

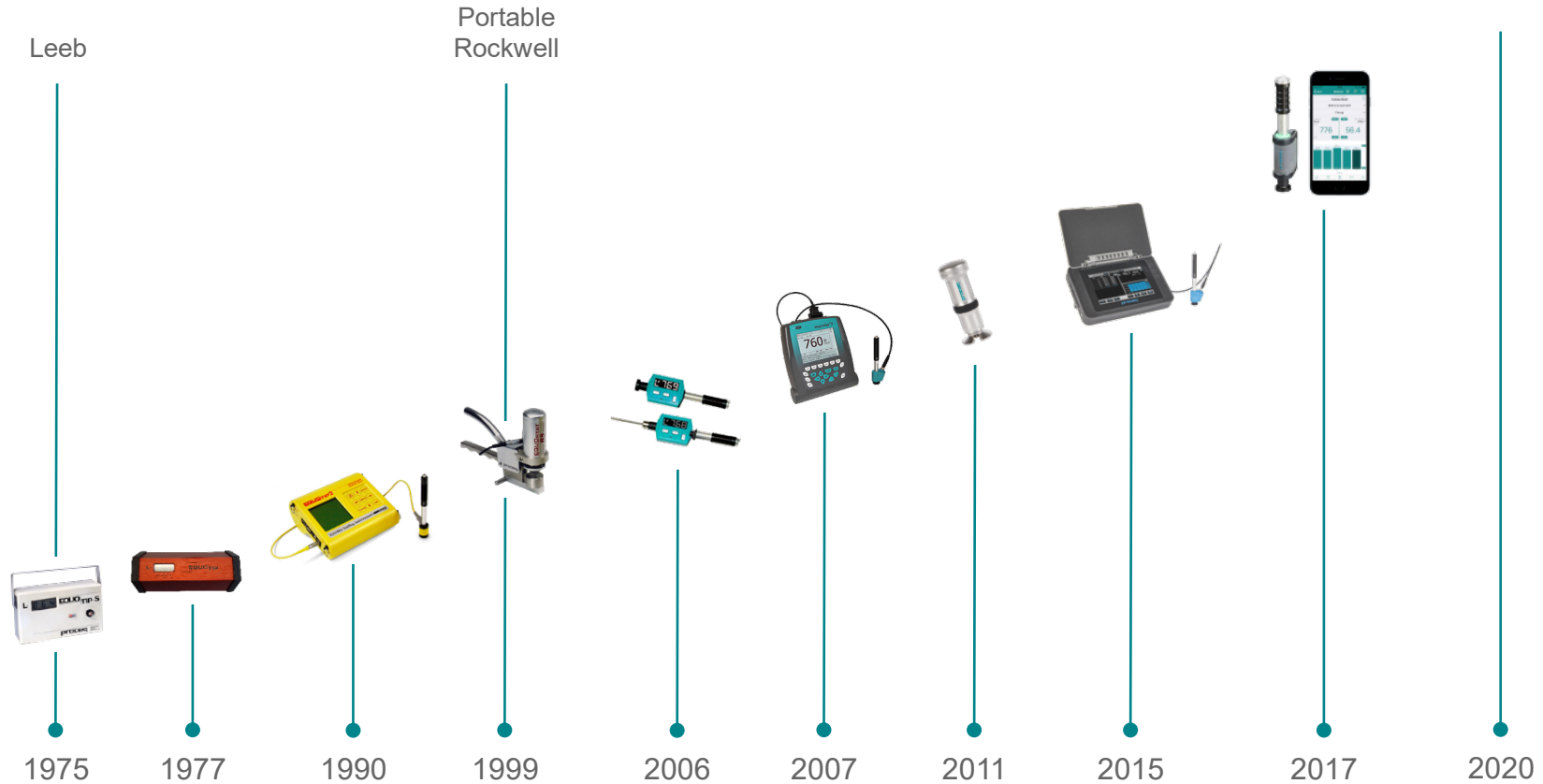
proceq

🇨🇭 Solutions since 1954



Equotip®
Complete Portable Hardness Solution

Revolutionizing Hardness Testing



All started with the invention of Leeb



- Invention of the first rebound metal hardness tester by M. Brandestini (left) and D. Leeb (right)
- Success story across different industries
- Advantages are highly appreciated
- Portable Hardness Testing portfolio was continuously extended
- With over 40 years of experience and offering the most complete portable hardness testing portfolio we are very well positioned in the market



