

## COMBINATION PRINTING BENEFITS FROM UV INKS

**C**ombination printing describes the method of grouping a number of different printing and converting processes in-line in-order to optimize the graphics that can be produced. Combination printing focuses the strengths and advantages of each printing method and converting process.



Combination printing has the capability of producing **exceptional graphics** that demand consumer attention.

Printing processes including flexo, gravure, letterpress, offset, rotary screen, and digital, have been combined, as have converting processes, such as hot and cold foil stamping, embossing, and die cutting.

**UV** curable ink technology advancements have been instrumental in driving the interest in combination printing. High quality, high performing **UV** inks are now available for all of the high volume print processes. **UV** inks are allowing printers to produce results that are not possible with conventional ink products. Instant and total curing, responding to exposure to **UV** light, has been the key to combination printing. **UV** curing has meant that various print processes have been able to be grouped in-line to produce a completely unique piece of printed material.

**INK UP WITH CORK! CHECK OUT CORK'S NEW ADVANCED UV INKS - FLEXO, GRAVURE, LETTERPRESS, OFFSET, SCREEN AND ROTARY SCREEN BLENDING SYSTEMS.**

When considering **UV** ink capability, **UV** inks have a wide effective adhesion range to a broad selection of substrates, including films such as, BOPP, PET, PE, PS, and other co-extruded films. Additionally, **UV** inks offer a long list of benefits including high opacity, high gloss, and well defined high print fidelity.

Further, **UV** inks are 100% solid and contain virtually zero volatiles, unlike solvent and water based inks which tend to evaporate during a printing run thus changing viscosity and compromising color consistency. **UV** inks also produce excellent rub, mar and chemical resistance, which are usually required of common combination printed labels and package printing.

### **"LOOK MY PRODUCT IS DIFFERENT"**

This concept of associating, through labeling and packaging, has become the leading requirement of a consumer-branded products market. New creative labeling and packaging ideas are constantly being sought to convey this message, with combination printing being a benefactor. Combination printing is being used to produce a variety of products including labels for beverages, cosmetics, personal care products, flexible packaging, promotional graphics, and folding carton.



Combination printing gives the ability to take advantage of the best characteristics of each printing and converting process to create a unique graphic selling advantage.

Each printing process has its own strengths and weaknesses. Flexo competes with offset in high quality four-color process printing with very good solid coverage, including screens and the ability to apply coatings. Flexo also delivers economy in both short and long runs.

Gravure of course is a high quality printing process that can lay down heavy ink coverage, especially of florescent and metallic inks, and coatings. Gravure presses are capable of printing in wide widths at very high speeds for

long runs, however, cylinder costs are high as is turn around time.

Offset often sets the standard for high quality printing and is supportive of long runs with the ability to produce excellent solids and fine vignettes. Additionally, printing plates are economical and presses may be web fed and set up for long runs. Letterpress and offset both are capable of providing excellent print fidelity and high printing speeds.

Screen printing, while slower than other printing processes, has the capability of laying down the heaviest ink film of all the processes. It is used often to print a heavy dense print of opaque white. Rotary screen, is commonly used in the production of the so called “no-label” transparent look of clear film labels. Screen also is used to provide heavy prints with a tactile feel and even an effective readable Braille.

Digital printing is also making some inroads in combination printing as it offers customization in the form of variable data printing. It can be turned quickly in support of short runs. Unfortunately digital printing suffers from low print speeds and high ink costs, but this may change in the near future.

The choice of printing method is often a matter of ink deposit capability. The chart below gives an indication of what these ranges are by printing method.

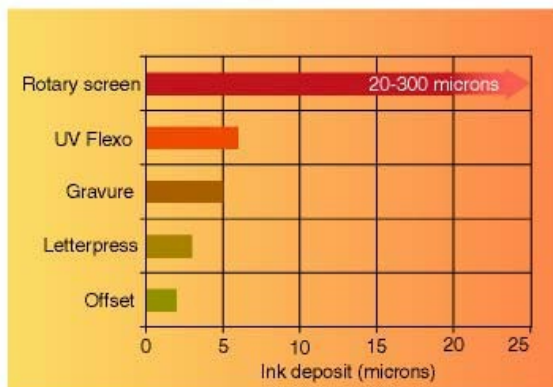


Chart courtesy Screenweb

Rotary screen press manufacturers have been in the forefront of building out combination presses. Gallus is known for developing modular rotary screen presses that integrate the other printing methods and selected converting operations into in-line presses. Stork, another rotary screen press

manufacturer, provides modular rotary screen units that are designed to be integrated into existing roll-to-roll flexo, gravure, and letterpress or offset presses built by various manufacturers.

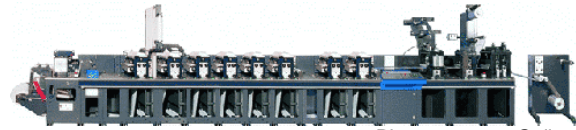


Photo courtesy Gallus

Combination printing is certainly more complicated, as each printing and converting technique added to a line increases the variables that must be dealt with. Nevertheless, when mastered the resulting printed graphics can be astounding and riveting, demanding one’s attention. Combination printing will continue to grow because the outstanding graphic results that are possible are what many print buyers are seeking, as it is believed that **“differentiation is king”** in the marketing of consumer products.

**INK UP WITH CORK! CHECK OUT CORK'S NEW ADVANCED UV INKS - FLEXO, GRAVURE, LETTERPRESS, OFFSET, SCREEN AND ROTARY SCREEN BLENDING SYSTEMS AS WELL AS SPECIALTY COATINGS.**

**LOOK TO CORK! .....** for expertise in formulating aqueous, UV & EB specialty coatings; UV inks; and adhesives.