

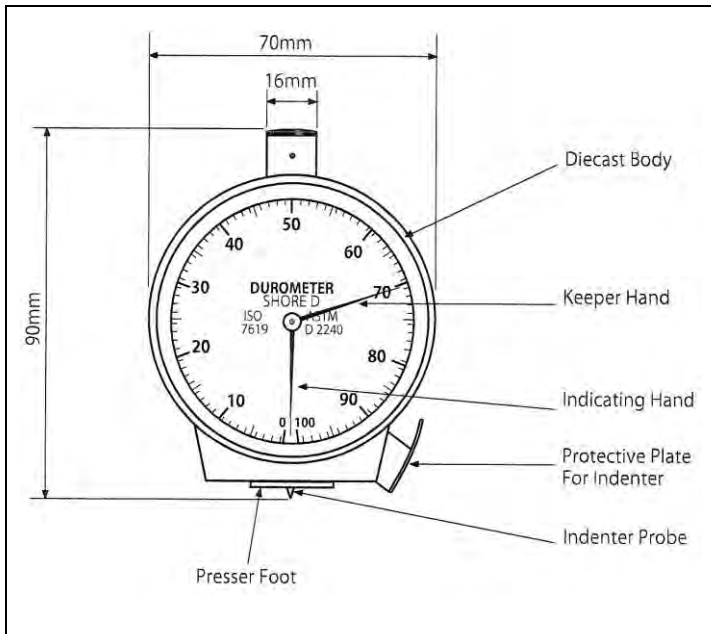
Shore Durometers



Shore Durometers provide a fast and convenient method of measuring the hardness of rubbers, plastics, leather and other soft materials
 Available with either Shore “A” or “D” scales
 Manufactured to comply with ASTM D2240
 Strong portable design
 Complete with swing away indenter protection plate
 Supplied in fitted case complete with check block

Packed Weight and Dimensions

Code	Description	Weight g	W mm	H mm	L mm
59-500-000	Shore Durometer Scale”A”	479	105	45	190
59-500-111	Shore Durometer Scale”D”	479	105	45	190



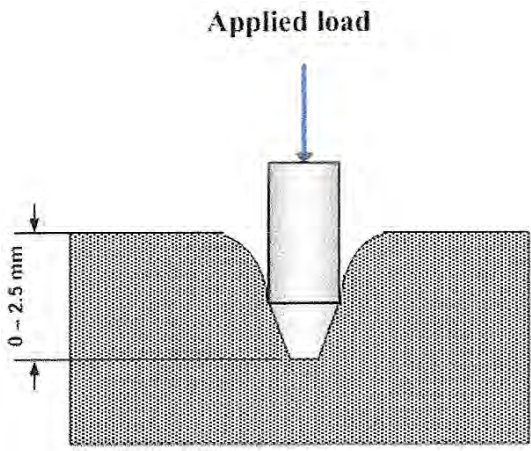
Specimen size should allow measurement to be taken at least 12mm from any edge
 The specimen surface should be flat and parallel to allow the presser foot to contact its surface over an area which has a minimum radius of 6mm from the Durometer’s indenter
 The specimen may be constructed with layered pieces to achieve the necessary thickness requirement.
 Measurements taken this way may not agree with those taken on solid pieces, due to the surface faces between layers not being in complete contact.

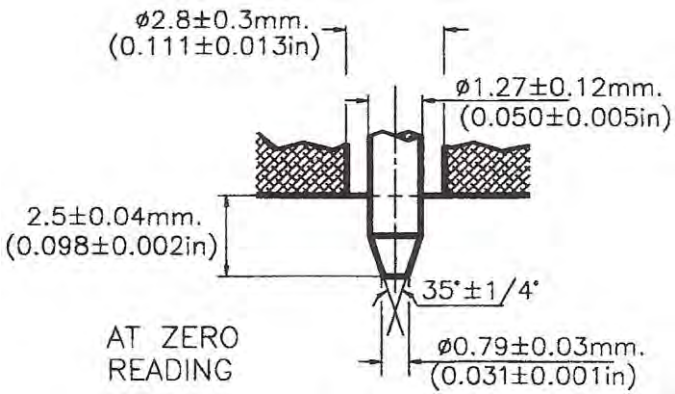
Code	Shore Scale	Presser Foot Dia.	Specimen Thickness
59-500-000	A	18mm	6mm
59-500-111	D	18mm	3mm

