

Shore A Durometer (0-100HA) code ISH-SA – User's Manual

Function:

Shore A durometer is an instrument for testing the hardness of vulcanized rubber and plastic products. It carries out international standard ISO 7619:1986 «Rubber – Determination of Indentation hardness by means of pocket hardness meters». This meter can be installed in the same model test stand and be used in the laboratory to test the standard hardness of rubber and plastic objects. It can also be held in hand to measure the surface hardness of rubber but plastic sample testing and adjusting must comply with the regulation of ISO 291:2008 «Plastics – Standard atmospheres for conditioning and testing».

Specification:

Tip stroke: 0-2.5 mm

Test range: 0-100 HA

Available test range: 10-90 HA

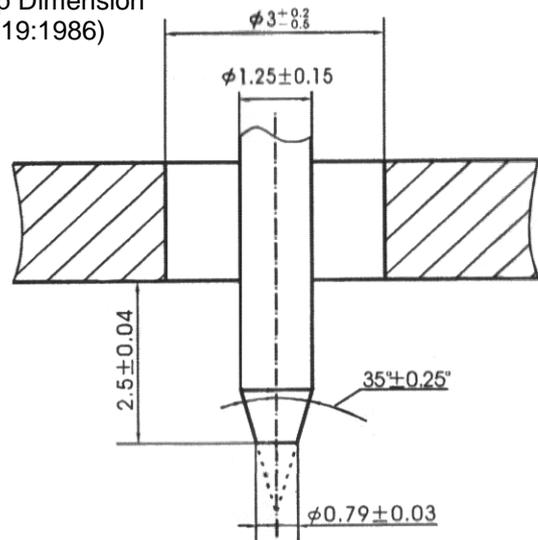
Tip pressure: 0.55N-8.05N (56-821g)

Accuracy: 10→90HA, the error is ± 1 HA

External dimension: 115x60x25mm

Net weight: 0.5kg

Shore A Tip Dimension
(ISO 7619:1986)



Operation Process:

First put the tested sample on the stable platform and hold the durometer. The distance between the tip and the sample cannot be less than 12mm. Then press the base on the sample without any vibrancy keep it parallel with the sample's surface making the tip press the sample vertically. The pressing force should be just enough. Except any provision, the reading can be done 1 second after the sample contact with the base. It must be pointed out if the reading is done in other interval time. Take 5 tests in different position with at least 6mm between the samples and take average.

Operation details:

(1) Before the test, please make sure the needle is pointing to zero. If the needle is not pointing to zero, you can loose the screw on up-right and turn the dial to set the needle. Then press the meter on a glass board, and when the tip and base is closely contacted with the board, the needle should point at 100 ± 1 HA. If the needle still doesn't point at 100 ± 1 HA, press the tip several times slightly. When the meter is used with Shore durometer test stand, you can revolve the handle and lift the working table to the die poise position, making the tip and base closely contact the glass board. Afterwards, the needle should point at 100 ± 1 HA, if not, you can adjust the screw on the working table base (see related instructions). You'd better send the meter to the supplier if it still doesn't point as required.

(2) Rubber sample and the temperature.

a. Thickness of the rubber samples should not be less than 6mm, its width is more than 15mm, and its length is more than 35mm. If the thickness is less than 6mm, please use multilayer sample congruence but note more than 3 layers.

b. The required temperature should be $23^\circ\text{C} \pm 5^\circ\text{C}$ and the meter should be kept one hour under this temperature before operation.

(3) Plastic sample and the temperature.

a. The sample should be a square with length 50mm and thickness 6mm. Sample with 50x15mm is optional.

b. If it is possible, sample should be adjusted in the lab's temperature before being tested in accordance with ISO 23529:2010 ("Rubber – General procedures for preparing and conditioning test pieces for physical test methods"). The comparing of series test should be done under the same temperature.

(4) The surface of the rubber and plastic sample should be smooth and even with no damage and dust.

(5) According to current international standard ISO 18898:2006 ("Rubber – Calibration and verification of hardness testers"), the durometer must be inspected at least once a year.

(6) Put the meter into the box and store it in the dry environment to avoid damp.

(7) Clean the lift axis and working table base regularly by smearing anti-rust oil.

(8) When using the meter, Model A durometer's value with less than 100HA is not correct, the testing result couldn't be used; when the value exceeds 90HA, suggest using Model D durometer.