



Shore Durometers / Hardness Tester

To determine the surface hardness of different materials like rubber, elastomers, plastic, thermoplastic etc.

Shore Durometer

According DIN 53505, ISO 7619, ISO 868, ASTM D 2240

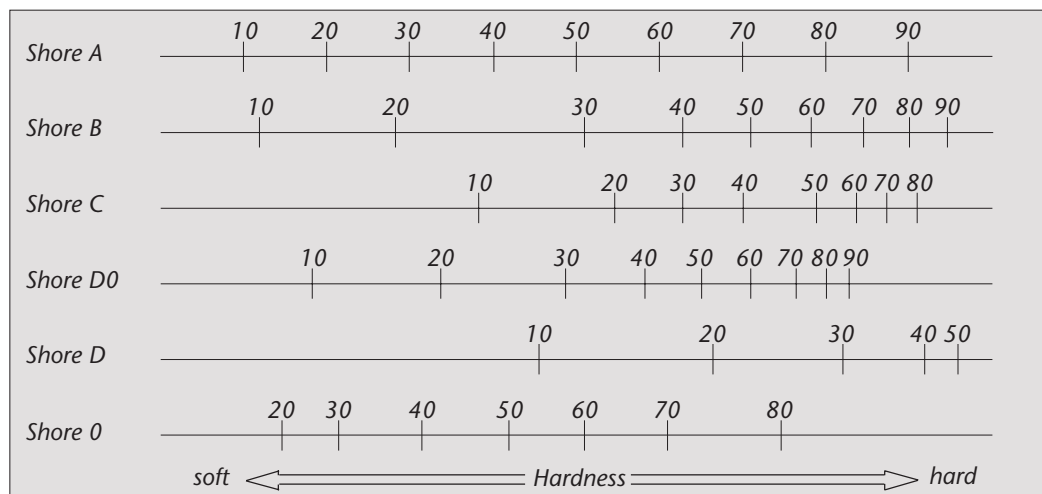
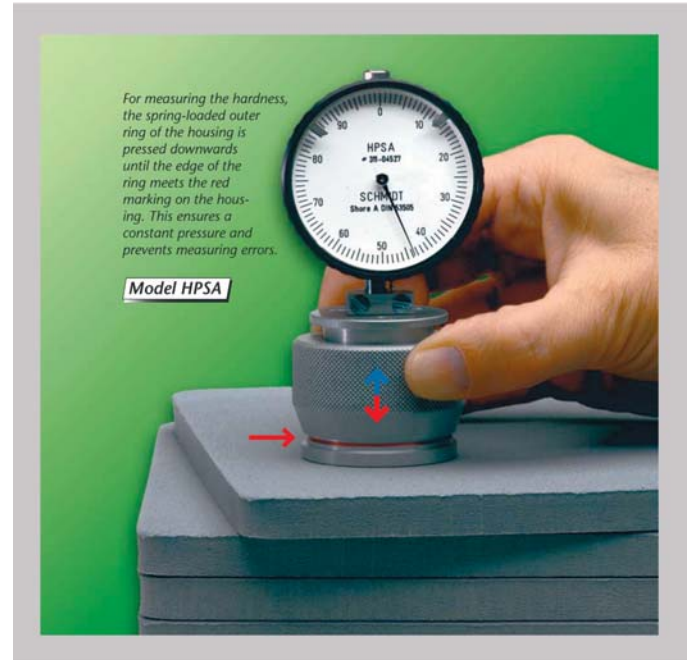
General

The principle used to measure shore hardness is based on measuring the resistance force of the penetration of a pin into the test material under a known spring load. The amount of penetration is converted to hardness reading on a scale with 100 shore units.

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As the depth of indentation is max. 2.5 mm the test-material has to have a minimum thickness of 6 mm. If thickness is less stack some samples till you reach the required thickness.

The point of measurement should be more than 12 mm inner from the edge of the sample.



