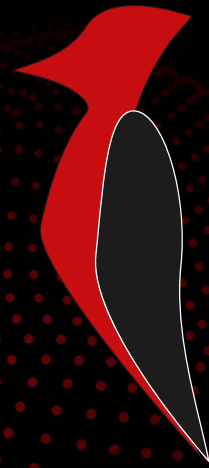


ThermoFlexX Woodpecker for Flexible Packaging



ThermoFlexX Woodpecker Surface Micro Structures

- + Woodpecker is a solution for ThermoFlexX imagers to apply high frequency surface screens / micro structures (S μ S) from any standard resolution workflow. It is a truly open system without any extra studio or workflow steps. Numerous workflows are easily supported, with TIFF or LEN files. Woodpecker utilizes ThermoFlexX high-resolution optics with a typical resolution of 5080dpi. This allows much finer, higher frequency patterns from standard resolution input files.

Woodpecker Surface Screening helps printers increase quality and efficiency while reducing costs

- + Woodpecker surface micro structures are introduced at the imaging stage. This means finer structures can be applied that are most suited to boost solid ink density where the printer most needs it. By achieving target solid ink density with lower volume anilox, dot-gain can be more closely controlled giving finer half-tones and extend color gamut. Combination plates, solid and tone can be more prevalent, saving plate and press costs. In addition, text and line-work print sharply without halo and half-tone screens are clean without bridging. Trail edge-voids are reduced or eliminated. These common flexo faults can often occur as a function of higher press speeds. Woodpecker micro-structures helps maintain print quality at the highest speeds.

	Non S μ S	Woodpecker S μ S
Text and barcodes		
Solids & reverses		
Half-tone screens		

Woodpecker Flexible Packaging Suite

- + The Woodpecker Flexible Packaging Suite consists of different surface screens for process and spot colors as well as dedicated surface screens for white.

Sharp - the all-rounder with its frequencies perfectly matched to anilox for a wide range of printers

Woodpecker Sharp is the all-rounder with its frequencies perfectly matched to anilox for a wide range of printers covering high quality 4-color process, extended color gamut and spot colors with half-tone screens. Solid ink density boost is comparable to the leading S μ S technologies including Woodpecker Nano.

Sharp requires only standard input file resolutions of either 2400 or 2540dpi, so is easily supported by the widest range of sophisticated workflows or stand-alone RIPs. Excellent fine highlight dots further enhance tonal range. Widely available hybrid (AM/FM) screen sets can reduce the finest printed highlights even further, adding to the tonal range and excellent graphics performance. Sharp is easy to hold on the plate providing excellent production stability with Flat-Top-Dot technologies utilizing tube or LED main exposure.

Nano - the finest pattern available for LAMs plates and most suitable for specialist plate makers and printers who specifically need highest frequency S μ S

Woodpecker Nano remains the finest pattern available for LAMs plates. It is most suitable for specialist plate makers and printers who specifically need high frequency S μ S. Nano needs input files of 2000dpi resolution. High Power LED exposure, for example with Catena-E is mandatory for consistent reproduction.

Nevis - for the higher-volume anilox usually used for white ink printing

Woodpecker Nevis is specially developed for the higher-volume anilox usually used for white ink printing. Printing white onto clear films behind other colors or even for other colors to print over, is very common in flexible packaging applications. Not only is white ink a significant cost for packaging printers, the quality of all other printed colors and the graphics quality of the package itself is highly dependent on good white ink opacity and laydown.

Sharp and Nano can both improve white ink laydown above non-surface patterned plates, however S μ S of more appropriate frequencies provides further significant gains. Printers have a choice of simply improving white opacity and eliminating pin-holing using their standard low-frequency/high-volume anilox or potentially saving ink by achieving the same quality white coverage using lower volume anilox. Nevis is a set of 3 surface patterns allowing printers to choose the best for their press conditions using automatically generated Nevis test plates. Nevis is easily applied in Multiplate and can be imaged on the same plate as other images of all resolutions with other Woodpecker patterns or standard (non surface-screened) plates.

