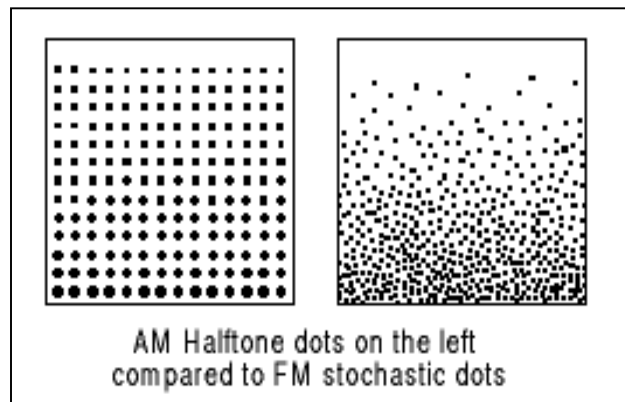




HIGH DEFINITION ULTRA-VIOLET PRINTING (HDUV)

HDUV is a state-of-the-art offset printing approach that combines the benefits of utilizing *stochastic* screening with UV printing technology. The result is a higher print quality than can be achieved with “conventional” offset printing techniques and equipment.

Stochastic Screening - One of the biggest differences between the *stochastic* and *conventional* offset halftone screening techniques is that the size of the dots are fixed for *stochastic* screening, while the spacing and distribution of the dots varies depending on a specific color's tone. For the *conventional* screening process, the size of the dots varies and the spacing between them is essentially fixed. A basic illustration can be seen below...



The result is that the *stochastic* technique results in printed images with finer detail and more of a continuous tone, as illustrated here...





Ultra-violet (UV) Printing – UV printing utilizes UV inks in conjunction with UV technology that is built into the printing press. The unique nature of UV ink properties allow them to “cure” and dry very quickly after being exposed to UV light, instead of requiring oxidation to assist in the drying and absorption process of conventional printing inks. In the UV process, after the ink in each print tower is applied to the press sheet, it is immediately exposed to a UV lamp on the press, instantly “curing” or bonding the ink to the surface of the press sheet.

Benefits of HDUV Printing:

- ❖ *Vibrant Colors* – Because UV ink is not absorbed into the substrate, it presents a cleaner, sharper, and more detailed print image than conventional inks. It also provides for higher quality images even on uncoated paper stocks. The “dry-back” issues associated with conventional inks, where they get absorbed by the sheet resulting in image appearing washed out, are eliminated.
- ❖ *Broad Substrate Versatility* – Because of the UV curing process, and that the ink does not get absorbed into the substrate, the process allows for printing on a wider variety of substrates, including uncoated and coated papers, vinyl, styrene, foil, mylar, etc.
- ❖ *Elimination of Scuffing, Picking, and Offsetting* – Because the press sheets are cured before they reach the end of the press, the potential for dark colors scuffing of picking, or inks transferring to other sheets within the press run, is drastically reduced. For jobs involving significant handling in the finishing process, this is also a significant benefit to ensure the quality of the print sheets are maintained through the finishing process.
- ❖ *“Green”, Low Emission Process* – UV inks are 100% solvent free and do not result in the emission of VOCs (volatile organic compounds). They also do not contain HAPS (hazardous air pollutants).
- ❖ *Stochastic Screening Benefits* include greater detail and improved image quality, elimination of moire patterns, smoother gradients, and greater consistency in color throughout the print run.

Please contact your Spectrum Plus representative to determine if HDUV printing might be a viable option for some or your print projects!