Hardness Testing

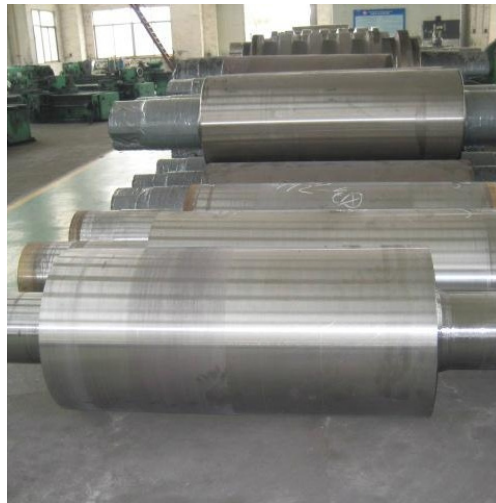


Incoming inspection



Metalworking industry

Process control



Heat-treatment and processing shops

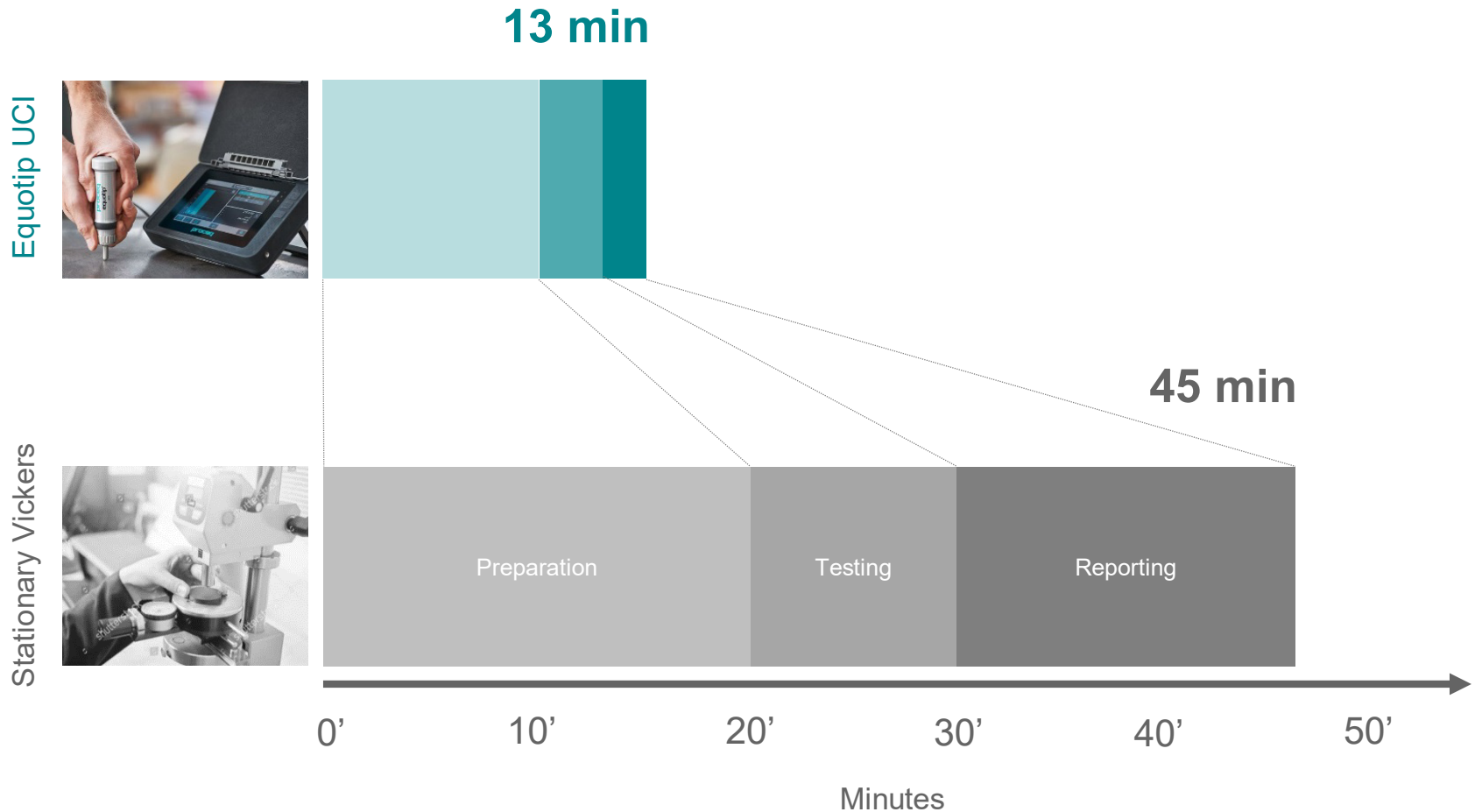
On-site inspection



Inspection companies

Spotlight: Portable vs. Stationary

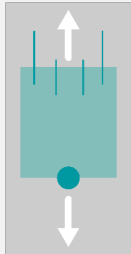
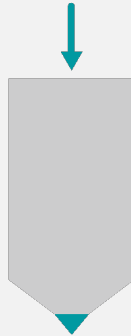
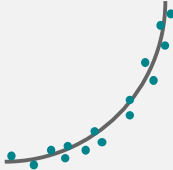
10 (Portable) resp. 5 (Stationary) hardness measurements on a steel bar



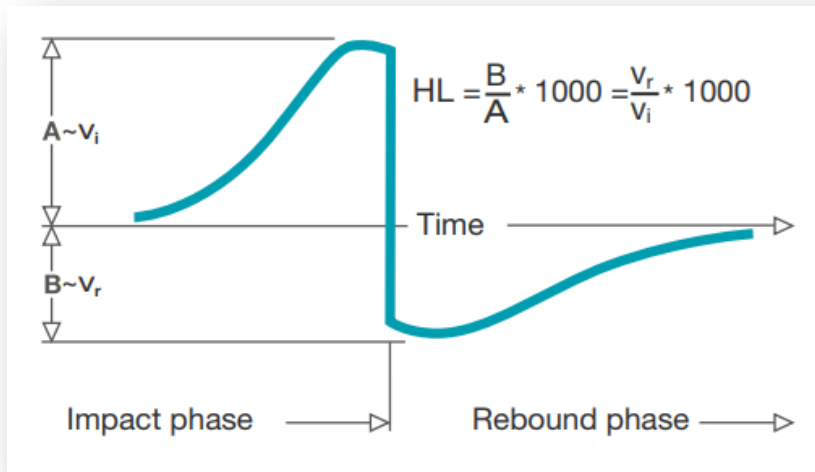
Detailed effort estimation



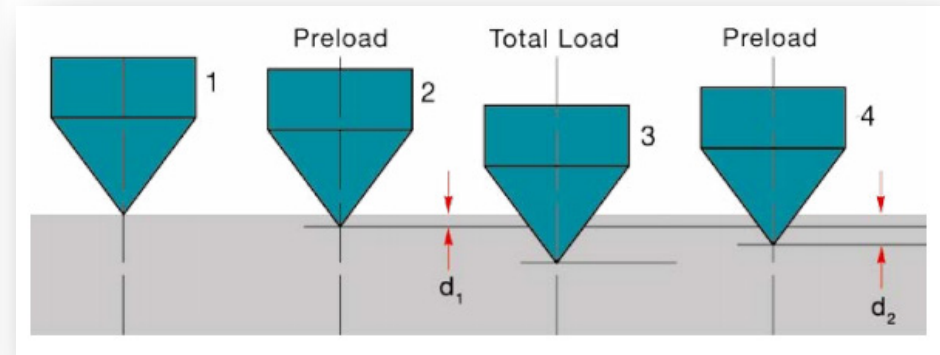
	Equotip UCI	Stationary Vickers
Preparation	- Grinding - Cleaning 10	- Cut piece - Grinding - Cleaning - Bring to Lab 20
Testing	- Perform 10 readings with UCI 2	- Make 5 indentations - Evaluate diagonals - Calculate values 10
Reporting	- Connect USB stick - Select series in explorer - Export PDF report 1	- Note down values - Create report - Add additional information - Create PDF 15

	Leeb	UCI	Rockwell
Measure			
	HL (Leeb)	HV (Vickers)	HR (Rockwell)
Convert			
Results	HR (Rockwell) HB (Brinell) HV (Vickers) HS (Shore)		

