Taking Roll Hardness Testing seriously

Designed specifically for the paper industry to cut costs and increase winding machine efficiency

The need for roll testing

Out of round rolls and other defects such as corrugations caused by non-uniform roll hardness profiles are a major cause of lost production for both producers and converters alike. A reliable measurement of the roll hardness profile is of critical importance in deciding whether a roll is good or bad. Production staff needs to be able to test quickly and reliably and to interpret the results as efficiently as possible.

Application

PaperSchmidt is the first rebound hammer designed specifically for roll hardness testing. A new measuring principle and a high compliance plunger provide roll-profiling accuracy and repeatability that was unachievable before now. In addition to this it has an extended lifetime to cope with the heavy demands of the paper industry and dedicated tools, such as pre-defined tolerances that make assessing a profile a simple matter.

Benefits to the customer

Accurate Profiling; Sensitivity and repeatability to a degree unmatched by conventional roll testers. Dedicated firmware allows instant analysis of the data on the instrument's display.
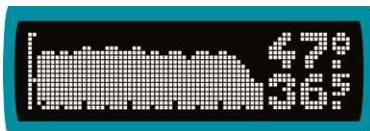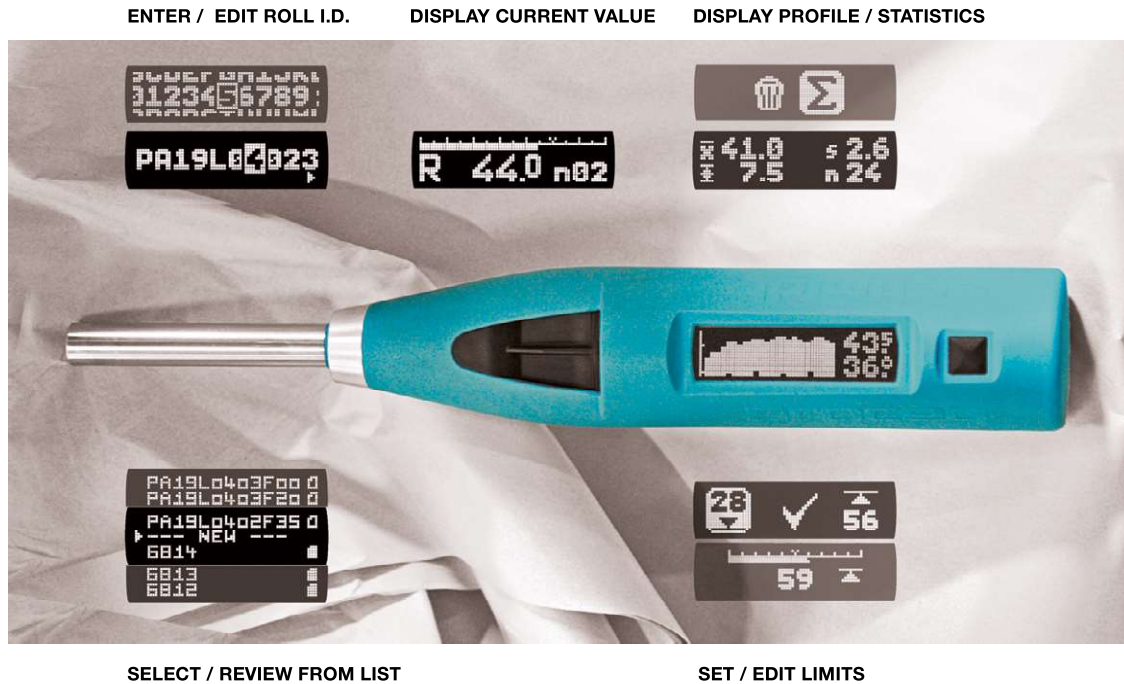
Durability; The PaperSchmidt has a vastly improved service lifetime compared with traditional instruments.

Ease of use; Intuitive operator interface (displaying hardness, profiles, limits, roll IDs, etc.). Automatic reloading and automatic data storage allows the fastest possible test performance.

Data export and analysis; The Paperlink software provides simple tools to make a clear assessment of the results.

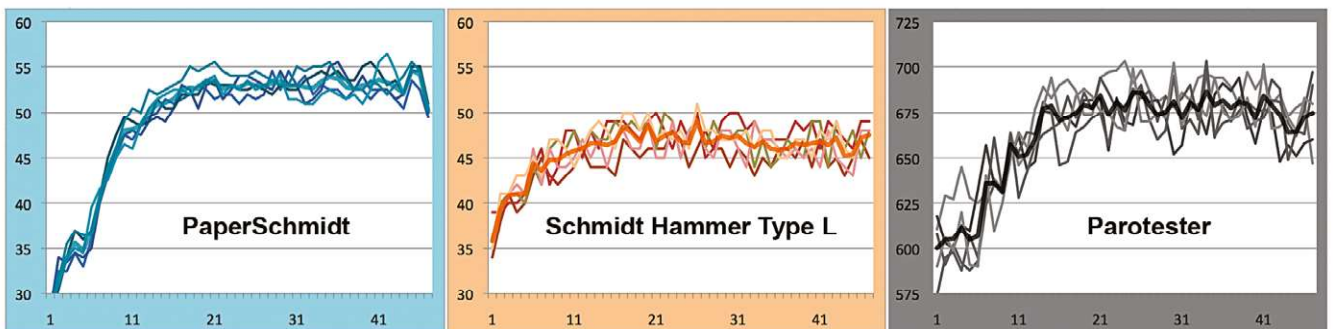## proceq

paper schmidt

Exceptional Roll Profile Accuracy

The PaperSchmidt's unique design combines the simplicity of the rebound hammer method with accuracy that was previously only achievable with much more expensive instruments. As illustrated in the picture below, the PaperSchmidt provides a lot of useful information about the roll profile.

