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Ink Jet print analysis configuration - Verity IA 2003 Multi-Function

Ink jet print analysis is a special configuration of Verity IA 2003 Multi-Function that analyses a specific print pattern to determine the paper wicking, bleed and raggedness properties.

Ink jet analysis configuration is a completely objective measurement system that provides a thresholdless analysis; There are no subjective operator threshold settings to be made.

[Click here to go to the typical report page.](#)

Ink Jet Print Analysis – Operation Synopsis

The Verity IA Ink Jet Analysis program links together two applications to provide a seamless single analysis system. EXCEL is the only place where the results are placed and Verity IA provides the operator interface, computation and supervisory control.

The EXCEL Ink Jet workbook is a template. Because it is a template you will be prompted to save the workbook each time EXCEL is closed. Since all of the settings that were used to make the tests are also stored on that workbook on a hidden sheet called "Settings" you can open again any partially filled and saved workbook and add new tests to it simply making it the active (visible) workbook. Verity IA will prompt you if the wrong workbook is open for the test you are conducting.

Print the Pattern –

Print it on your printer using the normal color settings. If you choose to test using different printer settings, the settings can be recorded in the spreadsheet notes section or, if there are extensive notes, another spreadsheet can be created in the workbook to record these variations.

Placing the Pattern –

After printing, let the pattern dry, then place it face down on the scanner in the upper right corner so it touches the bezel on the top and right edges. Place the Verity IA block on top of it so it too touches the corner of the bezel.

Open Scanner Controls Set-up

Resolution – For all scanners the resolution should always be set for 1000 ppi.

Open Ink Jet Test

This is the operating panel. All results for the current test are displayed here as well as the **test number** being conducted and the **resolution**.

Test Sheet – Clicking here starts the scan and measurement sequence.

Start new series – Clicking here opens a new EXCEL clean Ink Jet workbook.

Zoomer – Does just that, it will zoom in on any selected area by clicking the left mouse button. By holding down the "Ctrl" key and clicking it zooms out. Right mouse clicks turn it off.

Recalculate – will do just that on the most recently scanned image and on saved print pattern images. If you use this on previously scanned images be aware that the resolution setting will come from the workbook and it may not match the image you have taken from memory. It will also put the recalculation in the last scan row in the spreadsheet. Change the resolution setting in the scanner set-up panel to match the image opened from memory.

Data

The spreadsheet accumulates all of the results from the computations. The results from each sheet tested are recorded on a separate row and time/date stamped in the left column. The time/date entry can be overwritten if you wish to place a title here after the test is run.

Wicking - A measure of the gray value gradient created when the ink follows the surface of fibers and filler, or it flows on the coating surface, from the edge of the printed dot to a terminal point in the space surrounding the printed dot. A sharp image will demonstrate very low wicking while a fuzzy one will have high wicking growth.

Size – The percent increase in dot size over the size commanded to the printer to print. Coated sheets will generally have a larger size than uncoated sheets because the ink stays on the surface and "Puddles" until it is dry.

Raggedness – The percent increase in the raggedness of the dot is as measured by the dot circularity at the perimeter of the area as measured above. Circularity is the square of an objects perimeter divided by its area (Size).

Circularity = $\text{Perimeter}^2 / \text{Area}$

Raggedness is often referred to as feathering .

Saving and Opening Images – You can do just that using these tools. Images recalled from memory can be inspected using the various setups or running recalculation.

Pixel Intensity Histograms and RGB Statistics – Any part of the image can be examined in detail with each color band independent of the other or cumulatively. The statistics are drawn from the frequency distribution of the gray value intensities for all pixels within the Aoi selected.

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