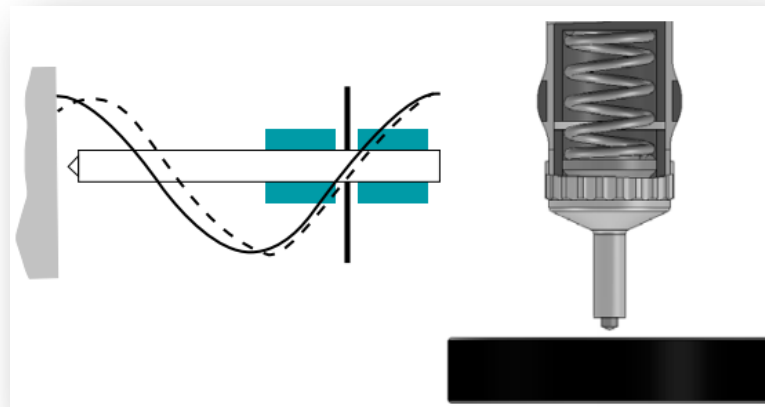
The Methods



Leeb



Portable Rockwell



UCI

Applications

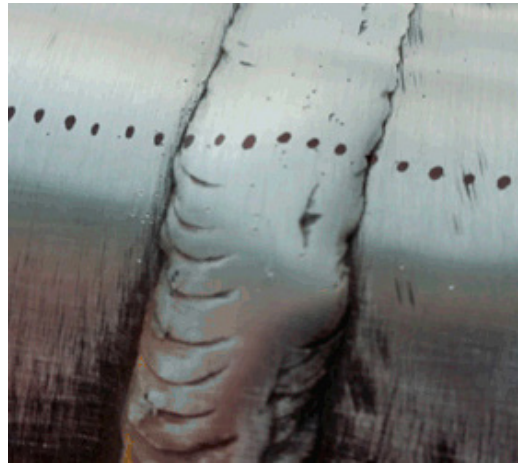


Leeb



Heavy parts

UCI



Welds / HAZ

Rockwell

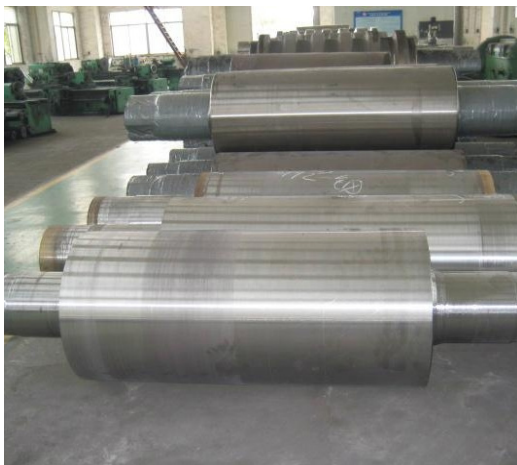


Small parts

More Applications



Leeb



Roll Testing and more

UCI



Confined Spaces

Rockwell



Thin Components

Industry Pain Points



Incomplete offering



Time consuming



Poor consistency

Proceq's Cure



Complete offering



Increased productivity



Swiss quality

Equotip Solutions



New

Equotip Piccolo /
Bambino 2



Equotip Live



Equotip 540



Equotip 550

Leeb Probes

UCI Probe

Rockwell Probe

Equotip Probes



Leeb: Ultra-versatility



D Standard surfaces

DC DL Inaccessible areas

Leeb: Ultra-versatility



G Cast and forgings



C Smaller parts



S Ultra durable



E Very hard surfaces

Leeb: Accessories



- ✓ 12 support rings
- ✓ on any shape
- ✓ for stable results

UCI: All-in-One Probe



Equotip UCI ONE probe



Unique

Other UCI solutions Many probes



HV1
Turbines



HV5
Welds



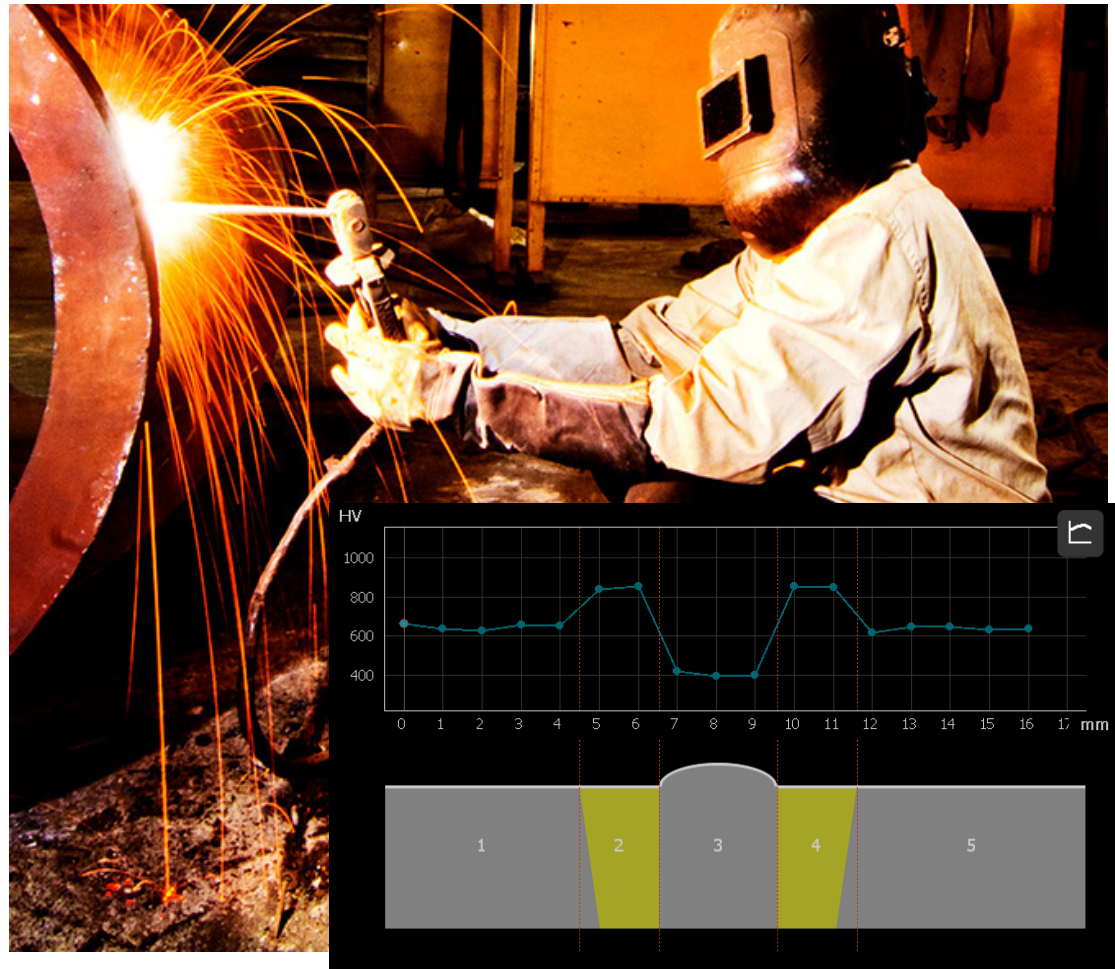
HV10
Forgings

HV1-10
All UCI applications

UCI: Ideal for Oil & Gas



- ✓ Standard compliant
- ✓ Minimal surface preparation
- ✓ HAZ (weld) visualization

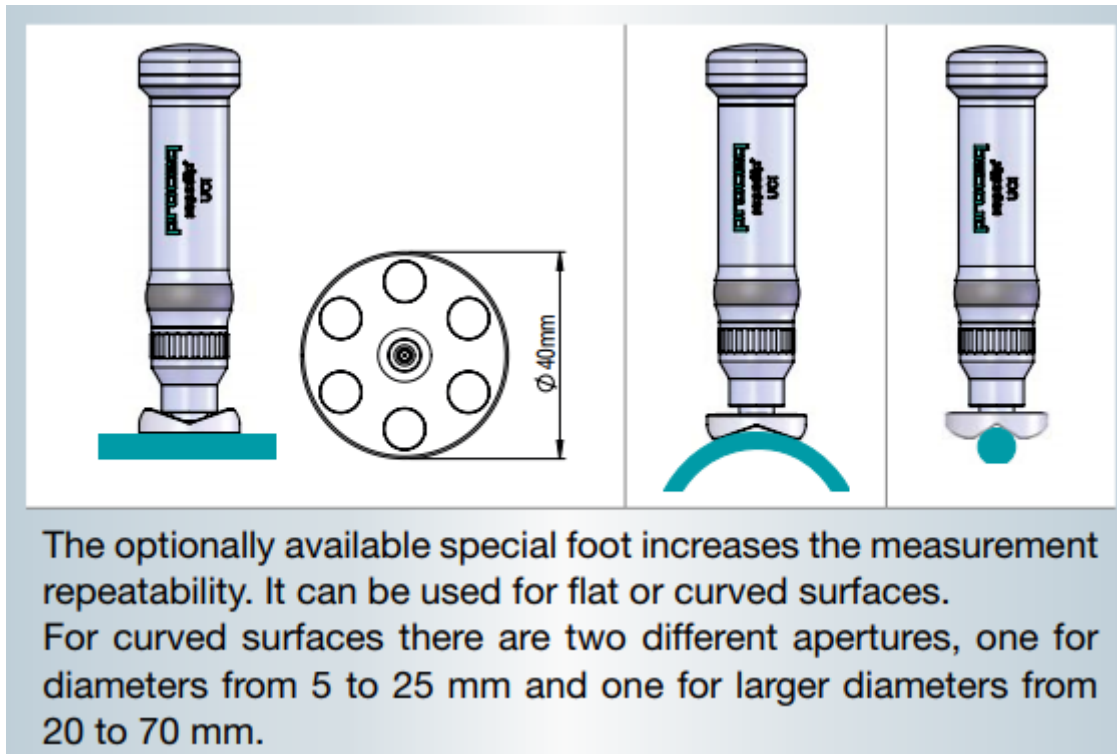


UCI: Smart foot



- ✓ Magnetic for maximum stability
- ✓ Flat surfaces
- ✓ Curved surfaces

UCI: Highly recommended Accessory



- ✓ Stable readings
- ✓ Easier measurements
- ✓ Protection for indenter

Rockwell: Universal



Scratch-sensitive, polished, thin parts

Rockwell: The static tester



- Static means Material independent, no influence from elastic properties of material
- Method is very similar to stationary Rockwell
- Two differences to stationary Rockwell:
 - Reduced test load, as it has to be applied manually
 - Pointed angle, to reach meaningful indentation depths
- Can be verified on regular Rockwell test blocks

