Productivity Reliability Repeatability Traceability

H12 Micro IRHD Hardness Tester

Wallace
www.wallaceinstruments.com

The Wallace H12 Micro Hardness Tester allows accurate and repeatable measurements of small/thin samples such as O-rings in International Rubber Hardness Degrees (IRHD).

This model is often used with the O-ring holder (H19/ORA) that ensures the centre of the ring is directly beneath the centre line of the indenter.

Principle of Operation

The Wallace H12 is a digital benchtop hardness tester that measures the hardness of rubber samples in IRHD. In particular it has been designed to accurately test thin sections and small test pieces such as O-rings.

The robust 'C' frame design allows the operator easy access from front and sides to safely load and remove samples. The indenter mounting is essentially frictionless and its position sensed by a linear variable differential transformer, providing the instrument with outstanding sensitivity. Adjustable anti-vibration feet reduce the effect of external vibration.

By simply pressing the start button, the instrument functions automatically, giving accurate and repeatable results.

As minimal training is required, new operators soon become confident with the H12, achieving consistent readings from the outset.

Test Procedure

Buttons on the front panel easily adjust the measuring head up and down to suit the sample height. Once the start button is pressed, the foot descends to secure the sample, followed by the indenter, which lowers through the centre of the foot with a contact force of 8.3mN to find its datum position. After 5 seconds, in line with the standards, the indenting force of 145mN is added, giving a total force of 153.3mN and applied for a further 30 seconds. At this point the instrument identifies the indenter position and the hardness value is automatically frozen and displayed clearly on the LCD screen. Data is easily captured in our traceability software.

H12 Micro IRHD Hardness Tester

Wallace
www.wallaceinstruments.com

Specifications

H12 Micro IRHD Hardness Tester	
Part Number	H12/1, H12/2, H12/3
Dimensions (mm)	300 (h) x 215 (w) x 255 (d)
Weight	6.5kg
Resolution	Selectable rounding to 0.1, 0.2, 0.5 or 1
Indenter Shape	Ball
Indenter Diameter	0.395mm ±0.005
Maximum Indention Depth	0.3mm
Measurement Range	30 - 100 Micro IRHD
Force Method	Weight
Foot Force	235mN ±30
Contact Force	8.3mN ±0.5
Indenting Force	145mN ±0.5
Force Duration	5 + 30 seconds
Sample Thickness (as per standard)	2.0mm ±0.5
Operating Temperature	5 to 40°C; Altitude 2000m maximum
Humidity Range	10 to 80% RH non-condensing
Output of Test Results to PC/Printer/Datalogger	USB connection (RS232 protocol)

Standards

ISO 48-2, ASTM D1414, ASTM D1415