ENTER / EDIT ROLL I.D.   DISPLAY CURRENT VALUE   DISPLAY PROFILE / STATISTICS

SELECT / REVIEW FROM LIST   SET / EDIT LIMITS

Roll profile as displayed
directly on the instrument.

The following graphics show comparison tests made with the PaperSchmidt, a classical Schmidt hammer and the Paro-tester. Repeatability has also traditionally been an issue in the paper industry. Again the PaperSchmidt excels in this. A roll with a soft edge was tested using the three different roll profile test devices based on rebound. The step interval was 2 cm (0.8 inch), subsequest scans were spaced 4 cm (1.6 inch). Five passes were done with each instrument. Each test series was done on a "fresh" section. The results of the single passes and the average are plotted. The PaperSchmidt clearly excels in sensitivity, specificity and repeatability.

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Paperlink - Data Analysis Made Simple

The Windows based software Paperlink, developed by Proceq SA, makes it possible to download, present and edit data measured by the PaperSchmidt in a fast and easy way using a PC. This allows the user to quickly check the roll profile against user defined tolerances. It also allows the user to define roll identifier names for batch testing and download these onto the hammer. All data can be exported to third party applications.
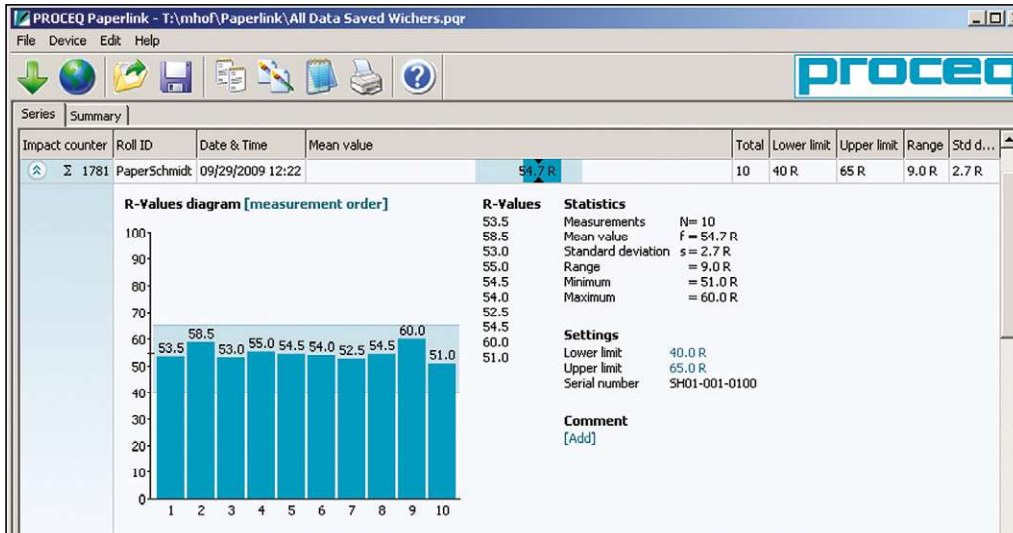
Paperlink display of a roll profile.

Technical Information PaperSchmidt

Mechanical Data	
Impact energy	0.735 Nm
Hammer mass	115 g
Spring constant	0.262 N/mm
Spring extension	75 mm
Dimensions of housing	55 x 55 x 250 mm (2.16" x 2.16" x 9.84"), 340 mm (13") to tip of plunger
Dimensions (plunger visible part)	94 x ø15 mm (3.7" l. x 0.59" diam.), radius of spherical tip is 25 mm (0.98")
Weight	570 g
Memory Data	
No. of series names	50 series names. Each name can be up to 12 characters long.
Memory capacity	Dependent on length of test series Example 1 - 401 series with 10 values per series Example 2 - 246 series with 20 values per series
Electrical Data	
Display	17 x 71 pixel, graphic
Power consumption	~13 mA measuring, ~4 mA set-up and review, ~0.02 mA idle
Accumulator duty	>5000 impacts between charges
Charger connection	USB type B (5 V, 100 mA)
Accumulator capacity	~150 mAh
Environmental conditions	
Operating temperature	0 to 50 °C (32 to 122 °F)
Storage temperature	-10 to 70 °C (14 to 158 °F)
IP Classification	IP54

Technical Information Paperlink software

System requirements: Windows XP, Windows Vista, Windows 7, Windows 8, USB-Connector
An internet connection is necessary for automatic updates if available.
An internet connection is necessary for firmware updates (using PqUpgrade) if available.
PDF Reader is required to show the "Help Manual".

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