Rockwell: Accessories



- ✓ Clamp adapter
- ✓ 3 special feet
- ✓ for any geometry



Equotip Piccolo / Bambino 2

Integrated

proceq

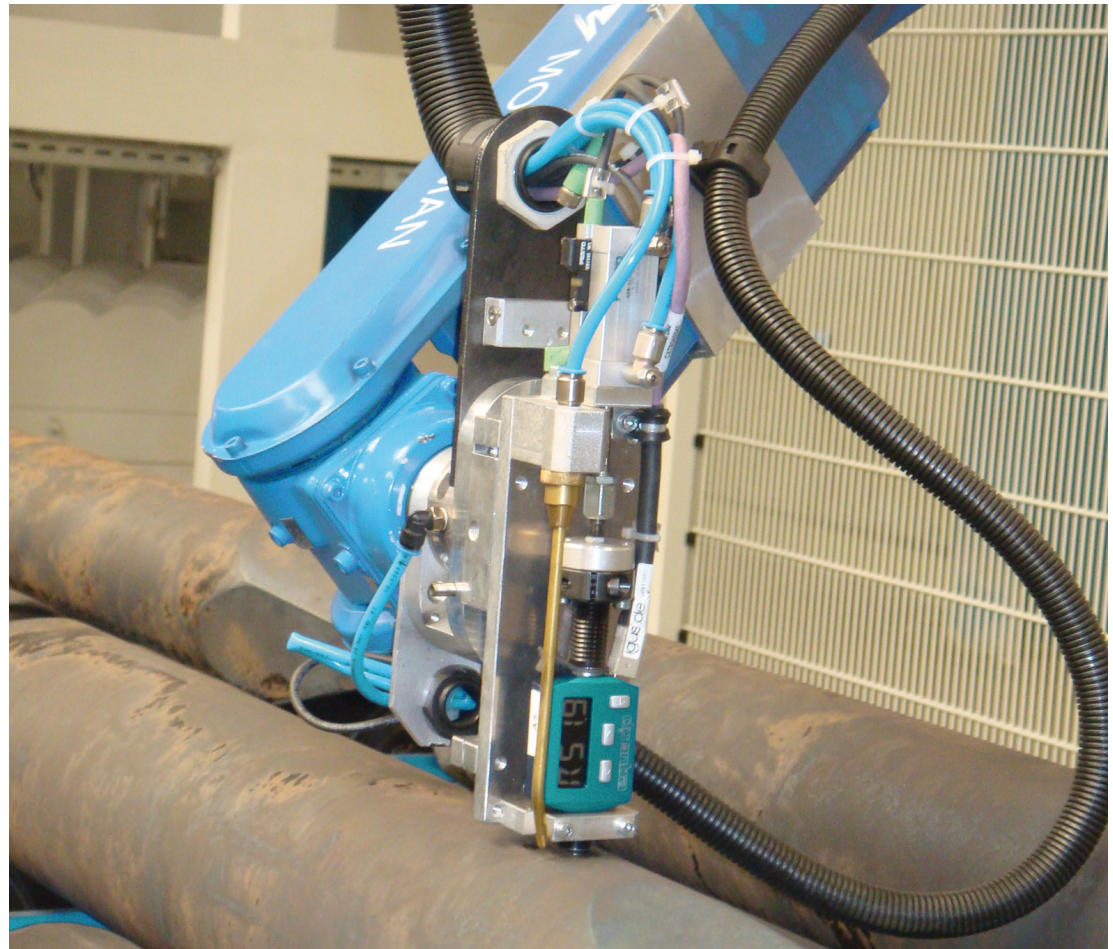
- ✓ Leeb D + Leeb DL
- ✓ Compact
- ✓ Large display



Automation



- ✓ Patented trigger
- ✓ In-line testing
- ✓ Remote control and read-out



Simple but reliable

- Lowest priced Equotip device
- Same mechanical components, same accuracy
- Simple use, fully integrated
- Take out of your pocket and measure
- No start-up, instantly ready

Equotip Live



The image shows a person's hand in a yellow glove holding an Equotip Live hardness tester. The tester is a small, grey, handheld device with a blue logo. It is being used to test the hardness of a rusty metal surface. A smartphone is placed next to the tester, displaying the Equotip Live app interface. The app shows various measurement data, including a large green bar chart, a table of values, and a 'Press' button. The background is a rusty metal structure.

Min	Max	Avg	Std	Min	Max
782	783	782	1	649	645

Wireless

proceq



- ✓ Leeb D + UCI
- ✓ Connected
- ✓ Intuitive

High Connectivity



live.proceq.com

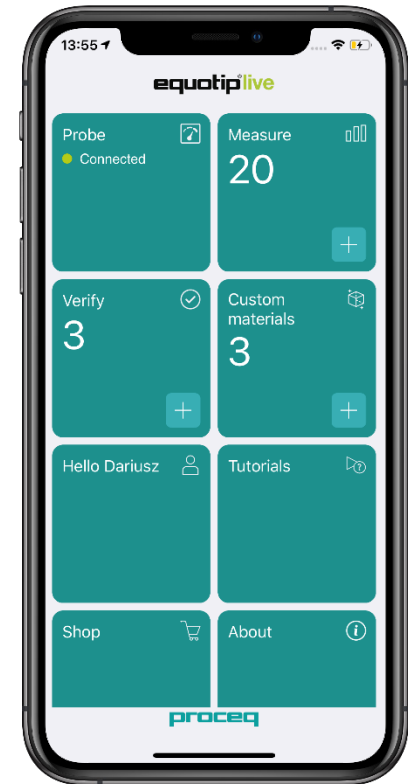


- Seamless synchronization between different devices
- Real-time access to measurement data worldwide
- Secure online storage
- Powerful reporting features from all devices

One App for both products



- Equotip Live App works with Live Leeb D and Live UCI HV1-HV10 probes
- Available in Apple's AppStore free of charge
- Requires iOS 8.0 or newer
- Works with iPhone, iPad or iPod Touch



