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DIGITAL PRINTING GROWS, AS DOES THE NEED FOR PROTECTION

Digital technologies continue to penetrate graphic arts markets, such as (POP) point-of-purchase, labels, commercial printing, flexible packaging, folding cartons, billboards, specialty printing, and vehicle and building wraps. Toner-based printing technology, ink-jet and others, are currently competing, although it is being predicted that non-impact **UV** ink-jet will eventually dominate.



The appeal for digital printing has been fed by interest in the ability to produce short-medium limited runs, coupled with the use of personalized variable print information, while not requiring film and plates.

Inkjet initially was developed utilizing solvent based ink technology. However, now as inkjet printing is expanding its graphic arts market presence and penetration, **UV** inkjet is developing quickly, due to the beneficial performance properties of **UV** chemistry.



UV is attractive because it allows faster printing speeds as a result of instant cure (drying), coupled with an ability to provide adherence to a wide variety of substrates, including paper, plastics, glass, metals, etc. Additionally, **UV** curing products feature attractive properties in terms of excellent durability, chemical resistance, flexibility and light-fastness.

Furthermore, **UV** ink and **UV** coating technology offer “environmental benefits”, in terms of being a “green” chemistry (100%

solid formulations), and clean air supportive, virtually zero VOC's.

Large format digital presses have seen wide spread market acceptance supplying printed signage, posters, banners, and vehicle wraps, etc. Now one can find large format digital presses making an impact in traditional offset, screen and flexo graphic arts markets.



Photo courtest Inca Onset

Digital printer growth is being spurred by the emergence of new printing equipment that is available to end users, which is attractive in terms of application, use, price and productivity.

PROTECTION THROUGH TOP COATING

As the market for digital print technologies grows it is becoming more apparent that certain applications require better print protection.

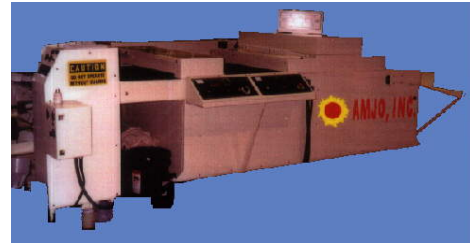
Traditionally, some graphic arts printers have utilized either laminated films or so called liquid lamination to protect printed products.

The liquid laminator is essentially a coater. Historically, liquid lam utilizes solvent based coatings. Later aqueous coatings were introduced into the mix. Both required solvents to be driven off in order to leave the solids as a dried plastic film. Drying is accomplished by exposure to heat, such as is

supplied by infrared or by much slower air drying.

Photo courtesy Amjo, Inc.

These coating types have in large part been replaced by **UV** coatings, because of their environmental friendliness, fast cure speed, and superior properties. They are formulated to be 100% solids, therefore there is nothing to be evaporated as the wet liquid film is cured to a solid plastic dry film. In contrast, water based coatings are approximately 70% water, and 30% solids with the water needing to be evaporated before a dry final film is formed.



UV COATING EQUIPMENT

A variety of off-line **UV** coating application equipment is available. Typically the coating application is built around, three roll systems. In these the rollers transport the media through the coater. Conveyors are commonly used to transport media to and from some equipment and in some cases through the coating application and curing sections.



Photo courtesy of Neschen Americas



Photo courtesy Optima International

If you are a user of **digital imaging technology**, and your end product applications require greater print protection, you should be looking at protective **UV** coatings. Not only will you be able to enhance your current digital graphic production, but you will also be able to sell a further upgraded “value added” product.

Digital wide format printer manufacturers continue to expand their offerings to include flatbed, hybrids and roll-feds mainly targeting increased speed. More and more, as indicated above in previous discussion, **UV** inkjet is playing an ever increasing role

Wide Format Printer Manufacturers 24-100 inch using Piezo(inkjet)/UV curing inks

- Agfa
- D.Gen International, Inc.
- Digital Equipment Company
- Durst Image Technology US, LLC
- EFI/VUTEk
- Fujifilm Sericol
- Gandinnovations
- GCC
- Gerber Scientific Products, Inc.
- Graphics One, LLC
- Hewlett-Packard
- Inca Digital Printers
- Infiniti Digital Equipment, Inc.
- Leggett & Platt Digital Technologies
- Neo Digital USA, LLC
- Oce North America
- Raster Printers, Inc.
- Screen USA
- Teckwin International
- Triangle Digital INX Co.

List courtesy Digital Output Magazine

LOOK TO CORK! for all of your **aqueous**, **UV & EB** coating, **UV** ink, and **adhesive** needs.