

Portable Non-Destructive Metal Testing Instruments



New
Equotip 550
UCI



Hardness Testing Solutions

equotip[®]



Equotip Piccolo / Bambino 2

Equotip 550 Leeb

Equotip 550 Portable Rockwell

Equotip 550 UCI

Test method	Principle		Standards		Measuring time		Native scale		Available scales		Combination with methods		
	<p>Leeb (dynamic): Measurement of an impact body's velocity propelled by spring force against the surface of the test piece</p>		ASTM A956, ISO EN 16859, DIN 50156		Less than 1 sec		HL		HB, HV, HRB, HRC, HS, MPA ¹		Portable Rockwell, UCI		
	<p>Portable Rockwell 50 N (static): Measurement of the indentation depth of a diamond forced into the test piece</p>		DIN 50157		Up to 5 sec		µm, µinch		HB, HV, HRA, HRB, HRC, HR15N, HR15T, HMMRC, MPA		Leeb, UCI		
	<p>UCI (Ultrasonic Contact Impedance): Measurement of the frequency shift, which correlates to the indentation depth of the Vickers indenter</p>		ASTM A1038, DIN 50159		~1 sec		HV (UCI)		HB, HV, HRA, HRB, HRC, HR15N, HR15T, MPA		Leeb, Portable Rockwell		
	Applications	Probes	D	DL	D	DC	DL	S	E	G	C	50 N	Adjustable HV1 – HV5
		Thin objects										•	
Light objects											•	•	
Objects with limited accessibility			•		•	•						•	
Polished objects											•	•	
Small round objects ²⁾		•		•	•		•	•			•	•	
Mid-size objects		•	•	•	•	•	•	•			•	•	
Very hard objects							•	•			•	•	
Large objects		•	•	•	•	•	•	•	•	•	•	•	
Large cast objects										•			
Display unit	Display	Monochrome 4-digit		7" color Touchscreen Unit (800x480 pixels)									
	Memory	32 KB (~ 2'000 readings) ¹⁾		Internal 8 GB flash memory (> 1'000'000 measurements)									
	Data connection	USB, free software		USB, Ethernet, free software									
	Power supply	Built-in battery (> 16 h lifetime)		Exchangeable battery (> 8 h lifetime)									
User interface	Platform	Integrated unit		Modular concept, IP 54									
	Multiple languages	Language independent		11 Languages and timezone supported									
	Personalization			User profiles, user views									
	User guidance			On-screen hints, wizards, electronic manual									
Accessories	Reporting	PC software ¹⁾		PC software, direct reporting, custom reports									
	Measurement accessories	14 Support rings		16 Support rings		3 Special feet, clamp with 3 special supports		1 Special foot					
Verification tools	7 Test blocks		16 Test blocks		3 Test blocks		3 Test blocks						

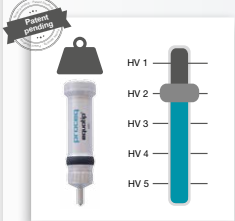
¹⁾ Equotip Piccolo 2 only ²⁾ Equotip Leeb Impact Devices in combination with correct support rings

Equotip® – The Industry Standard since 1975

Equotip is the most established and trusted brand for portable hardness testing using dynamic Leeb, Portable Rockwell and UCI hardness testing principles. Proceq instruments are developed, designed and manufactured in Switzerland.

The **Equotip 550** is the most versatile all-in-one solution for portable hardness testing using dynamic Leeb, Portable Rockwell and UCI. The new generation Equotip Touchscreen Unit offers an intuitive interface for increased efficiency and high user experience.

Proceq offers a wide variety of impact devices to serve most hardness testing requirements.



The **brand-new Equotip 550 UCI** comes with a world premiere: the adjustable test load (patent pending). With this unique feature a wide range of applications between HV1 and HV5 can be covered eliminating the need to purchase different UCI probes.



Guiding Wizards



Combined Methods



Custom Reports

The **Equotip Piccolo / Bambino 2** integrate the display and impact device in one unit following the Leeb hardness principle. Automatic recognition of the impact direction and self diagnostics make the metal hardness test incredibly easy.