Best-in-class Design

proceq



Leeb D

Ergonomic design

Multi-color status LEDs



Standard batteries



UCI HV1-10

Wireless Probes



Leeb D

One button operation

Replaceable Bluetooth-Module

USB connection for charging
and updates

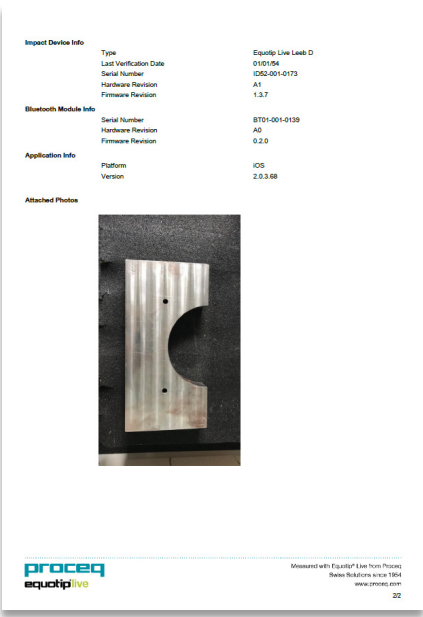
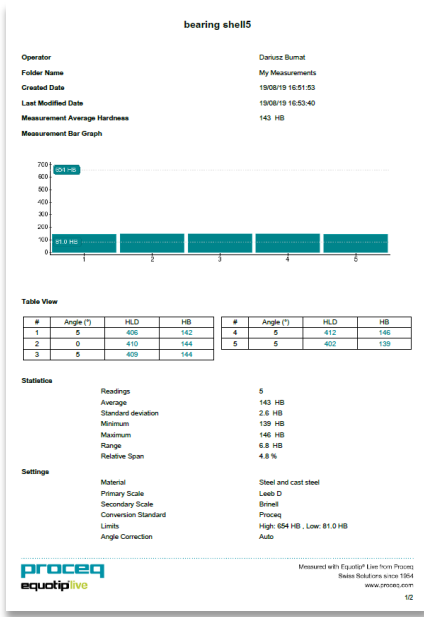
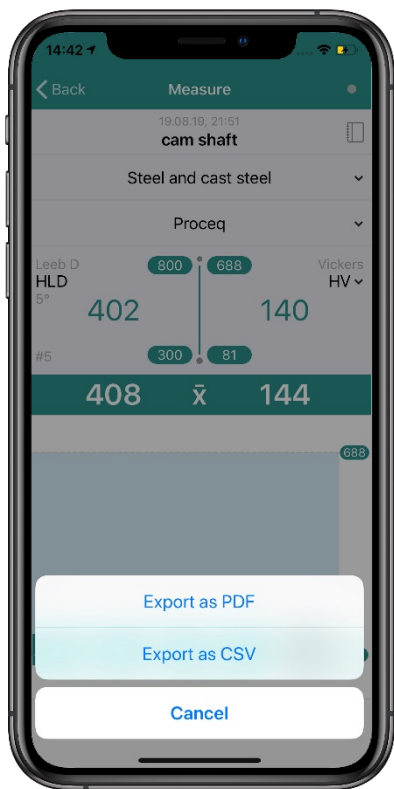


UCI HV1-10

Intuitive



Hassle-Free Reporting



Spotlight: Equotip facilitates digital factory

Company: **XXXXXXXXXX** Project: **QC/1-32.BC**
 Quality Control Form
 Client: **XXXXXXXXXX** Report No.: **59-5018 BC**
 Contractor: **XXXXXXXXXX** Date: **19/08/19**
 Ref. Standard: **XXXXXXXXXX** Page 1 of 1
 Doc. No.: **7019-08-17-6.58**

Hardness test report

Location / Area: **QC 17** ISO No.: **XXXXXX** Material: **steel**

Condition of the Part: **New, Boreh 3. / Leeb D probe 1**

Surface Preparation: **Grinding** **Machined** Lapping Filing Other

Location	Hardness	HL D
SPOT 1	400 405 411 416 411	132 HB
SPOT 2	405 405 411 416 411	145 HB
SPOT 3	400 405 411 416 411	143 HB

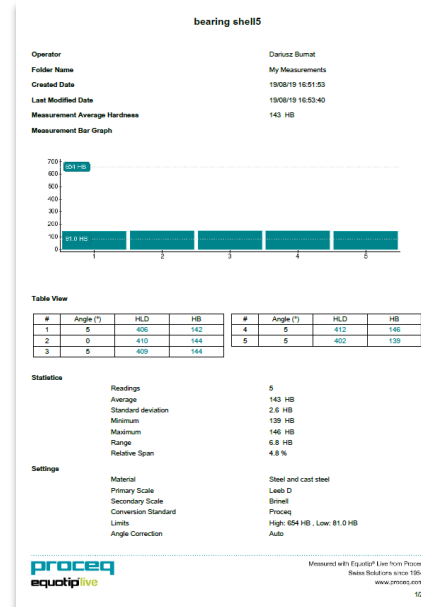
SPOT 1 SPOT 2 SPOT 3

Comments: **Recalibrate for Brinell (HB)**

Name:	Quality Control	Name:	TN Inspection	Name:	Client
Sign:	[Signature]	Sign:	[Signature]	Sign:	[Signature]
Date:	19/08/19	Date:	19/08/19	Date:	19/08/19

HL D₁ = 405 (132 HB)
 HL D₂ = 410 (145 HB)
 HL D₃ = 408 (143 HB)

"Outdated" method
20 min



Digital method
2 min

Impact Device Info

Type	Equotip Live Leeb D
Last Verification Date	01/01/19
Serial Number	000-001-0173
Hardware Revision	A1
Firmware Revision	1.3.7

Bluetooth Module Info

Serial Number	BT01-001-0139
Hardware Revision	A0
Firmware Revision	0.2.0

Application Info

Platform	iOS
Version	2.0.3.68

Attached Photos

proceq equotip live

Measured with Equotip® Live from Proceq
 Sales Solutions since 1984
 www.proceq.com

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Customizable Hardness Conversions



“Extremally easy to adapt for special materials (e.g. alloys)”

Dariusz Burnat, Product Manager Proceq

One-point Conversion Curve

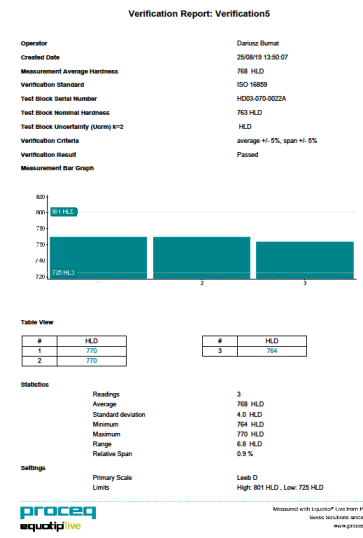
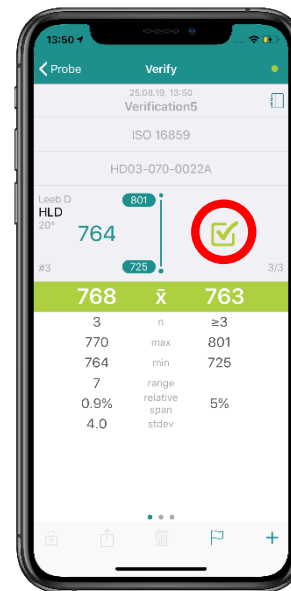
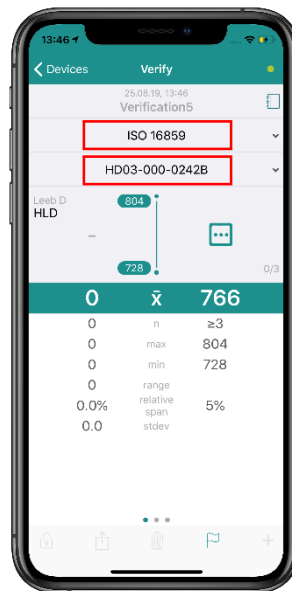
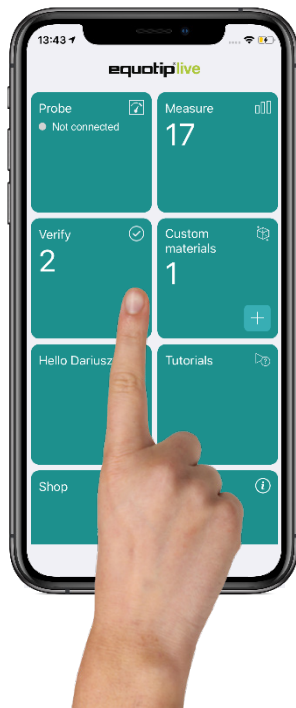
- One-point conversion is supported
- Shift value has to be entered manually
- Target scale and limits can be adjusted
- Same method for Leeb D and UCI probe
- Simple method on only one screen
- New materials can be stored on device
- Curves will be accessible on live.proceq.com
- Currently no sharing available