Comparison table of different Shore Hardness measurements

Available Models

Model	Shore	Application	Sample of use
HPSA, PHPSA	Shore A	Soft rubber, elastomers, natural rubber products, soft PVC, leather, neoprene, etc.	e. g. printing rolls, tyres
HPSB, PHPSB	Shore B	For harder material than Shore A	e. g. typewriter rolls
HPSC	Shore C	Medium hard rubber, elastomers and plastic	e. g. golf balls
HPSD0	Shore D0	Plastic and medium hard to hard rubber materials	e. g. automobile handle, textiles
HPSD	Shore D	Hard rubber, rigid thermoplaste, resopal, hard plastics materials	e. g. acrylic glas, polystyrol etc.
HPS0, PHPS0	Shore 0	Soft elastomers, soft elastic materials, medium fast textiles	



Shore Durometers / Hardness Tester

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Series HPS

With constant contact pressure

Available for Shore A, B, C, D0, D, 0

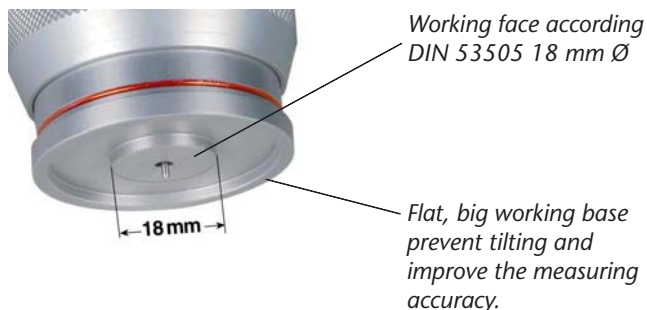
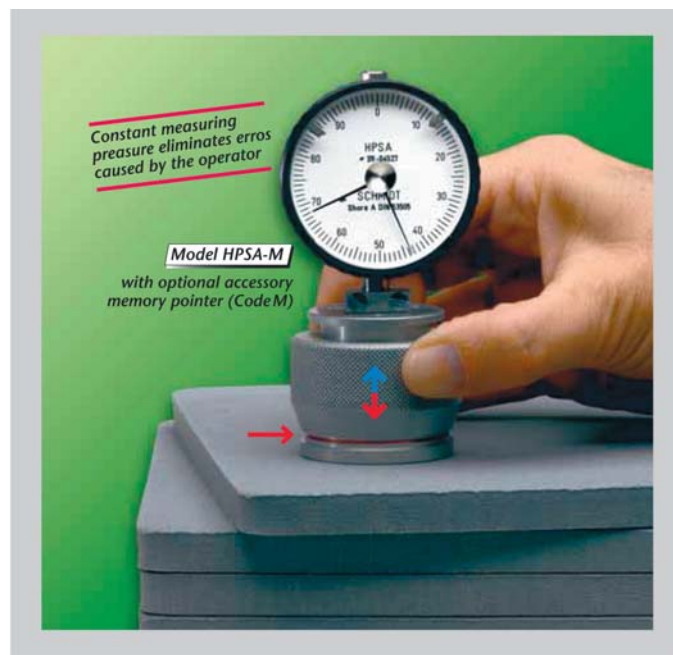
Special features

- Easy to use
- Constant pressure indicating system assures uniform test pressure eliminating false reading due to differences between operators
- High repeatability
- Flat big working base prevent tilting and improve the measuring accuracy
- Adjustable Min. Max. indicator marks

Optional Accessories

Code M Memory pointer to capture and store value (highest reading) during measuring

If required an Inspection certificate 3.1 with calibration report can be ordered optionally.



