

Product Information

Zwick 3110...17 Analogue Shore hardness testers



Range of application

The Zwick analogue hardness testers are used to determine the hardness of plastics and rubber to Shore A, D, B, C, 0 and 00 according to the test standards DIN 53505, ASTM D 2240, ISO 868, NFT 51109 and BS 903 part A26.

The wide use of hardness tests to Shore has a lot to do with the easy handling of the testers and the simplicity of the test.

The Zwick 3114...17 hardness testers are used for hardness tests to DIN 53505 (Shore A, D).

The Zwick 3110...13 hardness testers are used for hardness tests to ASTM D 2240 (Shore B, C, 0, 00).

Advantages of the products

- Simple and rapid tests: the hardness tester is pressed bumplessly against the test piece until its contact surface contacts the test piece. The hardness value is to be read off three seconds (to DIN), or one second (to ASTM) after the hardness tester has made contact with the test piece. Hardness values can be read off after a lengthier period of time if the test piece has high yield properties that necessitate this.
- The Shore hardness testers are distinguished by a round, antiglare scale (scale division 0-100 Shore), with exact test data indication.
- The hardness testers (for Shore A, D, B, C, 0) are available either with or without drag-pointers. The

drag-pointer makes it easier to read off the highest value, and enables determination of the yield properties of the material during a certain period of time.

- A practical carry-case protects the device against damage and dust.
- The Zwick 7206 test stand with loading weight (option) is suitable for analogue Shore hardness testers (Zwick 3114...17). The test stand guarantees exact, right-angled positioning of the hardness tester with respect to the specimen surface and thus results in a considerably lower scatter of test data for the hardness tests. Test stands are recommended for use in laboratories as the repeatability of the test method is considerably increased by elimination of operator influence. Interchangeable loading weights, that are trimmed to 10 N, 12.5 N, (Shore A) and (optional) 50 N (Shore D) test loads, ensure a uniform, constant pressure.
- The Zwick 7507 control device (option) serves to monitor the spring characteristics of hardness testers to Shore A and D (Zwick 3114...17) as required by test standards.
The spring characteristics and friction values of the Shore A hardness tester can be checked in steps of 10 Shore hardness units. Supplementary weights are available for monitoring Shore D hardness testers. Furthermore, a control ring (H04.7507.081) can be installed that enables the indenter travel at 40 Shore hardness units to be checked.

Product Information

Zwick 3110...17 Analogue Shore hardness testers

	Value	Unit
Scale value	1	Shore hardness unit
Accuracy limit	< ± 1	Shore hardness unit
Contact area, dia.	18	mm
Dimensions (height x width x depth)	80 x 65 x 30	mm
Weight with carry case (Zwick 3114...17/3110...13)	210/230	g

Display of the individual test devices

Device	Indentor	Contact force	Spring force	Range of application	Order item
Zwick 3114/5 (Shore A)	Truncated cone Opening angle 35°	12.5 N	8.065 N	Soft rubber, elastomers, Natural rubber, PVC soft	3114.100 3115.100⁽¹⁾
Zwick 3116/7 (Shore D)	Cone Opening angle 30°	50 N	44.5 N	Hard rubber, acrylic glass, polystyrene, rigid thermo-plasts	3116.100 3117.100⁽¹⁾
Zwick 3112 (Shore B)	Cone Opening angle 30°	1 kg	8.065 N	Elastomers harder than Shore A	H04.3112.000 H04.3112.S00⁽¹⁾
Zwick 3113 (Shore C)	Truncated cone Opening angle 35°	5 kg	44.5 N	Middle hard elastomers and rubber materials	H04.3113.000 H04.3113.S00⁽¹⁾
Zwick 3110 (Shore 0)	Ball dia. 3/32 inch	1 kg	8.065 N	Soft elastomers and textile fabrics	H04.3110.000 H04.3110.S00⁽¹⁾
Zwick 3111 (Shore 00)	Ball dia. 3/32 inch	0.4 kg	1.10853 N	Foam, sponge and cellular rubber	H04.3111.001

⁽¹⁾ ... device with drag-pointer

Accessories

Description	Order item
Zwick 7206 test stand with loading weight for Shore A, Test table dia. 90 mm, throat 70 mm, specimen thickness max. 120 mm, contact force 10 N/12.5 N, dimensions (H x W x D) 410 x 190 x 200 mm, weight net approx. 5.2 kg, gross approx. 7.9 kg	7206.100
Supplementary weight for Shore D, applied load 50 N in total, nett weight approx. 3.7 kg	7206.110
Control device Zwick 7507 with slide weights for Shore A, dimensions (H x W x D) 265 x 360 x 200 mm, weight net approx. 3.2 kg, gross approx. 5.5 kg	H04.7507.002
Supplementary weight for Shore D, net weight approx. 2.2 kg	H04.7507.010
Control ring for Shore hardness testers (indentor travel at 40 Shore)	H04.7507.081