Test Block Portfolio







Extensive range of precise hardness test blocks available for each with different hardness levels for regular verification.

Accessories

Unique measuring clamp, support feet and rings are available allowing tests to be carried out on various test sample geometries.



Equotip® Leeb Impact Devices

									
			D/DC	DL	S	E	G	C	
Impact energy			11 Nmm	11 Nmm	11 Nmm	11 Nmm	90 Nmm	3 Nmm	
Indenter			Tungsten carbide 3 mm	Tungsten carbide 2.8 mm	Ceramics 3 mm	Polycrystalline diamond 3 mm	Tungsten carbide 5 mm	Tungsten carbide 3 mm	
Scope			Most commonly used probe. For the majority of applications.	Narrow indenter (probe) tip for measurement on hard reach areas or spaces with limited access.	For measurements in extreme hardness ranges. Tool steels with a high carbide content.	For measurements in extreme hardness ranges. Tool steels with high carbide content.	Large and heavy components, e.g. casts and forged parts.	For surface hardened components, coatings, thin or impact-sensitive parts.	
Test blocks			<500 HLD ~600 HLD ~775 HLD	<710 HLDL ~780 HLDL ~890 HLDL	<815 HLS ~875 HLS	~740 HLE ~810 HLE	~450 HLG ~570 HLG	~565 HLC ~665 HLC ~835 HLC	
Measuring Range	Steel and cast steel	Vickers Brinell Rockwell Shore Rm N/mm ²	HV HB HRB HRC HRA HS σ1 σ2 σ3	81-955 81-654 38-100 20-68 30-99 275-2194 616-1480 449-847	80-950 81-646 37-100 21-68 31-97 275-2297 614-1485 449-849	101-964 101-640 22-70 61-88 28-104 340-2194 615-1480 450-846	84-1211 83-686 20-72 61-88 29-103 283-2195 616-1479 448-849	90-646 48-100 305-2194 618-1478 450-847	81-1012 81-694 20-70 30-102 275-2194 615-1479 450-846
	Cold work tool steel	Vickers Rockwell	HV HRC	80-900 21-67	80-905 21-67	104-924 22-68	82-1009 23-70	*	98-942 20-67
	Stainless steel	Vickers Brinell Rockwell	HV HB HRB HRC	85-802 85-655 46-102 20-62	*	119-934 105-656 70-104 21-64	88-668 87-661 49-102 20-64	*	*
	Cast iron lamellar graphite GG	Brinell Vickers Rockwell	HB HV HRC	90-664 90-698 21-59	*	*	*	92-326	*
	Cast iron, nodular graphite GGG	Brinell Vickers Rockwell	HB HV HRC	95-686 96-724 21-60	*	*	*	127-364	*
	Cast aluminium alloys	Brinell Vickers Rockwell	HB HV HRB	19-164 22-193 24-85	20-187 21-191	20-184 22-196	23-176 22-198	19-168 24-86	21-167 23-85
	Copper/zinc alloys (brass)	Brinell Rockwell	HB HRB	40-173 14-95	*	*	*	*	*
	CuAl/CuSn-alloys (bronze)	Brinell	HB	60-290	*	*	*	*	*
	Wrought copper alloys, low alloyed	Brinell	HB	45-315	*	*	*	*	*
	Test Piece Requirements	Surface preparation	Roughness grade class ISO 1302		N7				N9
		Max. roughness depth R _t (µm / µinch)		10 / 400				30 / 1200	2.5 / 100
		Average roughness R _a (µm / µinch)		2 / 80				7 / 275	0.4 / 16
Minimum sample mass		Of compact shape (kg / lbs)		5 / 11				15 / 33	1.5 / 3.3
		On solid support (kg / lbs)		2 / 4.5				5 / 11	0.5 / 1.1
Minimum sample thickness		Coupled on plate (kg / lbs)		0.05 / 0.2				0.5 / 1.1	0.02 / 0.045
		Uncoupled (mm / inch)		25 / 0.98				70 / 2.73	15 / 0.59
		Coupled (mm / inch)		3 / 0.12				10 / 0.4	1 / 0.04
Indentation size on test surface		Surface layer thickness (mm / inch)		0.8 / 0.03					0.2 / 0.008
		With 300 HV, 30 HRC	Diameter (mm / inch)	0.54 / 0.021				1.03 / 0.04	0.38 / 0.015
	Depth (µm / µinch)		24 / 960				53 / 2120	12 / 480	
	With 600 HV, 55 HRC	Diameter (mm / inch)	0.45 / 0.017				0.9 / 0.035	0.32 / 0.012	
Depth (µm / µinch)		17 / 680				41 / 1640	8 / 320		
With 800 HV, 63 HRC	Diameter (mm / inch)	0.35 / 0.013					0.30 / 0.011		
	Depth (µm / µinch)	10 / 400					7 / 280		

