

Hardness Testers

DIGI PLUS-LINE® BARCOL Impressor, Hardness Tester

- portable device, one hand use, for fast and location independent hardness testing
- with Bluetooth data output and with software
- Applications:
It is mainly used in aluminium processing industry, testing pure aluminium, soft aluminium, thick aluminium alloy, aluminium strip, aluminium rod, aluminium castings, aluminium forgings and aluminium alloy products. Also, it can be used for glass steel industry.
The device is suitable for testing large and extra thick workpieces.

- rugged ABS plastic housing, with key pad, with backlight
- LCD display with clear reading, digit height 9 mm
- LED signals for the hardness scales HW, HB HV, HRB, HRE, HRF, HRH
- with function of calculation the average value, can calculate the average value of 29 sets of data at most
- with the max. hold function, recording the max. hardness value during measurements
- with good, convenient calibration and high accuracy detection
- wide test range, can test from very soft pure aluminium to a particularly hard aluminium alloy, effective test range equivalent to the Brinell Hardness 25 ~ 150 HB
- ON/OFF-button, autom. power off, average, max value, menu function
- operation temperature -0°C ~ +50°C, rel. humidity 20 - 80%RH
- incl. 2x 1.5V battery (type AAA, art.-no. 609283)
- incl. 2 test blocks, 2 pins, pin length calibration block, screw driver, spanner, installation software for data transmitting, carrying case and operation manual

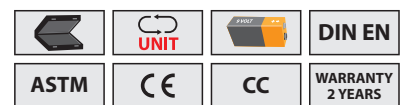


ART NO	HBa	HBa	Hba	Hba	Hba	Hba	mm	KG
650270	0 - 100	0.1	81 - 88 ± 1	42 - 48 ± 2	81 - 88 ± 1.5	42 - 48 ± 2.5	170 x 60 x 70	0.450

DIGI PLUS-LINE® Universal Digital Rebound Hardness Tester

- with integrated impact device type „D“, portable device without cable connection
- measurement is based on the principle of Leeb

- hand-held device, rugged, polyamide housing material, with self-calibration function
- LCD display with clear reading and backlight, digit height 9 mm
- autom. power off, memory with 99 data
- suitable for testing hardness of almost all Ferrous (Fe) and Non-Ferrous (NFe) materials
- direct display of hardness scales: HL, HRC, HRB, HB, HV and HS
- statistics function: average / min. / max. / value
- provides testing at any angle, even upside down
- min. workpiece weight 2~5 kg on a solid ground, at 0.05~2 kg with couplant paste
- for indentation depth see techn. data of the impact devices on page 309
- min. radius workpiece (concave/convex) Rmin. = 50 mm, with support ring Rmin. = 10 mm
- min. surface roughness of workpiece 1.6 µm (Ra)
- storage temperature -20°C ~ 70°C, operation temperature -10°C ~ 45°C
- incl. cleaning brush, test block with HLD value and with calibration certificate
- incl. 1x 9 V battery (type 6LR61, art.-no.: 609281), carrying case and operation manual



ART NO	HL	HRC	mm	KG	CC
651609	200-960 HL / 19-68 HRC 13-101.7 HRB / 20-655 HB 80-940 HV / 32-99.5 HS	± 0.6 %	100 x 60 x 33	0.150	inclusive

★★★★★ DIGI PLUS-LINE® Universal Digital Rebound Hardness Tester

- portable device for quick and location-independent hardness tests, based on the Leeb principle
- with external impact device type „D“ (standard)
- with USB data output and Dataview software

- rugged, anodized aluminium housing, with key pad
- multifunction display with clear reading, with switchable backlight
- display functions: hardness scales, hardness value, date, testing time, battery indicator, impact direction, average value, recognition of impact device, memory capacity for 600 groups
- suitable for most metallic materials, measuring in any position, vertical, horizontal and upside down
- ON/OFF switch or autom. power off
- incl. Adjusting limit function, autom. alarm function when exceeding the limit value
- min. workpiece weight 2 kg on solid support
- direct display of hardness scale in HL, with autom. conversion in HRB, HRC, HV, HB, HS and tensile strength (U.T.S.)
- min. workpiece radius (concave/convex) $R_{min} = 30 \text{ mm}$ ($< 30 \text{ mm}$ with support ring, incl. in the set)
- operation temperature $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$, rel. humidity 20 - 90%RH
- incl. 2x 1.5V Battery (type AA, art.-no. 609282)
- incl. test block type „D“ (2 parts) and impact device type „D“, more impact devices are available as accessories
- with brush, USB data cable, screw driver, data view software, carrying case, workshop calibration certificate and operation manual

art.-no. 651608 with additional functions:

