fig. 514.5C-1; 1 h per Axis
Operating language	German, English, more on request