



# e2000 Digital Durometers

## PTC® 511 & 512 Series



- Accuracy  $\pm 1$  Point
- 1.25" Diameter Base
- 200 Data Measurements stored in durometer
- Electronic Max Hold
- LCD Display with 0.1 Point Resolution
- Auto Off
- Send Data through cable or wireless radio module
- Long Battery Life—Average Daily Use + 6000 Hours
- A2LA Accredited Certification to ISO 17025
- Includes Aluminum Test Block and Sturdy Carrying Case



The ultimate durometer for accurate hardness measurements. The durometer is easy to grip and the 1.25" diameter base has a large landing area for increased stability and maximum repeatability. The instrument uses a digital readout indicator with bold, easy to read numbers. Features also include an auto shut-off and long life battery.

PTC Metrology™ is accredited by A2LA for durometer calibration to ISO/IEC 17025. NIST traceable certification is available for all durometer types covered by current ASTM D2240, ASTM F1957, ISO 868, ISO 7619 and DIN 5305 standards.

The calibration report will include both "as received" and "as left" data. Complete durometer calibration includes **Indenter Geometry and Extension, Indicator Linearity and Force Curve.**

### PTC® Digital Durometers-VRS Models

511/A	ASTM Type A
511/B	ASTM Type B
511/O	ASTM Type O
511/OO	ASTM Type OO
512/D	ASTM Type D
512/DO	ASTM Type DO

<b>Range</b>	<b>0 to 100 points</b>
Accuracy	$\pm 1$ point
Height	6 in. (15.2 cm)
Weight	13 oz. (227 g)
Shipping Weight	4 lb. (1.8 kg)

### PTC® Hydraulic Durometer Stands

PTC® has developed the first hydraulic operating stand that delivers a load sufficient to overcome the spring force of the durometer smoothly and without shock in approximately 1 second from contact.

[7000A Stand](#) is compatible with A|B|O durometers  
[7000D Stand](#) is compatible with C|D|DO durometers

### LIMITED LIABILITY WARRANTY

PTC® products are covered by a limited liability warranty from defects in material and workmanship for one year from date of purchase. This warranty does not apply if, in the judgement of PTC®, the product fails due to damage from shipment, handling, storage, accident, abuse or misuse, or if it has been used or maintained in a manner not conforming to product's instructions, has been modified in any way, or has a defaced or removed serial number. Repair by anyone other than PTC® or an approved agent voids this warranty. The maximum liability of PTC® is the product purchase price.

## OPERATING INSTRUCTIONS

The following procedures are based on ASTM Standard D2240. This standard is recognized as being definitive, however, not all applications require such stringent controls.

Readings below 10/A may be inexact and should not be reported for some materials. Readings above 90/A should be made on a Type D durometer.

The surface of the sample to be tested shall be clean and smooth. The sample should be at least 1/4" (6 mm) in thickness unless it is known that identical results are obtained with a thinner specimen. Thinner materials can be stacked to obtain the minimum thickness (DO NOT GLUE). Such results may not agree with those of a solid specimen. The sample should be large enough so that the indenter is at least 1/2" (12 mm) from any edge unless it is known that identical results are obtained when measurements are made closer to the edge. The surface of the specimen shall be flat over a sufficient area to permit the presser foot to contact the specimen over an area having a radius of at least 1/4" from the indenter point. The temperature of the specimen should be 73.4°F ±3.5°F (23°C ±2°C). The specimen should be allowed to rest at this temperature for at least 1 hour prior to testing, as the properties of most materials change with temperature.

Place the specimen on a hard, horizontal surface. With the durometer held vertically, press and hold release the 'ON/clr' button to turn on the digital indicator.

If desired, press and release the 'HOLD' button to enable max-hold. Hold the durometer vertically with the point of the indenter at least 1/2" 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 by a setting on the indicator (see above). When max-hold is enabled the maximum value reached will automatically be displaced and held until reset. To disengage the maximum feature, press and release 'HOLD' button again. If other than a maximum reading is needed, hold the durometer in place without motion

and obtain the reading after the required time interval. Make 5 tests at least 1/4" apart and use the average value.

## DIGITAL INSTRUCTIONS (VRS)

**ON ZERO** Powers indicator ON Press and release **ON ZERO To Clear /Zero Display** Press and release **ON ZERO** when LCD is ON.

**OFF Powers indicator OFF.** Press and release **OFF MODE HOLD** Toggles Hold on & off. Changes HOLD from MAX reading to MIN reading & FRZ freeze Reading.

TO Toggle HOLD On/Off Press and release **HOLD** To select Type of HOLD PRESS & Hold **HOLD**. The LCD ICONS scroll through MAX to MIN to FRZ. Release button when desired HOLD function is flashing.

**Factory Reset:** Press & Hold **ON ZERO & OFF** simultaneously until **RESET** appears on LCD  
**DATA** Send Data through cable, wireless radio module, or store readings to indicator

### To Send Data or Store Readings

Press and release **2ND**  
Press and release **DATA/HOLD**

### To View Stored Readings

Press and release **2ND**  
Press and release **ON ZERO**  
Press and release **HOLD**  
Press and release **move (2ND)**  
Repeat step 4 to scroll readings.  
To Clear Stored Readings, Press and Hold **ON ZERO**  
To Exit Stored Readings, Press and Release **DATA HOLD**

## CALIBRATION CHECK

For a complete calibration check of mainspring, and visual and mechanical check of indenter, the instrument should be returned to PTC Metrology™ (See Guarantee & Calibration Service) or refer to ASTM D2240 Specifications. PTC® recommends the unit be returned at least every 12 months for this check. For a quick field check, follow the guideline below. *Under no circumstance should a test block be used as a standard to calibrate a durometer.*

1. The pointer should read zero when no force is applied to the indenter of the durometer.
2. Hand hold the durometer and 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 base of the durometer. The dial reading should agree with the value stamped on the check block (±1). Several tests should be made and the results averaged.
3. The indenter must protrude 0.098 to 0.100 inches below the base of the durometer.
4. When the indenter is fully displaced, the durometer should read 100 points. Use care as to not damage the tip of the indenter.