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Manual
Hardness Tester
PCE-HT 150

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Model:

☐ **PCE-HT150 Shore A**

☐ **PCE-HT150 Shore C**

☐ **PCE-HT150 Shore D**

1. **FEATURES**

* Designed to determine the indentation hardness of materials ranging from cellular products to rigid plastics. Each Durometer type is made to a specific scale (i.e.A, C, D) and is capable of producing value between 0 and 100. Shore a is A designed to measure the penetration hardness of rubber, elastomers and other rubber like substances such as neoprene, silicone, and vinyl. It can also be used for soft plastics, felt, leather and similar materials. Shore C is designed for various foam and sponge. Shore D is designed for Plastics, Formica, Epoxies and Plexiglass.
* It meets standards: DIN 53505, ISO 868, ISO 7619, ASTM D 2240, JIS K7215.
* Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.
* Digital display gives exact reading with or errors. no guessing
* Can communicate with PC for recording, printing and analysing by the optional software and cable for RS232C interface.
* Automatic power off to conserve power.
* Use operation stand of optional parts can get good accuracy and repetitiveness due to constant measurement force to eliminate the errors caused by artificially force.

2. SPECIFICATIONS

Display: 4 digits, 10 mm LCD
Range: 10~90 H(A, C, D)
Resolution: 0.1
Measurement deviation: error≤ ±1
Power supply: 4x1.5v AA (UM-3) battery
Operating condition: Temp. 0~50℃
Humidity <80%
Size: 162x65x28mm (6.4x2.6x1.1inch)
Weight: about 170g (not including batteries)
PC interface: RS232C interface
Power off: 2 modes
Manual off at any time by depressing the power key till OFF shows on the display or Auto power off after 2 minutes from last key operation .

Accessories:
Carrying case . . . . . 1 pc.
Operation manual . . . . . 1 pc.
Test block . . . . . 1 pc.
Optional accessory:
Cable and software for RS232C

3. FRONT PANEL DESCRIPTIONS

Shore A
Shore D

Shore C

3-1 Sensor
3-2 Display
3-3 Multifunction key
3-4 Max hold key
3-5 Zero key
3-6 N/Average key
3-7 RS232C interface
3-8 Battery Compartment/Cover
3-9 Indicator of Max. Value
3-10 Indicator of Average value
3-11 State of average value
3-12 Number of measurements
in the state of average value

4. MEASURING PROCEDURE

4.1 Test specimen

Shore A: 6mm thick minimum
Shore D: 3mm thick minimum

Specimen should allow measurement to be taken at least 12 mm from any edge.

Specimen surface should be flat and parallel to allow the presser face to contact to the specimen over an area which has a minimum radius of 6mm from the durometer probe. The specimen may be constructed with layered pieces to achieve the necessary thickness requirements, however measurements taken on these specimens may not agree with those made on solid specimens, due to the surface faces between layers not being in complete contact.

4.2 Depress and release the key to power the tester on.

4.3 Depress the 'MAX' key till the mark MAX shows on the display.

4.4 Hold the durometer vertically with the point of the indenter at least 12 mm from any edge. Apply the presser foot to the specimen as rapidly as possible, without shock, keeping the foot parallel to the surface of the specimen. Apply just sufficient force to obtain firm contact between the presser foot and the specimen. Hold for 1 or 2 seconds, the maximum reading can be obtained

5. CALIBRATION CHECK

5.1 Zero calibration

Hold the durometer vertically with the point of the indenter hanging in the air, the reading on the display should be '0'. If not, depress the 'ZERO' key to make the tester display '0' .

5.2 High end calibration

5.2.1 Insert the indenter into the hole of the calibrated test block. Apply enough force to make firm contact between the top surface of the test block and the presser foot.

5.2.2 The reading should agree with the value stamped on the test block. If not, to make high end calibration.

5.2.3 Depress the key, not release it until the 'CAL' shows on the display. Repeat 5.2.1. When the inner reading stable, press 'N/AVE' to return to '0'. Repeat 5.2.1 to 5.2.3 till the result is correct.

6. BATTERY REPLACEMENT

6.1 When the battery symbol appears on the display, it is time to replace the batteries.

6.2 Slide the Battery Cover away from the instrument and remove the batteries.

6.3 Install batteries paying careful attention to polarity.

7. NOTE

Readings below 10HD for Shore D type may be inexact and should not be reported for some materials. Measurements should be made on a Shore A type. Readings above 90HA for Shore A should be made on a Shore D type durometer.

In this direction will find a vision of the measurement technique:
http://www.industrial-needs.com/measuring-instruments.htm

NOTE: "This instrument doesn't have ATEX protection, so it should not be used in potentially explosive atmospheres (powder, flammable gases)."