Non S μ S



Woodpecker Nevis

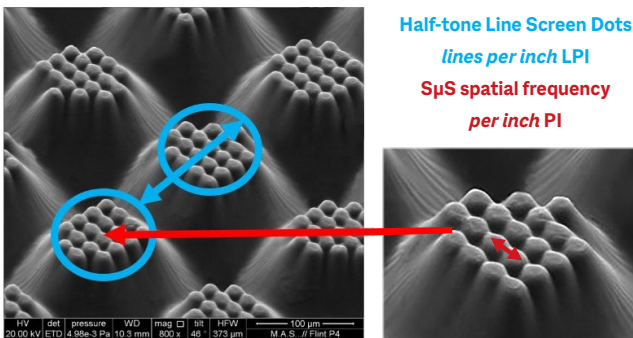


Woodpecker

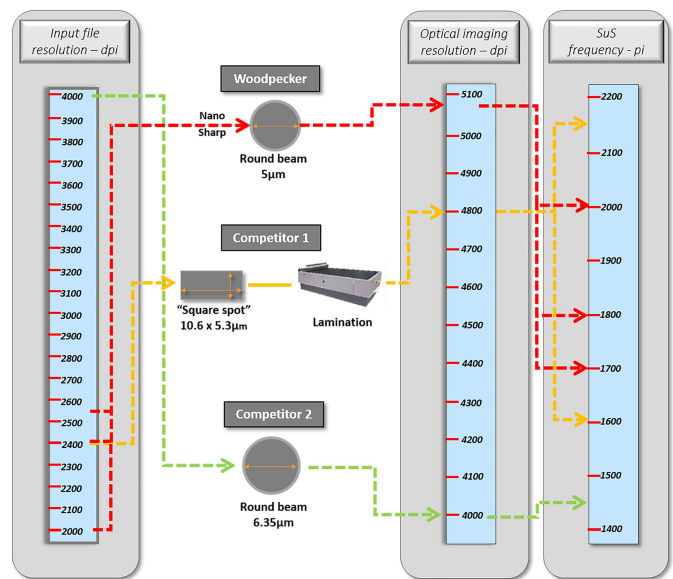
Perfect SμS Frequencies

- + Information concerning surface screens will often refer to the spatial “frequency” of the pattern applied. This is an important factor as there is proven correlation between surface pattern performance in relationship to anilox. In general, low volume, higher line-screen anilox used for high quality print benefits from higher frequency SμS and vice-versa. Lower frequency SμS perform best with high volume lower line-screen anilox, for example for printing white inks.

Scanning Electron Microscope Picture SμS on Plate



Industry SμS Frequencies

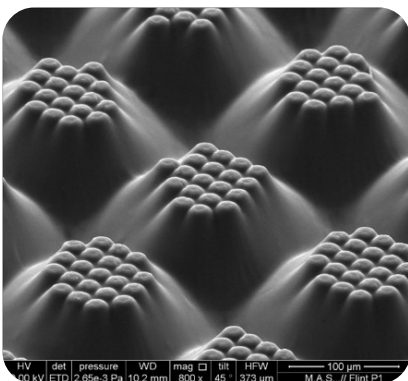


Woodpecker *Replay* for established SμS providers

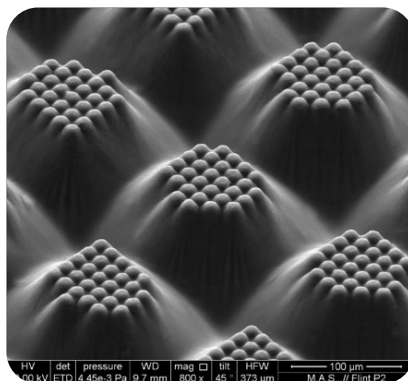
- + Although separate from the Woodpecker Flexible Packaging Suite, **Woodpecker Replay** provides a perfect output via ThermoFlexX imagers for users who have already established plate making with surface screening built into their 4000dpi workflow outputting either TIFF or LEN files. Single pixel patterns receive a laser energy ‘boost’ to remove enough LAMs for successful UVA exposure. The boost level is easily checked and adjusted to perfectly match any existing imagers.