- anti-slip soft shell housing
- integrated thermal printer for direct printing of all values and histogram
- with rechargeable Li-ion battery and charger 100-240 V/AC



ART No 651617



ART No 651608



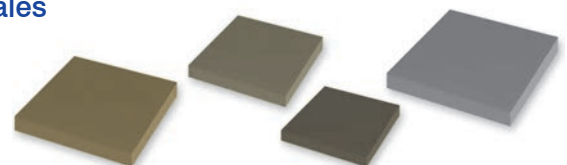
ART No	at least workpiece thickness mm	max. hardness of workpiece HLD	max. HLD	mm	KG
651617	impact device type D/DC/DLD/D+15 = 5 mm impact device type C = 1 mm impact device type G = 10 mm	960	± 6	130 x 70 x 30	0.300
651608	impact device type D/DC/DLD/D+15 = 5 mm impact device type C = 1 mm impact device type G = 10 mm	960	± 6	230 x 86 x 46	0.450

★★★★★ SILVER-LINE® Hardness Reference Blocks for all Testing Scales

- with DAkkS calibration certificate (MPA Hannover)
- manufactured acc. to the patented HIP-procedure (hot isostatic pressing)
- polished surface, means even for micro testing method

Options

- more blocks for other testing methods available, all blocks in other dimensions available
- wooden boxes available by extra charge, on request



ART No	testing method	range of hardness	useable test field mm ²	mm	KG	CC
650950	HRA	40 - 83.4 HRA	3600	60 x 60 x 16	0.240	inclusive
650951	HRB	60 - 100 HRB	3600	60 x 60 x 16	0.240	inclusive
650952	HRC	20 - 65 HRC	3600	60 x 60 x 16	0.240	inclusive
650953	HV 0.01 - HV 30	140 - 840 HV	3600	60 x 60 x 16	0.240	inclusive

1
2
3
4
5
6
7
8
9e
10
11



explore
OXOMI® now!

Your advantage on OXOMI:

- ✓ all informations at a glance
- ✓ complete catalogue-assortment searchable
- ✓ compare different offers
- ✓ reliable performance and personal contact
- ✓ flexible and fast

Send us a partnership request!



OXOMI.com

1
2
3
4
5
6
7
8
9e
10
11



Shore Hardness Tester „Durometer“ • analog model

- portable device for measuring the hardness for elastomers and plastics
- Shore „A“: rubber, elastomers, neoprene rubber, silicon, vinyl, soft plastics, leather, felt and similar materials
- Shore „D“: plastic, formica, plexiglass, epoxies and similar materials
- rugged metal housing, compact design
- with drag pointer, with needle protection
- 2 different models, for Shore „A“ and Shore „D“ measurements
- measuring needle made of special steel, needle guidance is linear mounted
- incl. test block, with operation manual



with needle protection

ART No 650720



ART No	shore type	max. spring load N	mm	mm	needle ° / mm	meas.-face mm	indenter type	mm	KG
650720	A	8.064	0 - 100 HA	1.0	35° / ø 0.9	ø 18	blunt taper	100 x 64 x 35	0.180
650721	D	44.54	0 - 100 HD	1.0	30° / R 0.1	ø 18	sharp point	100 x 64 x 35	0.180

Test Stand for Shore Hardness Testers

Suitable for series art. no. 650720 - 650721 and 650220 - 650222

- rugged construction
- chromed and polished column
- with hand lever
- incl. additional weight (1 kg)

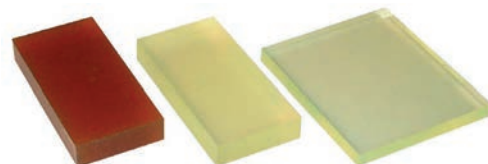


example with hardness tester



ART No	ground plate mm	column mm	working height mm	KG additional weight	KG stand
659210	180 x 180 x 15	ø 25 x 285	100	1.000	0.323

Test Blocks for Shore Hardness Testers



ART No	article	shore type	shore value	mm	KG
650919	set of test blocks, 3-pcs.	A + D	50 / 80 / 40	-	0.150
650920	test block	A	50	80 x 40 x 12	0.050
650921	test block	A	80	80 x 40 x 12	0.050
650922	test block	D	40	80 x 70 x 7	0.050

1
2
3
4
5
6
7
8
9e
10
11

Accessories for Hardness Testers

Impact Devices for Special Applications

- suitable for our hardness testers



reference
 impact body „G“ suitable for impact device „G“
 impact body „D“ for all other impact devices