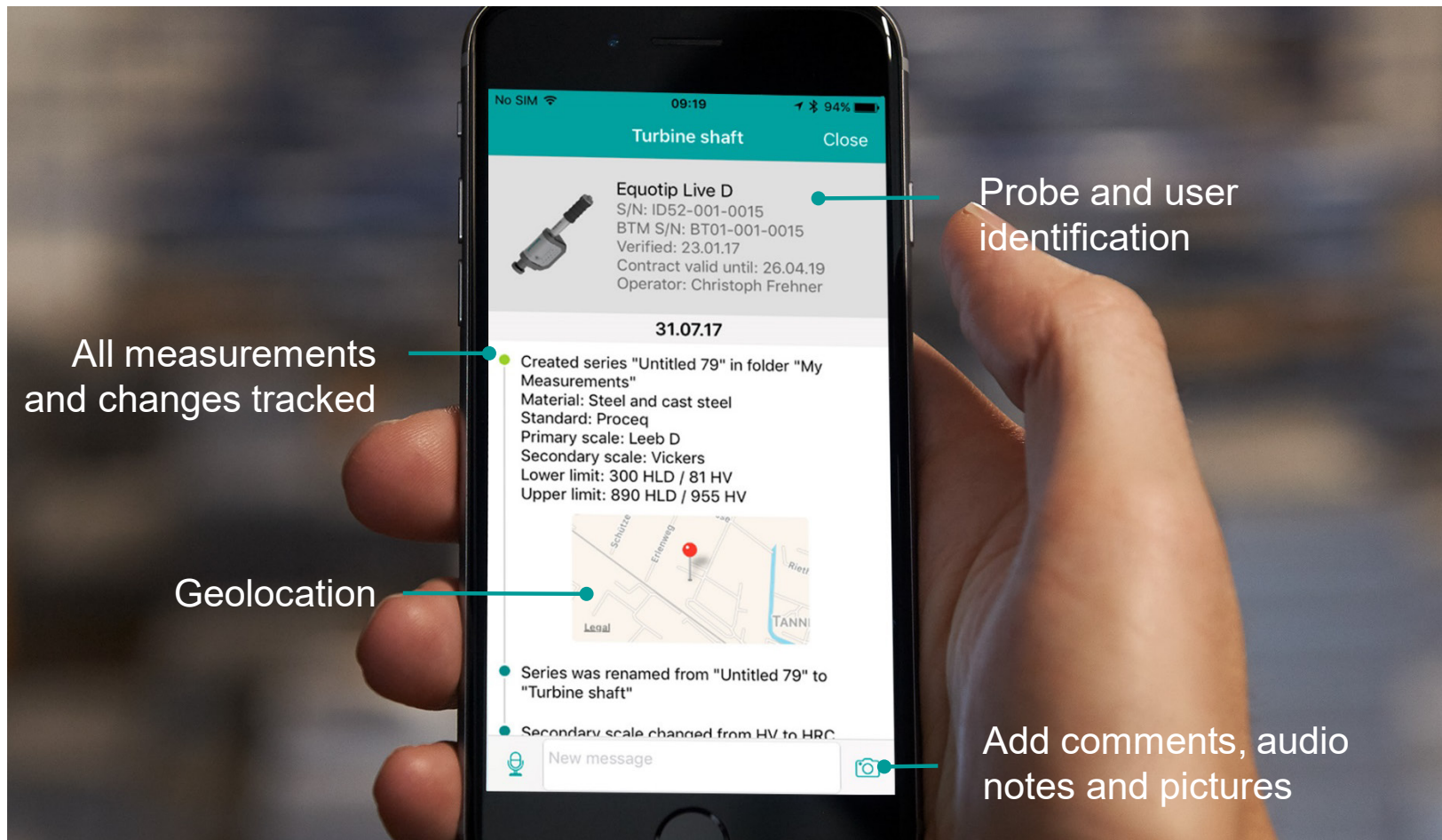
Verification creates Peace of Mind

“The performance of the instrument should be verified prior to use on each day...”

ISO 16859-1 Metallic materials – Leeb hardness test



Traceability through Logbook



Probe and user identification

All measurements and changes tracked

Geolocation

Add comments, audio notes and pictures

Ultimate Portability



- Measurement values can be listened on headphones
- Tester can work only with impact device
- Increases productivity
- Reduces risk of accidents and damaged equipment

Web based Reporting Tool



Screenshot of the Proceq Live web-based reporting tool interface.

Browser: http://live.proceq.com

Navigation Bar: proceqlive | Christoph Frehner | Equotip Live | Data Review | En | User Icon | Menu Icon

Data Review

- Crankshaft 1
- Crankshaft 001 0
- Engine block 24F 2
- Engine Block 57C 14
- My Measurements 132
- Other Tests 24
- Showcase 27
- All Measurements 200**
- Flagged 15
- Trash 0

Actions Refresh

Search

Name	Created On	Mean	Material	Scale Unit
Steel Cylinder	04.09.2017 09:21	57.2	Steel and cast steel	HRC

75.0 HRC
65.0 HRC
55.0 HRC
45.0 HRC
35.0 HRC
25.0 HRC
15.0 HRC

1

3

5

Measurements

1 56.4 HRC
2 57.4 HRC
3 56.9 HRC
4 57.5 HRC
5 57.8 HRC

Statistics

Average 57.2 HRC
Readings 5
Standard deviation 0.5 HRC
Minimum 56.4 HRC
Maximum 57.8 HRC
Range 1.4 HRC
Relative Span 2.4%

Settings

Upper Limit 68.4 HRC
Lower Limit 20.0 HRC
Material Steel and cast steel
Name Rockwell C
Unit HRC