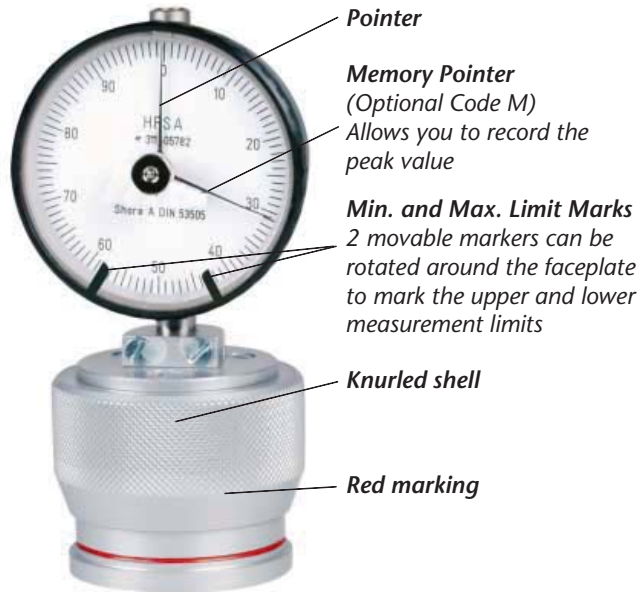
Available Models and Specifications

Model	HPSA	HPS0	HPSB
Shore:	Shore A	Shore 0	Shore B
Indenter:	Cone 35°, 1.25 mm Ø	U-grooved 3/32"	Tapered pin 30°, 1.25 mm Ø
Application range:	10 - 90 Shore A	20 - 80 Shore 0	10 - 90 Shore B
Standard:	DIN 53505, ISO 868, ISO 7619, ASTM D 2240	ASTM D 2240	ASTM D 2240
Display range:	0 - 100 Shore A Units	0 - 100 Shore 0 Units	0 - 100 Shore B Units
Depth of indentation:	0 - 2.5 mm	0 - 2.5 mm	0 - 2.5 mm
Test pressure*:	approx. 12.5 N	approx. 12.5 N	approx. 12.5 N
Measuring spring force:	0.55 - 8.065 N	0.55 - 8.065 N	0.55 - 8.065 N
Scale diameter:	51 mm	51 mm	51 mm
Measuring face:	18 mm Ø	18 mm Ø	18 mm Ø
Working base:	44.5 mm Ø	44.5 mm Ø	44.5 mm Ø
Weight, net (gross):	approx. 300 g (ca. 500 g)	approx. 300 g (ca. 500 g)	approx. 300 g (ca. 500 g)
Dimensions (LxWxH):	50 x 60 x 110 mm	50 x 60 x 110 mm	50 x 60 x 110 mm

* Spring load of outer ring to create constant pressure when outer ring is pulled down to red marking.



Operating



Test stand

Model PSHP



For testing series

V – grooved baseplate optionally available

Test Blocks for Shore hardness

The usage of the test block shows, if the durometer is working within the tolerance. This kit will prove to be invaluable in helping to maintain durometer read-out accuracy for science, manufacturing, research and development. As a reference check, it will indicate, if a durometer is operating within tolerances. A durometer should never be calibrated with test blocks. For durometer calibration we recommend to return the durometer to the manufacturer. The material from which the test blocks are made is fairly stable, however, it is strongly recommended that the calibration of the test blocks be verified annually.



Test Blocks for Shore A: Model HP-PA, 7 blocks from 30 to 90 Shore A

Test Blocks for Shore D: Model HP-PD, 3 blocks from app. 60 to 85 Shore D

Delivery includes



Control ring:



Model HP-P25

Available Models and Specifications

Model	HPSC	HPSD0	HPSD
Shore:	Shore C	Shore D0	Shore D
Indenter:	Cone 35°, 1.25 mm Ø	U-grooved 3/32"	Tapered 30° 1.25 mm Ø
Application range:	10 - 90 Shore C	20 - 80 Shore D0	10 - 90 Shore D
Standard:	ASTM D 2240	ASTM D 2240	DIN 53505, ISO 868, ISO 7619, ASTM D 2240
Display range:	0 - 100 Shore C Units	0 - 100 Shore D0 units	0 - 100 Shore D Units
Depth of indentation:	0 - 2.5 mm	0 - 2.5 mm	0 - 2.5 mm
Test pressure*:	approx. 50 N	approx. 50 N	approx. 50 N
Measuring spring force:	... 4.45 - 44.5 N	... 4.45 - 44.5 N	... 4.45 - 44.5 N
Scale diameter:	51 mm	51 mm	51 mm
Measuring face:	18 mm Ø	18 mm Ø	18 mm Ø
Working base:	44.5 mm Ø	44.5 mm Ø	44.5 mm Ø
Weight, net (gross):	approx. 300 g (ca. 500 g)	approx. 300 g (ca. 500 g)	approx. 300 g (ca. 500 g)
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For applications with limited access space