ART No	suitable for version	article description	application
659892	type "D"	impact device "D"	standard impact device, for the majority of hardness testing assignments
659893	type "C"	impact device "C"	device with reduced energy (~1/4 of that for type D), thin walled or impact sensitive components
659894	type "DC"	impact device "DC"	extremely short impact device
659895	type "D+15"	impact device "D+15"	impact device with particularly slim front section and with measuring coil moved back
659896	type "DL"	impact device "DL"	tube front section diameter ø 4.2 mm, length 50 mm
659897	type "G"	impact device "G"	enlarged test tip, increased impact energy (~9 x that of type D), with only minor damage to the surface
659890	type "D"	impact body "D"	for measurements in the extremely high hardness range up to 500 HRC/650 HV. Tool steel with high carbide content inclusions for measurements up to 1200 HV
659891	type "G"	impact body "G"	for measurements in the extremely high hardness range up to 500 HRC/650 HV. Tool steel with high carbide content inclusions for measurements up to 1200 HV
659893-2	type "C"	impact body "D"	for surface hardened elements, coatings, thinly coated or impact sensitive parts
659894-2	type "DC"	impact body "D"	for standard measurements in holes, cylinders, inside measurements, etc.
659895-2	type "D+15"	impact body "D"	for general measurements in narrow grooves and on narrow surfaces (e.g. gears)
659896-2	type "DL"	impact body "D"	for measurements in inaccessible places and recesses
651690	all models	support rings with holder, set of 11-pcs.	on curved surfaces with a radius under 30 mm, effective positioning, rings can be screwed on front of the impact device
651698-2	65 1698-1	printer cable	-
651698-3	65 1606	data cable USB to PC and RS232 C	-
651692-1	all models with data output	software for data process	data view/statistics
651699	all models	cable with Lemo connector	replacement cable for impact device
659899	all "D" versions	test block "D", with application of HLD value	for performance tests of hardness testers
659899-2	all "D" versions	test block "D", with application of HLD value	for performance tests of hardness testers
659899-1	all "G" versions	test block "G", with application of HLG value	for performance tests of hardness testers
659913	651607 + 651608	paper roll	-

Impact Devices for Special Applications • Technical Data

Hardness Parameters and Materials versus range for impact devices type „D“ (HLD 200~900)

Material	HLD	HRB	HRA	HRC	HB	HV	HS
steel cast steel	300 - 900	39 - 100	59 - 86	20 - 68	81 - 654	81 - 955	32 - 100
cold work tool steel	300 - 840	-	-	20 - 67	-	80 - 898	-
stainless steel	300 - 800	46 - 101	-	20 - 62	85 - 655	85 - 802	-
grey cast iron	360 - 650	-	-	-	93 - 334	-	-
nodular cast iron	400 - 660	-	-	-	131 - 387	-	-
aluminium alloys	200 - 570	24 - 34	-	-	27 - 164	-	-
brass	200 - 550	13 - 95	-	-	40 - 173	-	-
bronze	300 - 700	-	-	-	60 - 290	-	-
copper	200 - 690	-	-	-	45 - 315	-	-

the ranges are stipulated by the application limits of the relevant static procedure

type of impact device	D / DC / DL	D+15	C	G
impact energy: weight:	11 Nmm 5.5 g / DL = 7.3 g	11 Nmm 7.8 g	3 Nmm 3.0 g	90 Nmm 20 g
test tip hardness: diameter: material:	1600 HV 3 mm	1600 HV 3 mm	1600 HV 3 mm Hartmetall	1600 HV 5 mm
impact body diameter: length: weight:	20 mm 147 / 86 mm 75 / 50 g	20 mm 162 mm 80 g	20 mm 141 mm 75 g	30 mm 254 mm 250 g
max. hardness of sample:	940 HV	940 HV	1000 HV	650 HV
preparation of surface roughness class ISO: max. roughness Rt: average roughness Ra	N7 10 µm 2 µm	N7 10 µm 2 µm	N5 2.5 µm 0.4 µm	N9 30 µm 7 µm
min. weight of sample solid and compact shape: on solid support/ground: with couplant paste:	5.0 kg 2.0 kg 0.1 kg	5.0 kg 2.0 kg 0.1 kg	1.5 kg 0.5 kg 0.02 kg	15 kg 5 kg 0.5 kg
min. thickness of sample coupled with couplant paste: min. thickness of hardened layers:	3.0 mm 0.8 mm	3.0 mm 0.8 mm	1.0 mm 0.2 mm	10.0 mm

indentation of test tip	D / DC / DL	D+15	C	G
at 300 HV diameter: depth:	0.54 mm 24 µm	0.54 mm 24 µm	0.38 mm 12 µm	1.03 mm 53 µm
at 600 HV diameter: depth:	0.45 mm 17 µm	0.45 mm 17 µm	0.32 mm 8 µm	0.90 mm 41 µm
at 800 HV diameter: depth:	0.35 mm 10 µm	0.35 mm 10 µm	0.30 mm 7 µm	- -