Logbook

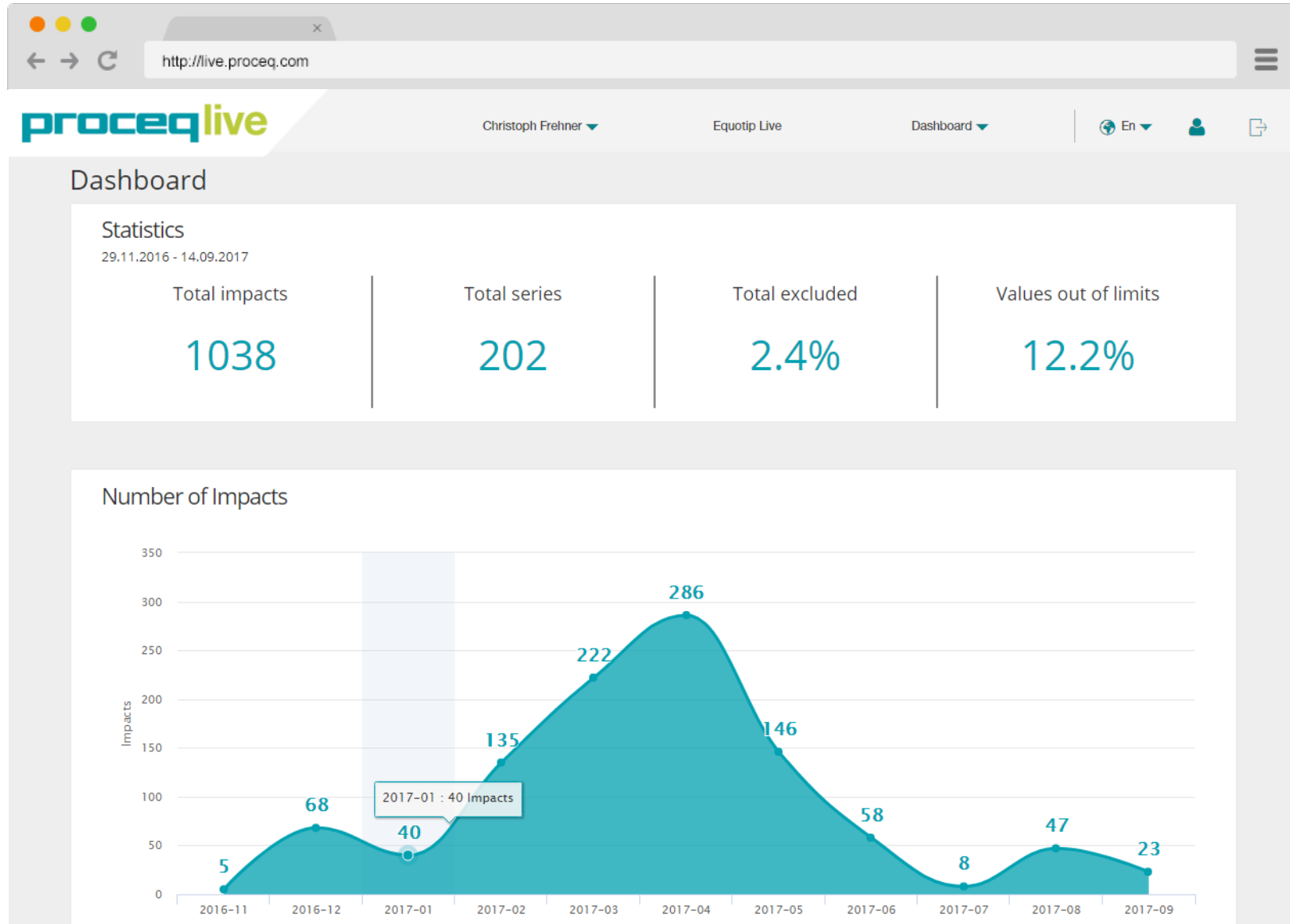
Turbine Shaft	01.09.2017 15:47	57.0	Steel and cast steel	HRC
Engine Block	31.08.2017 09:01	--	Cast aluminium alloys	HB
Alublock 21	18.08.2017 16:41	--	Cast aluminium alloys	HV

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SCREENING EAGLE

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Dashboard for a complete overview



Equotip 550



Versatile

proceq



- ✓ Leeb - UCI - Rockwell
- ✓ Touchscreen
- ✓ Rugged IP54

Built for harsh Environments



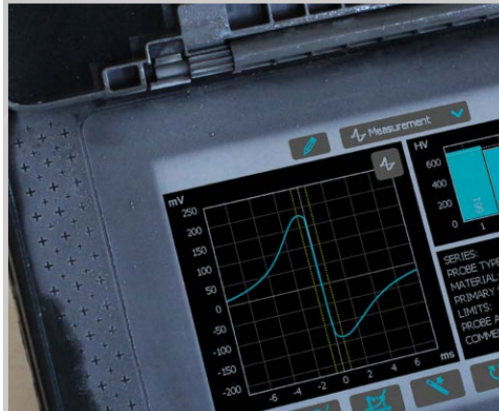
Scratch-resistant solid touchscreen with Gorilla® Glass technology



Shock-absorbing, dust and water proof (IP 54) rugged housing



Functional at a wide temperature range from -10 °C to +50 °C



Connectors and circuits are protected against dust and voltage spikes



Feature-Rich User Interface



Personalized Screens

Multi-touch features

Powerful Wizards



Standard compliant verifications

Create your conversion

Combine two methods

Create hardness maps

Measurement Wizard

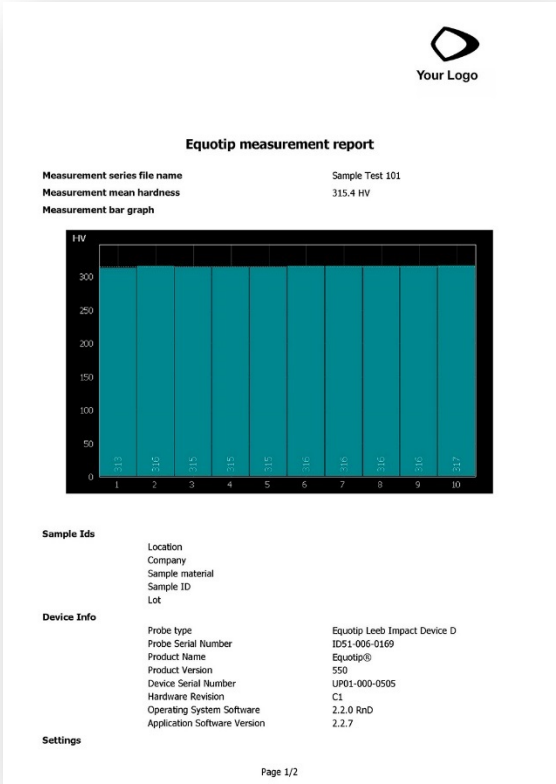


Step-by-step
guide

Direct Reporting on Device

- Export directly PDF reports or project files
- Simply connect your USB-stick
- PDF reports are fully customizable
- Add your company logo or picture
- Data export possibility via Equotip Link