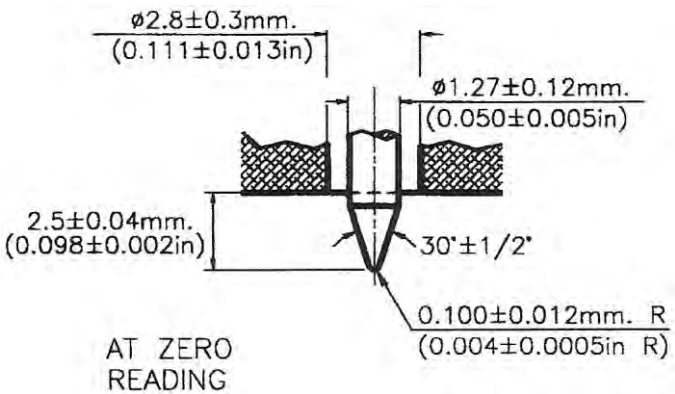
Test Procedure

Rotate the red keeper hand anti clockwise until it rests against the black indicator hand when in the zero position
 Test instrument for indicator movement by placing the indenter probe into the hole marked 25 in the test block
 The keeper hand should remain in position within ± 1 division of the marked size.
 Repeat this test in the 50 and 75 positions. The keeper hand should always be within ± 1 division
 Reset red keeper hand ready for use on the specimen

Place the specimen on a hard horizontal surface
 Hold the durometer in a vertical position with the indenter probe at least 12mm away from any edge
 Apply the durometer’s presser foot to the specimen with enough pressure to obtain good contact between the foot and the specimen
 Read the hardness value one second after application of the pressure foot.
 For specimens exhibiting a marked flow propensity, the reading may take up to 15 seconds

	<p>The principle used to determine Shore Hardness is based on measuring the resistance force of the penetration of an accurately ground conical probe into the test material under a known spring load</p> <p>The amount of penetration is converted into a Shore Hardness value on a dial with 100 Shore Hardness graduations</p>
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<p>Shore A Probe</p> 	<p>Shore A instruments are suitable for measuring the surface hardness of the following materials:</p> <ul style="list-style-type: none"> Soft rubber Elastomers Natural rubber Soft PVC Leather Neoprene <p>Application range: 10 – 90 Shore A units Accuracy: ± 1 hardness unit</p>
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<p>Shore D Probe</p> 	<p>Shore D instruments are suitable for measuring the surface hardness of the following materials:</p> <ul style="list-style-type: none"> Hard rubber Rigid thermoplastic Hard plastic materials <p>Application range: 10 – 90 Shore D units Accuracy: ± 1 hardness unit</p>
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Shore Durometers

Calibration Certificate Data

Shore A Durometer Serial No 4078

This instrument has been calibrated in accordance with the requirements & limits specified in ASTM D2240-05 | reapproved 2010 | Clause 7

1. Indentor1.1 Cone Angle [Specification $35^\circ \pm 0.25^\circ$]Measured result : $34^\circ 56'$ 1.2 Distance of contact from datum at zero [Specification $2.5\text{mm} \pm 0.04\text{mm}$]

Measured result 2.503mm

1.3 Diameter of contact point [Specification $0.79\text{mm} \pm 0.03\text{mm}$]

Measured result 0.772mm

2. Display

Durometer Value	Step	Tolerance In Durometer Units	Measured Error In Durometer Units Using Slave Pointer
0	-	-0 to +1	0
10	0.090"	± 1	-1
20	0.080"	± 1	-1
30	0.070"	± 1	-0.8
40	0.060"	± 1	-0.2
50	0.050"	± 1	0
60	0.040"	± 1	+0.2
70	0.030"	± 1	+0.5
80	0.020"	± 1	+1
90	0.010"	± 1	+1
100	0	± 0.5	+0.25

3. Spring

Durometer Value	Force	Tolerance In Durometer Units 1 unit = 0.075N	Measured Result Using Slave Pointer taken to durometer value from zero
10	1.30N	$\pm 0.075\text{N}$	1.34N
20	2.05N	$\pm 0.075\text{N}$	2.11N
30	2.80N	$\pm 0.075\text{N}$	2.84N
40	3.55N	$\pm 0.075\text{N}$	3.49N
50	4.30N	$\pm 0.075\text{N}$	4.24N
60	5.05N	$\pm 0.075\text{N}$	4.98N
70	5.80N	$\pm 0.075\text{N}$	5.74N
80	6.55N	$\pm 0.075\text{N}$	6.50N
90	7.30N	$\pm 0.075\text{N}$	7.24N

The above results fall within the stated tolerances

Equipment traceability to National Standards via certificates 113429 ,123026 & WS3 29592