SPONGE HARDNESS TESTER

AS-120F

This Shore Hardness Tester is small in size. light in weight, easy to carry, it is convenient to use and operate. It's ruggedness will allow many years of use if proper operating techniques are followed. Please read the following instructions carefully and always keep this manual within easy reach.

1. FEATURES

* Durometer Type F is an exclusive design for testing soft cellular materials. The large diameter presser foot and cylindrical indenter configuration allow measurement by direct application to the test specimen. * Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.

* Digital display gives exact reading with no guessing or errors.

* Can communicate with PC for recording, printing and annualizing 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 applied different force.

2. SPECIFICATIONS

Display: 4 digits, 10 mm LCD Display Range: 0~100HF Measurement Range: 10~90HF Resolution: 0.1HF

Fig-1 Information Form

3-1	Display
3-2	Number of measurements in the state of average value
3-3	Indicator of Average value
3-4	RS232C Interface
3-5	Max hold key
3-6	CAL key
3-7	Battery Cover
3-8	Wrist Ring
3-9	State of average value
3-10	Power key
3-11	N/Average key
3-12	Zero key
3-13	Sensor

Accuracy: $\leq \pm 1$

Indenter: Extension 2.54mm, 25.2mm Cvlinder Spring force: 455gf Presser foot: 80mm diameter Operating Temperature: 0°C ~ 50°C Power Supply: 2x1.5v AAA(UM-4) battery Size: 162x65x28mm Weight: 355 g (Not included Batteries) Standard Accessories * Main Unit * Carrving Case * Operation Manual **Optional Accessories**

* USB data output

4. Measuring Procedure

contact.

power the tester on.

shows on the display.

4.1 Specimen should allow measurement to

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

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

4.2 Depress and release the "Power key" to

4.3 Depress the "MAX" key till the mark MAX

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.

can be obtained automatically.

Hold for 1 or 2 seconds, the maximum reading

4.4 Hold the durometer vertically with the

specimen may be constructed with layered

pieces to achieve the necessary thickness

be aken at least 12 mm from any edge.

* Bluetooth data output

3. Front Panel Descriptions





4.5 To take the next measurement, just depress the "Zero key" and repeat 4.4. On the other hand, you can depress the "Max hold key" till the mark MAX disappears from the display. And then repeat the step 4.3

and 4.4. 4.6 If other than a maximum reading is needed, no need to set the mark "MAX" showing on the display. In such case, the reading on the display is an instant value. Just hold the durometer in place without motion and obtain the reading after the required time interval (Normally less than 1 second).

4.7 How to take average value 4.7.1 To take the average value of many times of measurements, just depress and release the "N/AVE key" to make the symbol "N" showing on the display, followed by a digit between 1-9 with the prefix "No.". Here the digit is the times of measurements used to calculate the average value. Every time depress and release the "N/AVE key", the digit will increase 1. And the digit will become "1" while depressing the "N/AVE key" at "9".

4.7.2 Adjust the digit to the number needed

and depress "MAX key" or "Zero key" to return to the measurement state or wait for several seconds till "0" on the display. 4.7.3 Take measurements as per steps from 4.3 to 4.5. Be sure that every test should be 6 mm apart. Every time take a measurement, the reading and the times of measurements show on the display. When the times of measurements is equal to the number set, the unit first displays the reading of the last , and then display the average value of last "N" measurements, followed by 2 beeps, with a symbol "AVE" indicating on the display. 4.7.4 To take the next average value, just repeat 4.7.3.

4.7.5 To release from average measurement , just depress the "N/AVE" till "N" disappears.

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

Just place the indenter onto a flat glass, apply enough force to make firm contact between the glass and the presser foot. The readings on the display should lie between 99.5 and 101. If not, press "CAL key" to carry out high end calibration.

6. BĂTTERY 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 tester 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.