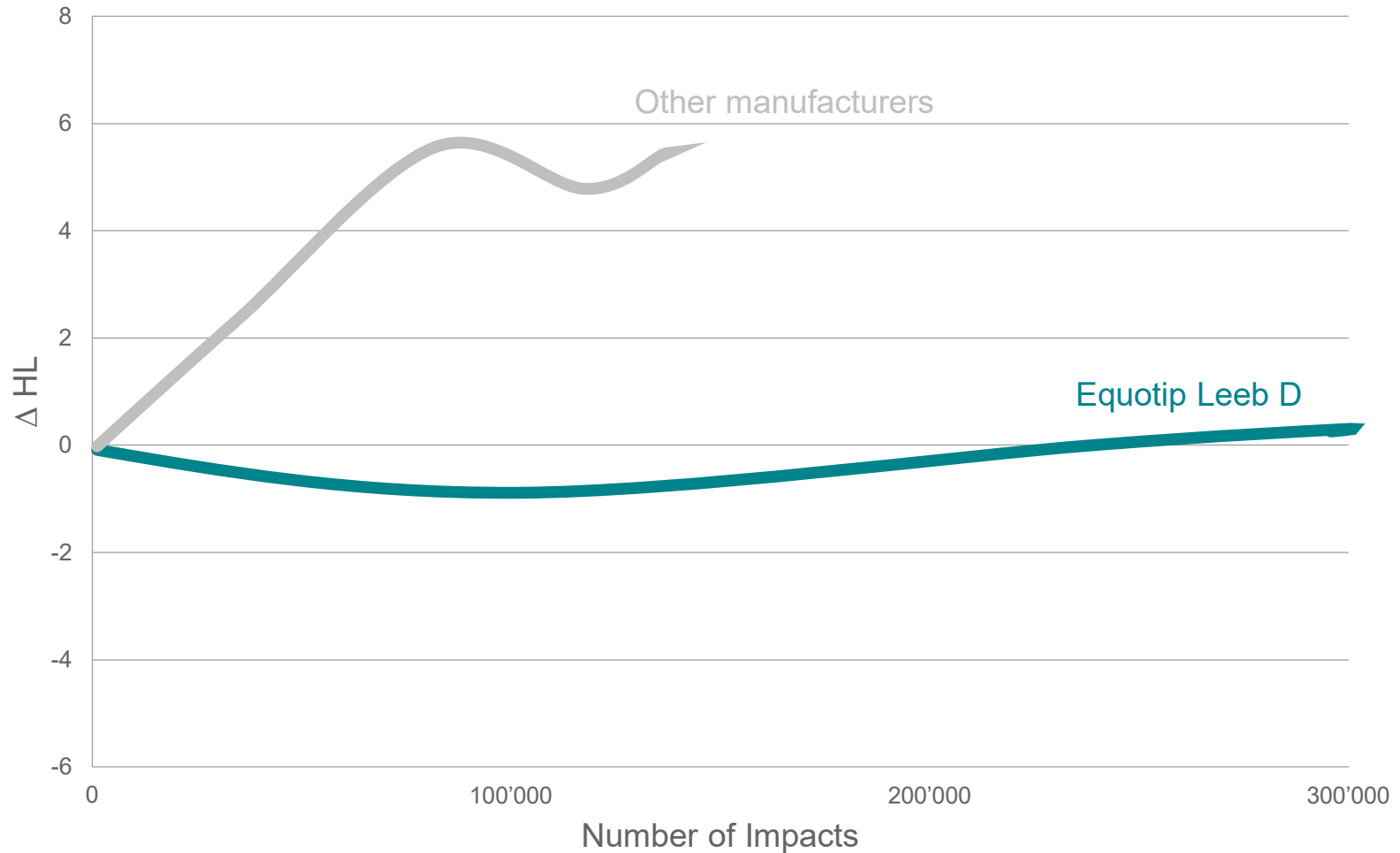
Enhanced Reporting





Proceq Quality and Service

Unmatched Consistency and Durability



Replace Discontinued Solutions – Rely on Equotip

Contents Section	Page
Status Details	1
Affected Parts List	2
Product Support	2
Specific Recommendations	2
General Recommendations	2
Life Cycle Program Overview	3



Status Details

This notice is to inform you that the MIC10 UCI Hardness Tester and UCI probes will be transitioning to life cycle Phase 3 on October 31st 2017. This change means we will accept orders for new units through October 31st, 2017. After this time new unit sales **will no longer be available.**

Due to age of our hardness portfolio and resulting availability of components with changes in technology, it is necessary that we transition the **MIC10 and UCI probes** to Phase 3 of our Life Cycle program. As an overall strategy of investment in new phased array and conventional product upgrades, we will not be offering a replacement rebound unit.

Guardians of Leeb Standard

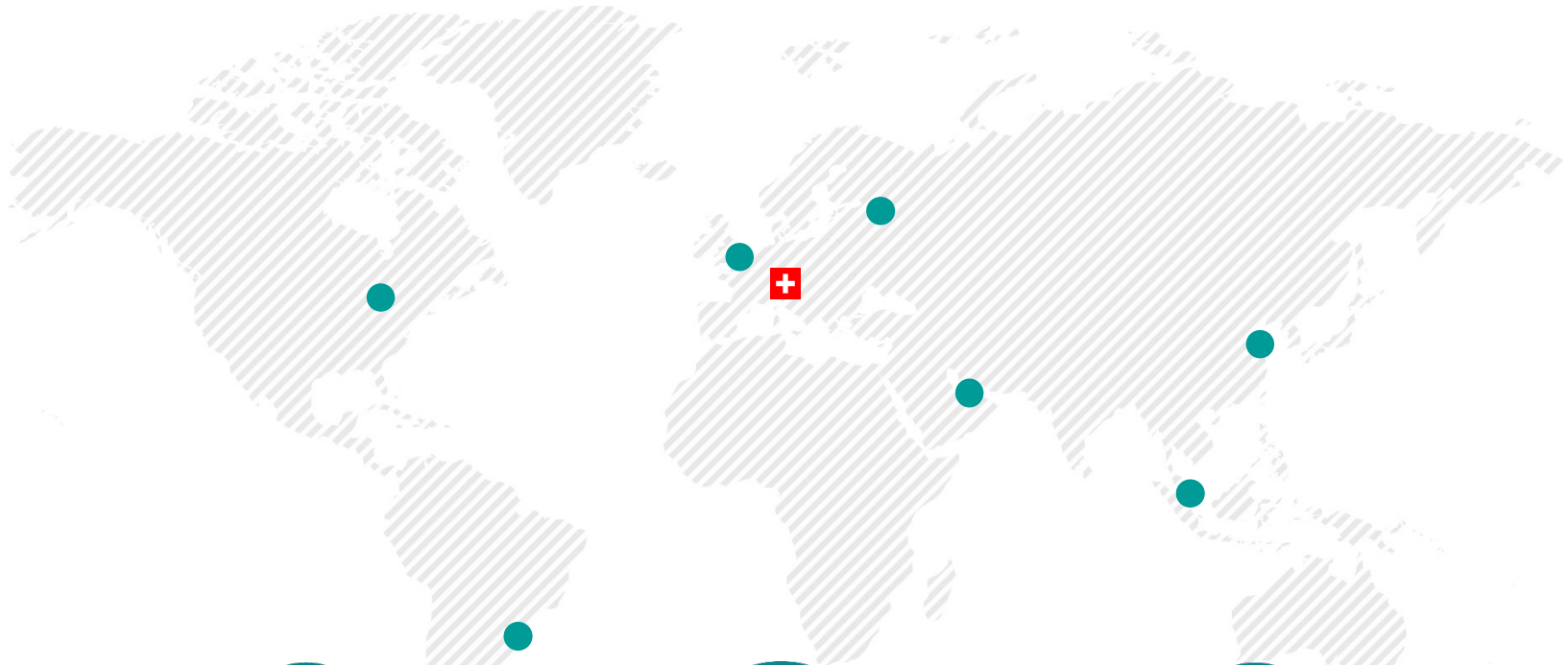


- ✓ Inventor of Leeb
- ✓ Conserved for over 35 years
- ✓ Supplier for National Metrology Institutes (NMI)

Global Standards Conformity



Global Proceq Service Network



Fast



Local



Efficient



Complete offering



Increased productivity



From the inventor

Attractive offering



	Equotip		Equotip Live		Equotip 540		Equotip 550		
	Bambino 2	Piccolo 2							
	Leeb	Leeb	Leeb	UCI	Leeb	UCI	Leeb	UCI	Rockwell
Probes	D+DL	D+DL	D		D		all		
Custom Conversions		simple shift	simple shift	simple shift					
Export									
Report									
Live Webtool									

Equotip Live Offers



One off purchase

Leeb D



CHF 3,877

Incl. 2 years Report, Export,
Sharing, Live Webtool

UCI



CHF 4,704

Incl. 2 years Report, Export,
Sharing, Live Webtool

CHF 619 / year

Option to extend
Report, Export, Sharing, Live Webtool

Rental

Leeb D



CHF 1035 start-up fee

+

CHF 619 / year

Full feature set

Equotip Live Offers



- **358 10 011** **Equotip Live Leeb D**
- **358 10 021** **Equotip Live UCI HV1-HV10**



Hardware belongs to customer,
device can be used forever, 2yrs
Reporting Feature is included

- **358 10 012** **Equotip Live Rental Leeb D**



Hardware is Proceq's property,
device can only be used if annual
fee was paid, Reporting Feature
must be purchased separately

- **358 99 003** **Reporting Feature Equotip Live**

→ For all articles above

Future-proof



Equotip® Complete Portable Hardness Solution



Pricing is subject to change. Features are subject to change. Tablet or smartphone not included in offerings. Additional fee may apply.
General terms and conditions of sale and rental apply, see: www.proceq.com/service

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