

# 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<sup>E1</sup> (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

<b>Measuring Specification</b>	
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 (0.9 kgf) Handheld Probes: 10N (1 kgf), 49N (5kgf), 98N (10kgf) (Other test loads on request)
Hardness scales and range accord. to standard conversion tables (here table A1 or T2 resp.)  Note: Conversions are acc. to ASTM E140-12b <sup>E1</sup> (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 <sup>2</sup> ) 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)
<b>Mechanical and Environmental (Instrument and probe)</b>	
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/ charging +10° C ~+ 40°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.
<b>Instrument</b>	
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)
Keypad (Hardkeys)	21-keys with illumination and alphanumeric software keypad
Power/ Batteries	Main battery: 3.7V / 2600mAh, LiPo Battery pack Charging time: <2h up to 80% capacity (instrument switched off) AC mains/charger: 90VAC - 264VAC 50/60Hz to 5VDC
Display	3.5" transfective TFT (320x240) with 4W-resistive Touch-Screen, can be used in sunlight, brightness with LED-backlight (440 Cd/m2 max.) adjustable
Interfaces	USB1.1 (Host and Device), Micro-SD-Card, WLAN, Bluetooth Version 2.1 +EDR, CLASS2
Dust/Water-splash proof	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, French, Polish, Czech more on request