Shore D Durometer (0-100HD) cod. ISH-SD – *User's Manual*

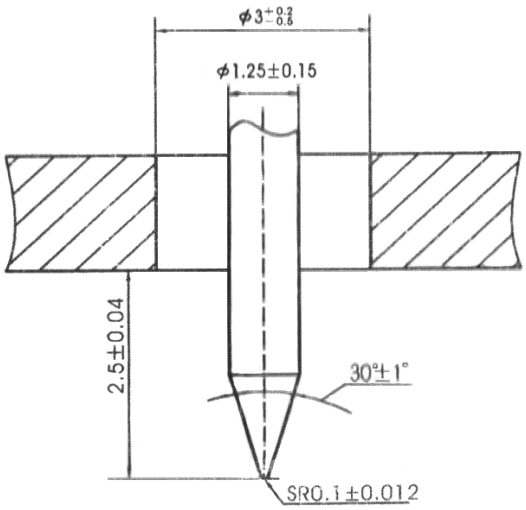
Function:

Shore D durometer is an instrument for testing vulcanized rubber and plastic products. It carries out the international standard ISO 7619:1986 «Rubber – Determination of indentation 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: 0-100HD
Available test range: 20-90HD Error is ±1HD
Tip dimension: SR0.1mm
Dimension: 115x60x25mm
Net weight: 0.5kg

Shore D Tip Dimension
(ISO 7619:1986)



Operation process:

Put the sample on the stable platform, hold the Shore durometer. The tip's distance to sample's edge is at least 12mm. Press pressure feet on the sample without any vibrancy and keep it parallel to make the pressure feet and sample contact closely. Unless other rule, must read the value 1 second after pressure feet and sample contact closely. If the value is other interval must instruct. For one test, please test hardness 5 times with the different position which distance is 6mm and the choose average value.

Operation details:

(1) Before test, please check the needle is point to zero. If the needle is not in zero, please loose the screw on up-right, and turn around the dial make the needle to zero. Press the meter on glass board, the needle must in 100±1HD, if the needle not point to 100±1HD, please press the tip slightly for many times. If the needle cannot point to 100±1HD, the durometer cannot be used. If apply it on the durometer test stand, move the handle, make the working table up to lift the weight, make tip surface and feet surface touch to the working table closely, the needle should point to 100±1HD. If not in 100±1HD, adjust screw on the working table (see related instructions). If after adjusting the needle still not to 100±1HD, it is better to send it to supplier to calibrate.

(2) Rubber test and requirement to test temperature.

a. Thickness of the rubber is not less than 6mm, the area of sample must be more than 15x48mm. If the thickness is less than 6mm, please use multilayer sample congruence, but the layer is not more than three. The rubber must touch totally (but the measured result is not the same as standard sample)

b. Test should be done in the range of 10°C---30°C, the relatively humidity is less than 85%, in the environment of no vibrancy and no erode.

(3) Plastic test and requirement to test temperature.

a. Plastic sample is square, length is 50mm, thickness is 6mm. Allow to apply of 50x15mm.

b. If possible, before test, adjust the sample in the lab's standard temperature accordance to ISO 23529:2010 ("Rubber – General procedures for preparing and conditioning test pieces for physical test methods"). Comparing test and series test should be make at the same temperature.

(4) The surface of the sample must be smooth, no defect.

(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) After test sample, please place the durometer into box, put it in the dry environment.

(7) Please brush clean the up-down shaft and the base of working table, spread little against rust oil, prevent rusting.

(8) Apply the Shore durometer, when D model Shore durometer's value is less than 20HD, the measured result is not applicable, please apply A model.