Series PHPS

With constant pressure
available for Shore A, B, 0

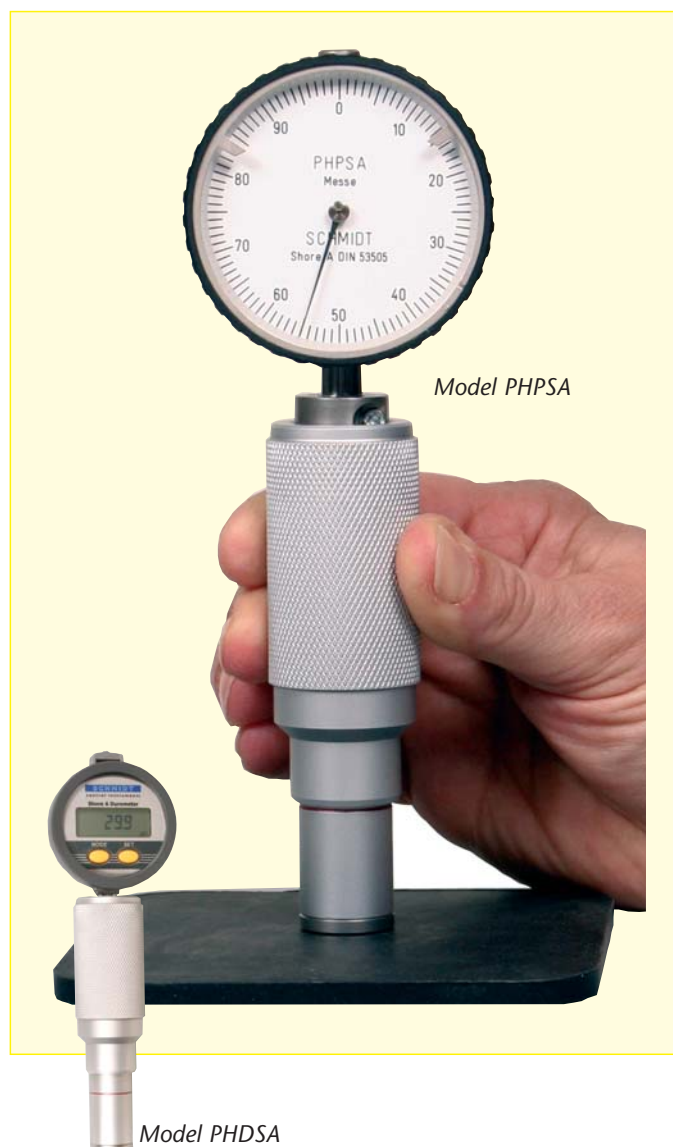
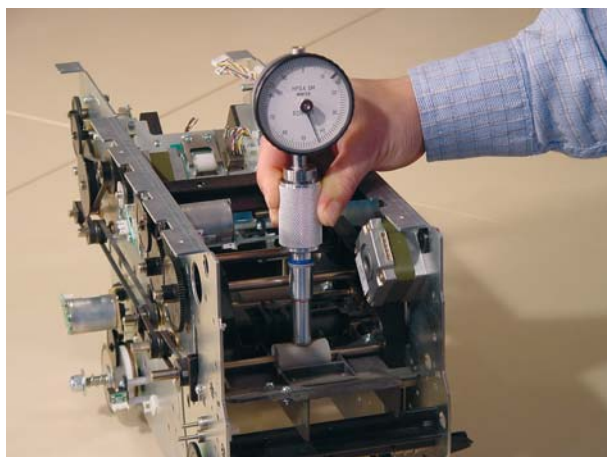
Special features

- Easy to use
- Constant pressure indicating system assures uniform test pressure eliminating false reading due to differences between operators
- High repeatability
- Working base / Measuring face 18 mm Ø
- Adjustable Min.Max. indicator marks

Optional Accessories

Code M Memory pointer to capture and store value (highest reading) during measuring

If required an Inspection certificate 3.1 with calibration report can be ordered optionally.



Available Models and Specifications

Model	PHPSA	PHPS0	PHPSB
Shore:	Shore A	Shore 0	Shore B
Indenter:	Cone 35°, $\sqrt{1.25 \text{ mm } \varnothing}$	U-grooved 3/32" $\sqrt{\quad}$	Tapered 30° $\sqrt{1.25 \text{ mm } \varnothing}$
Application range:	10 - 90 Shore A	20 - 80 Shore 0	10 - 90 Shore B
Standard:	DIN 53505, ISO 868, ISO 7619, ASTM D 2240	ASTM D 2240	ASTM D 2240
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Test pressure*:	approx. 12.5 N	approx. 12.5 N	approx. 12.5 N
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Scale diameter:	51 mm	51 mm	51 mm
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