Scanning Electron Microscope Woodpecker Comparison

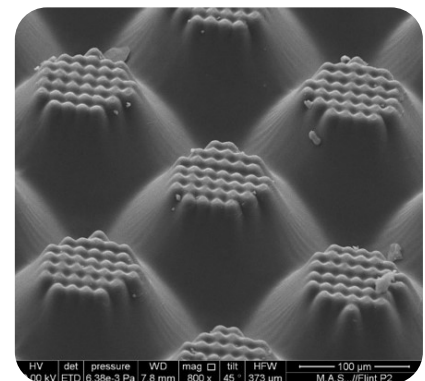
Competitor/Replay



Sharp



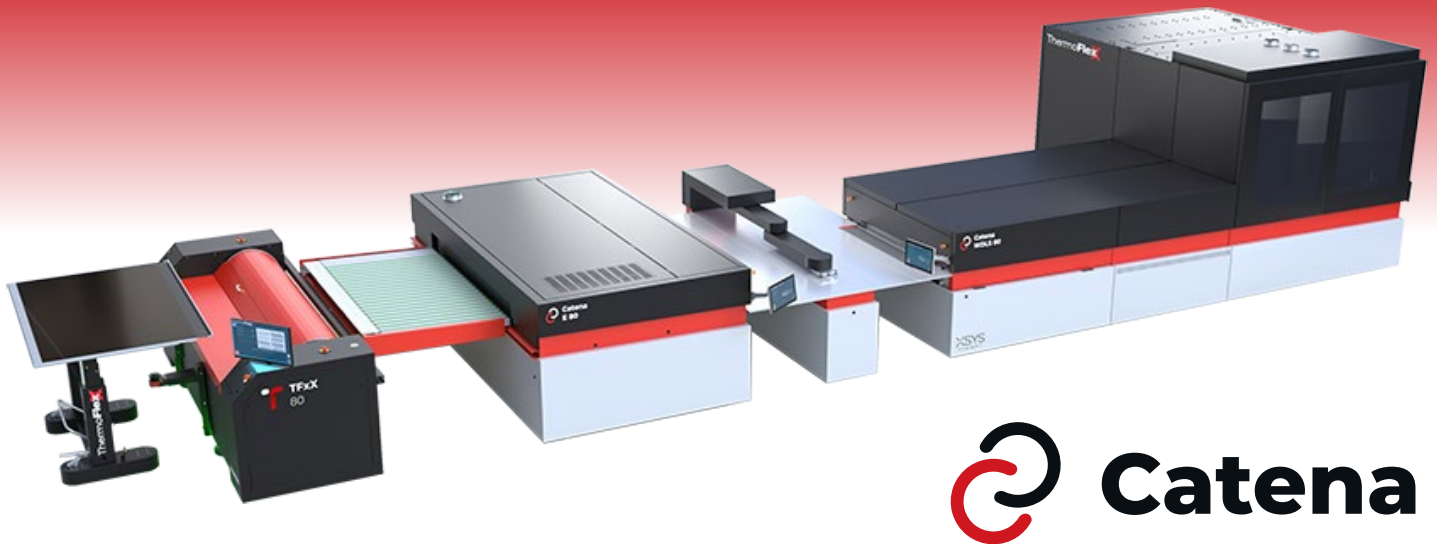
Nano



Woodpecker

Supplementary Information

- + Like all surface screening, for Woodpecker S μ S a Flat Top Dot technology exposure is mandatory. This can be built into the plate, high power LED exposure, lamination or gas-fill for oxygen elimination.
- + Woodpecker Nano requires high power LED exposure. Catena-E with XSYS nyloflex[®] NEF plates is particularly recommended for flexible packaging applications.
- + Catena-E exposed half-tone screens with Woodpecker S μ S, require a minimum bump-up curve, typically <1% @ 150lpi. Woodpecker S μ S using tube exposures will need a higher bump-up level depending on plate type and light intensity.
- + As surface screening is overlaid onto half-tone screens, naturally there are instances where interference effects, a clash between the two screens, can be generated. XSYS can provide comprehensive guidance of line-screen and angle sets that give best results and avoid moire. This means that some TIFF or LEN legacy files may not be suitable.



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info@xsyglobal.com • www.xsyglobal.com

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04-2023