*Custom conversion curve / correlation

Equotip® 550 Touchscreen Unit Built for Demanding Environments

Touchscreen Features

For simplified and improved usability on high resolution display



Personalized Screens

Arrange the view according to your needs

Elaborated User Interface

Designed by industry experts for smooth operation



Special housing optimized for robustness

Ergonomically designed and shock-absorbing rubberised housing. Protection against dust and water splashes (IP 54).



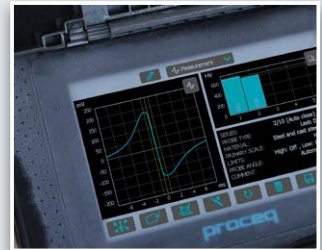
Connectors and circuits protected against dust and voltage spikes

Specifically designed protective rubber caps for all connectors, meeting the directives for low voltage safety and electromagnetic compatibility (EMC).



Scratch-resistant solid touchscreen

Durable and scratch-resistant touchscreen thanks to Gorilla® Glass Technology. Less reflection on screen thanks to optional antiglare foil.

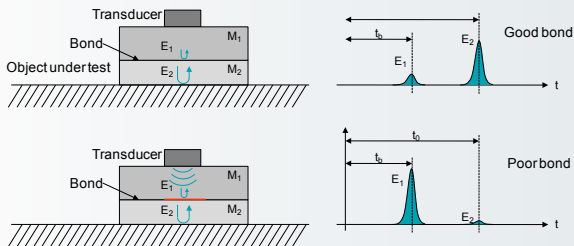


Functional in wide temperature range

Operates in temperatures from -10°C to +50°C (14°F to 122°F) and in humidity up to 95%.

Ultrasonic Thickness Gauge with A-Scan Capabilities

The **Zonotip** measures the thickness of a wide range of materials, including ferrous and non-ferrous metals, polymers, composites, glass, ceramics, epoxies and more. Its measuring range on steel is from 0.7 mm to 300 mm.




The **Zonotip+** also includes a smaller single-element transducer which is suitable for measuring in areas where access is limited. The A-Scan mode allows the inspector to characterize the output signals, minimizing false readings from non-relevant echoes.



Ordering Information

356 10 001	Equotip 550
356 10 002	Equotip 550 Leeb D
356 10 003	Equotip 550 Leeb G
356 10 004	Equotip 550 Portable Rockwell
356 10 005	Equotip 550 UCI
356 00 600	Equotip Portable Rockwell Probe 50N*
352 10 001	Equotip Piccolo 2 Hardness Tester, unit D
352 20 001	Equotip Bambino 2 Hardness Tester, unit D
790 10 000	Zonotip
790 20 000	Zonotip+

*  **Probe can be connected directly to PC (software included)**

Service and Warranty Information

Proceq is committed to providing complete support for each testing instrument by means of our global service and support facilities. Furthermore, each instrument is backed by the standard Proceq 2-year warranty and extended warranty options for electronic portion.

Standard warranty

- Electronic portion of the instrument: 24 months
- Mechanical portion of the instrument: 6 months

Extended warranty

When acquiring a new instrument, max. 3 additional warranty years can be purchased for the electronic portion of the instrument. The additional warranty must be requested at time of purchase or within 90 days of purchase.

Subject to change without notice. All information contained in this documentation is presented in good faith and believed to be correct. Proceq SA makes no warranties and excludes all liability as to the completeness and/or accuracy of the information. For the use and application of any product manufactured and/or sold by Proceq SA explicit reference is made to the particular applicable operating instructions.

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