Cork Tech TalkNews

Manufacturers of Waterbase, UV+EB Curable Coatings, Varnishes and Adhesives

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AQUEOUS COATINGS BOOST LITHO PRODUCTIVITY

When a sheetfed offset lithographer is asked, “why do you use overprint varnishes”? The stock answer is that conventional oleoresinous overprint press varnishes are used to protect conventional litho inks. An expanded answer adds that rub and scuff resistance can be improved and the finish can range from gloss to matte, etc.

Somewhat the same answer is given by many when they are asked, “why are aqueous coatings used”? However, the really knowledgeable aqueous coating user answers that, **PRODUCTIVITY** is the main reason to **USE AQUEOUS COATINGS!**

PRODUCTIVITY, yes **PRODUCTIVITY**! You see, when aqueous coatings are used in-line over conventional sheetfed offset inks, the sheets are relatively dry going into delivery. They are dry enough with the use of minimum or no spray powder, that sheets can be handled without smudging the set, but still wet, not dried, underlying inks.

Let’s face it, the real difference when we compare aqueous coatings to conventional press varnish is **PRODUCTIVITY** improvement.

PRODUCTIVITY gains are the name of the game when it comes to choosing to run with **AQUEOUS IN-LINE COATINGS.**

Consider, no matter which conventional sheetfed offset inks that you chose from whatever ink supplier, you still are left with an ink system that may set fast, but still dries (oxidizes and polymerizes) over a lengthy period of time. Oxidation is a time dependent process, and at best, probably requires 48 hours to complete. Oh, certain ink formulations may be printed and the work further processed sooner than the inks are completely oxidized and polymerized, but make no mistake, they are still wet and subject to marring and smudging. Remember too, the conventional overprint varnishes are no different, they are simply an un-pigmented ink.

Another factor with conventional inks and varnishes is that they take up fountain solution when they print. Sometimes this is excessive so that inks are really slow drying. Secondly, conventional inks, depending on formulation, may consist of near 100% solids or a lower solids blend containing 20-25% volatiles. When conventional inks hit delivery they are wet and subject to offsetting (setting off to the backside of the sheet piled above). Multiple prints and subsequent heavy ink coverage of these inks produce an even worse scenario.

Traditionally, offsetting in the pile is prevented by the use of inks that set fast and the use of starch spray powder to dust the wet surface.

Some amount of work is overprint varnished with conventional oleoresinous press varnishes. As we said above, these are no more than un-pigmented inks that oxidize and polymerize in the same way that conventional inks do. Some, like inks, can be formulated to set fast as a deterrent to offsetting, again like inks, they are still wet until the time dependent oxidation/polymerization drying process can take place over time.

While it is realized that some printers are able to combine substrate selection, fountain solution, conventional inks and press varnish plus spray powder to produce work that can be further processed the same shift, there is other work that must wait to be further processed.

This is where aqueous coatings have proven their worth. Think of the goal and result being the ability to further process the printed job sooner, while looking better and feeling smoother, to produce a measurable gain in productivity!

There are other benefits to aqueous coatings and conventional varnishes. Both can produce additional print protection in terms of rub resistance; both can produce a finish that ranges from matte to glossy. Both can offer varying degrees of product resistance.

Aqueous coatings offer improvements over conventional varnishes in gloss, protection, smoothness (related to the amount of spray powder required) and non-yellowing clarity.

The minimal need and at times the lack of spray powder use with aqueous coatings is no small matter when compared to the damaging dirty press room conditions that exist due to spray powder use with conventional inks.

Look at what happens when a varnished job is backed up (work & turned). First, you wait until the job is dry enough to send through the press again. The wait will vary, but then even with the best OEM sheet cleaners operating, frequent blanket wash-ups will be required. But, when aqueous coating is used, fewer press stops for these wash-ups are needed, a definite improvement in productivity.

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Think of aqueous coatings as a sealer. A thin, very fast drying, micro-porous oxygen permeable plastic film that can be effectively laid down in-line over oil based, slow to dry conventional litho inks.

At what cost you say!

Look at it this way, varnishes are typically used at the rate of .3-.4 lbs. per thousand square feet (MSF). Aqueous coatings are typically used at the rate of .7-1.0 lbs. per MSF.

Similarly performing aqueous coatings and varnishes, general purpose vs. general purpose, high gloss vs. high gloss, high rub vs. high rub, volume vs. volume, are priced so that varnishes are near twice as costly as aqueous coatings. Kit pricing of varnishes make them even higher in price.

Do the math in your shop. But don't just look at cents per pound differences. Look at the gains in **PRODUCTIVITY** that can result from using aqueous coatings on every job with the benefits of being able to process the sheet faster in a cleaner, maintenance saving shop (due to less spray powder contamination).

So let's list some of the benefits and differences:

	AQUEOUS	**VARNISH**
Application	Coater	Ink train
No. of rollers	2-3	15+
Make ready	10-20 min.	10-20 min.
Wash up	15-20 min.	20-40 min.
Drying time	dry in delivery	set only
Spray powder	Min. or none	YES
Spot capable	Yes	Yes
Flood capable	Yes	Yes
Gluable	Yes	Yes
Foil stampable	Yes	No Some, wax free
Yellowing	No	Yes
Smooth	Yes	No

Take a closer look at aqueous coating and go for it. Use aqueous coating on every job, 100% of the time and be amazed at the improvement in press room cleanliness and profitable press time. Gear up for change and the ability to service your customer base quicker. **PRODUCTIVITY** improvement is **PROFIT** improvement.

LOOK TO CORK! for productivity improving aqueous coatings, ***LOOK TO CORK!*** for all your coating needs.