

PENCIL DUROMETER

RUBBER HARDNESS TESTER

MODEL : SHR-A-PEN

APPLICATIONS

For testing indentation hardness of soft vulcanised rubber and other electrometric materials. It is particularly suitable for testing in areas inaccessible to a conventional dial type Durometer.

RANGE

0 to 100 Shore-A nos. on a Vernier Scale graduated in steps of five with interpolation to two points attainable with normal vision.

STANDARDS

Conforms to the revised German Standard DIN-53 505 & American Standard ASTM D22420

OPERATION

- 1) Reset the instrument to 0 by depressing the Vernier Push Rod all the way down until it stops. Avoid excessive pressure.
- 2) Grasping the Durometer on its fluted surface hold it, without use of excessive pressure, with Pressure Foot flush with the specimen.
- 3) Gently remove the Durometer from the specimen and read the Shore-A hardness no. from the Vernier Scale. Interpolation to within two points is attainable with normal vision.
- 4) It is essentially a maximum reading Durometer Vernier Push Rod is held at the maximum reading by two powerful magnets. Creep, drift, or strain relaxation is that characteristic of an elastomer to continue to deform after the initial deformation under applied stress. To read creep with the Pencil Durometer, keep Pressure Foot in contact with the specimen for a specified time interval., usually 15 seconds. Observe and record the reading. Then with the Durometer still in contact with the specimen, gently push the Vernier Push Rod down with the finger and reread the scale.
- 5) Depress the Vernier Push Rod for the next reading.



IMPORTANT FEATURES:

1. Test specimens should have a minimum thickness of 6 mm unless it is known that identical results are obtained on thinner specimens. Thinner specimens, the opposite sides of which are parallel, may be piled up to obtain the necessary thickness.
2. Cylindrical surfaces, such as rubber rollers may be tested by "rocking" the Presser Foot on the convex surface. Maximum reading is attained when the Indentor is normal to the axis of the roller.
3. Readings should not be taken on uneven, irregular, coarsely grained or concave surfaces.
4. Tests should be made at a temperature of $23 \pm 2^\circ\text{C}$ ($73.4 \pm 3.6^\circ\text{F}$). Readings taken at other than specified temperature should be recorded with a notation stating the actual temperature.
5. Pressure of application on the Durometer should be Just sufficient to ensure firm contact between the Presser Foot and test specimen.
6. Hardness determinations may be made in any position, even with the Durometer inverted. Determinations may also be made in "blind" locations where the vernier scale is not visible. Under any circumstances the Durometer must be gently removed from the specimen so as not to upset the reading.
7. The use of a Durometer in a dusty environment may upset its calibration. To clean the interior of the Vernier Scale, unscrew it from the fluted Mainspring Housing. Remove the Vernier Push Rod from the lower end of the Vernier Scale and clean the interior of the Scale with the brush provided with the Durometer. Verify that the Push Rod is free of any foreign matter that may inhibit its free movement. After reinsertion in the Vernier Scale the Push Rod will automatically right itself so that the magnets are not visible. Screw the Vernier Scale firmly and finger tight into the Mainspring Housing, making certain that its bottom shoulder is flush against the top surface of the Housing.
8. It employs a precision stainless steel compression spring with a patented device which keeps the amount of active wire in the spring constant ensuring a linear gradient throughout the range of operation.
9. The indentor shaft travels on special bushings with low co-efficient of sliding friction ensuring friction is reduced to an absolute minimum.
10. The Vernier Scale is given a low reflectivity matte chrome finish with bold precisely engraved numerals and graduations.
11. The Presser Foot is made from polished stainless steel material to resist marring and corrosion.

TECHNICAL DATA:

Indentor	: Truncated Cone.
Vernier Scale	: Graduated in steps of 5 with visual interpolation to 2 Shore points.
Packing	: In a wooden box.
Dimensions	: mm 12.5dia 114 long.
Nett Weight	: gm 60

"BLUESTEEL HOUSE"