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CASE STUDY

Was it Bad Ink...Defective Press ...hmmm NOT !

Print problems... solved by automatic viscosity control...Give your ink supplier and your press manufacturer a break!

Many of the problems you encounter are not their fault!
These two plants in Jersey City N.J. and Cleveland OH. will testify to that.

Challenges faced

- To achieve colour consistency throughout long print runs
- To reduce the man-hours required to maintain ink viscosity
- To increase press speeds
- To shorten turnaround times between jobs
- To decrease the time spent on cleaning printing plates and anilox rolls

The results achieved

- Reduced number of press stoppages to clean anilox rolls and printing plates.
- Maintained colour and colour density stability on every print job, with less manpower.
- Considerably shortened press setup times.
- Significantly increased average press speeds, shortening press run times.
- Renewed confidence in their ink supplier
- Maintained precise ink viscosity control.
- Improved print quality.
- Decreased ink consumption.
- Lowered substrate wastage

One of North America's leading providers of visual communications with one-stop services from design through fulfillment. The company's broad portfolio of services and products include e-services, envelopes, offset and digital printing, as well as printed office products. The company's new name and logo provide a visual representation of the center, or hub with dots that signify people, ideas, and more importantly, an understanding of their customer's visual communication needs. They also represent much more than just the combined strength of 85 facilities and 10,000 employees coming together under entity, while they focus on only thing, giving their customers the high-quality, precision and on-time delivery they expect.

The Solution

A reliable ink management system providing:

- Real time, continual viscosity control.
- Precise viscosity measurement to manage frequent and minute adjuster fluid additions.
- User-friendly software and HMI.
- High quality components that defy the term 'short-term obsolescence'.

The Whole Story

In these two printing facilities, with their narrow-web stack presses, they print millions of envelopes a week. Some of the envelopes have little more than a logo and maybe a return address. Sounds like a simple job, why would control of ink viscosity even be considered?

While ink consumption on narrow-web presses is low when compared to the ink volume used to supply the press and ink supply circuit, evaporation of the volatile components in the ink is actually extraordinarily high. Whether the ink is water or solvent based the result is the same, attentive manual viscosity corrections are absolutely necessary. They had some doubts on the quality of the inks flowing through their presses and since their customers were becoming more quality conscious and price sensitive, Corporate decided to equip these facilities with the newest product in the industry - the In-Line Viscosity Control System with an Intelligent In-Line Sensor.

Many of their other sister plants had an in-pail falling ball system. The newer vibrating rod technology measures the viscosity directly in-line; as the sensor is installed between the pump and the press ink metering system. At the beginning of 2006 both plants installed the equipment and immediately experienced an outstanding improvement in print quality and consistency. More astounding and dramatic was the reduction of down-time to clean the printing plates and aniloxes.

A Case Study: Bad Ink...Defective Press ...hmmm NOT!

The Inline Viscosity Control system continuously and precisely measures the dynamic ink viscosity in the ink supply circuit. The precision of control is essential but just as important is the "in-line" measurement in proximity to the ink metering system. The adjuster fluid injection system is extremely precise, only making calculated adjustments relative to the difference between the actual viscosity measurement and the desired set point. I have gained a wealth of knowledge and technical expertise during my last twenty-five years in the printing industry and especially in the comprehension of ink management technology as it pertains to day-to-day issues on the printing press. Following up on some other successes, I proposed changes to their composition and pH of the adjuster fluid to make the printing process much more efficient, economical and trouble-free.

The next few days after commissioning the two presses at the Cleveland ran a particularly dufficult and tricky print job for a national advertising company andthe press operators effused with praise for the new viscosity control system.
For the first time they ran a job for more than 4 hours without having to stop and clean the plates: they actually ran 36 hours without stoppages caused by dirty plates.
They gained about 4- 6 hours (15%) of extra press time- *but that wasn't really the #1 reason for their satisfaction.*
The colour consistency was so good that they could speed up the press and still meet that account's quality criteria. With a lower percentage of wastage, the gain in press up-time and speed, they were now in very strong position to compete for new business. This translated into a significant increase in print volume and corporate profit.

Viscometer installation

They also gained a renewed confidence in their ink supplier. No longer did they have to suffer with interminable press stoppages caused by the dirty plates, or the ink losing its density over longer runs. To be sure: the ink quality was never really the cause; it was the control procedures for the ink viscosity and the haphazard manual additions of water that were the real culprits. Old habits, shortcuts and lack of knowledge often have a negative reflection on the high quality of inks supplied to the printers. Many times the ink suppliers are often caught between a rock and a hard place; manual viscosity control done properly is costly and time-wasting,

Shortcuts are often the rule of thumb, and most of this is unbeknownst to the ink supplier or press manufacter. With consistent and constant measurement of the ink viscosity with an ink management system,; the high quality of the printing inks shines through.

The ink management system with its automatic injection of minute quantities of viscosity adjuster fluid segued to using a proper adjuster fluid instead of just water. With the approval and cooperation of the ink supplier, this new approach became a major improvement. Now the ink could be maintained accurately and most importantly while maintaining the prpoer chemistry. An Amines solution with water added to the ink in minute quantities will maintain the ink's pH and meant that the ink viscosity will remain stable.

These printing presses have a new lease on life and are printing better than ever; their ink supplier is extremely pleased; and their In-Line ink managementl system is busy maintaining their competitive edge – a winning combination indeed!