

FLEXO

NOVEMBER 2016

THE FLEXOGRAPHIC TECHNOLOGY SOURCE

VIEW THIS ISSUE ONLINE NOW AT
WWW.FLEXOMAG.COM

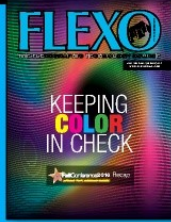
KEEPING COLOR IN CHECK



Fall Conference 2016 Recap

IMPROVING TODAY... ENVISIONING TOMORROW

VIEW THIS ISSUE ONLINE NOW AT
WWW.FLEXOMAG.COM



It's been a busy few months for diligent flexographers. September saw Labelexpo Americas 2016

descend on the Donald E. Stephens Convention Center in Rosemont, IL. And just last month, Fall Conference 2016 took place in Louisville, KY. Whether you were in attendance at both events, only made it to one or had to sit them out, be sure to read FLEXPLO's recaps.

November is also our annual focus on the world of color, and this issue features a new take on the control strip, solutions for viscosity problems, correcting ink formulations, inline color measurement options and an extensive look at optimizing the print sequence for expanded gamut.

Finally, with FTA's 2017 Excellence in Flexography Awards competition only two months away, the judging committee's chair, FTA Flexo Hall of Fame member Paul Lancelle, discusses what it takes to win.

FLEXPLO
THE FLEXOGRAPHIC TECHNOLOGY SOURCE

FTA HEADQUARTERS & FLEXPLO EDITORIAL, ADVERTISING, SUBSCRIBER SERVICES
3920 Veterans Memorial Hwy Ste 9
Bohemia NY 11716-1074
Phone: 631-737-6020
Fax: 631-737-6813

PUBLISHING DIRECTOR
Mark Cisternino, ext. 25
markc@flexography.org

PUBLISHER
Robert Moran, ext. 17
rmoran@flexography.org

EDITOR
Brad Pareso, ext. 31
bpareso@flexography.org

DIRECTOR OF MEMBERSHIP & BUSINESS DEVELOPMENT
Jay Kaible, ext. 20
jkaible@flexography.org

CREATIVE SERVICES MANAGER
Katie Dubois
kdubois@flexography.org

EDUCATION DIRECTOR
Joe Tuccitto
jtuccitto@flexography.org

NOVEMBER 2016 VOLUME 41, NO. 11

→ Contents

PLANTS & PROCESSES

44 Sticky Situations

James Dulong

If you find yourself with one of these 10 dilemmas, you may have a viscosity related problem.

48 Hidden in Plain View

Denis Kuhlke

Productivity gains may be attainable by reconsidering a pressroom's consumables.

52 Setting a Standard

Julian Fernandez

Setting out to build one control strip for the entire print process.



INDUSTRY INDICATORS

56 Hybrids on the Horizon

Robert Moran

Labelexpo Americas 2016 was an intersection of market demands being met by new technologies.

Also Inside:

8 Publisher's Ink
8 Central Impressions
70 Members & Maneuvers

73 Classifieds
74 Ad Index

FLEXPLO Magazine (ISSN 1051-7334) is published monthly by the Foundation of Flexographic Technical Association. Address all correspondence to FLEXPLO Magazine, 3920 Veterans Memorial Hwy Ste 9 Bohemia NY 11716-1074. Telephone: 631-737-6020. Fax: 631-737-6813. Copyright ©2016. All rights reserved. Subscriptions: 1 year: \$55 US/\$76 foreign; 2 years: \$92 US/\$125 foreign; 3 years: \$125 US/\$170 foreign. Single copies: \$7 US/\$10 foreign. Periodicals postage rates paid at Bohemia, NY 11716, and at additional mailing offices. POSTMASTER: Send address changes to FLEXPLO Magazine, 3920 Veterans Memorial Highway, Suite 9, Bohemia, NY 11716-1074, USA. Printed in USA. Publications Mail Sales Agreement No. 1558153. FLEXPLO Magazine is the official journal of the Foundation of Flexographic Technical Association, devoted to education, technical and research support to advance flexographic technology. Acceptance of advertising in FLEXPLO Magazine does not imply endorsement of the product or service by the FFTA. Opinions expressed in bylined articles are not necessarily those of the FFTA.

Sticky Situations

10 Signs of Viscosity Related Problems

James Dulong

Even in the best circumstances—new and gearless high speed presses, highly trained and attentive pressmen, atmospherically controlled environments, great ink suppliers, etc.—print issues still occur. And while there are plenty of possible causes, many of those issues could be related to ineffective viscosity measurement and control.

Here are the 10 most common symptoms associated with inadequate viscosity control.

COLOR CHANGES/VARIATIONS DURING PRESSRUN

Ink formulations are as important to printing as recipes are to cooking: A wrong ingredient added, or over or undercooking a dish, can turn an evening of fine dining into a gastronomical nightmare. The same holds for inks. An ink supplier provides an ink with the correct “recipe” to ensure the color is correct for the selected print job.

Since color is dependent on viscosity, and viscosity helps maintain the ink “recipe,” measuring and maintaining the fluid viscosity throughout the pressrun is crucial to ensuring consistent color.

By manually controlling or “spot checking” during the run, the recipe will change due to evaporation, contamination and intermittent solvent dosing, and not allow for true viscosity/color control.

“Once it’s apparent the usual tricks won’t work, it’s back to lost time, lost production and lost resources. Margins, which are already tight, begin to shrink even more.”

EXCESSIVE INK USAGE DURING PRESSRUN

Let’s be honest: Today, press operators carry a lot more responsibility than they did in the past. Advancements in press technology require that, in addition to being technically intelligent, operators possess time management, organizational habits and multitasking skills in order to successfully run print jobs. It bears some mention that these skill sets vary from operator to operator and from shift to shift.

Today’s press operator has many concerns for which he/she is responsible, only one of which is checking the ink viscosity. The time required to perform other critical tasks may take away from the time necessary to ensure the ink viscosity is consistent.

This sporadic ink checking and the time lapse between viscosity adjustments could result in substantial solvent evaporation. During that time period, the ink viscosity may increase, causing more to be applied to the substrate, resulting in increased usage and less impressions per volume.

EXCESSIVE SOLVENT/AMINE/EXTENDER USAGE DURING PRESSRUN

Correctly “controlling” ink viscosity manually takes a lot of experience, a fair amount of guesswork and time. Manually adding makeup solvent (or extender in water based inks) raises the possibility of adding too much or too little solvent or amine, which may take multiple tries to get “right.”

This haphazard approach will certainly affect, among other things, ink yield, dirty or weak print (see the next point) and ink color. Additionally, since these additives are poured and not consistently metered in, there is limited control on the amount used, resulting in increased, inefficient solvent usage.

DIRTY PRINT OR INK SMEARING

If the ink viscosity is not adequately managed throughout a pressrun, it rises and falls due to solvent evaporation, ink usage, environmental contaminants, and fresh ink replacement. Depending on how high or low the viscosity is during the run, the ink may adhere to or build up on the plate, impression roll or substrate, outside of the impression area, resulting in dirty print or smearing in non image areas.

Once this occurs, the risk for job rejection is increased. Additionally, manpower and press time required to either bring the viscosity back into spec, or to clean the deck(s), is wasted

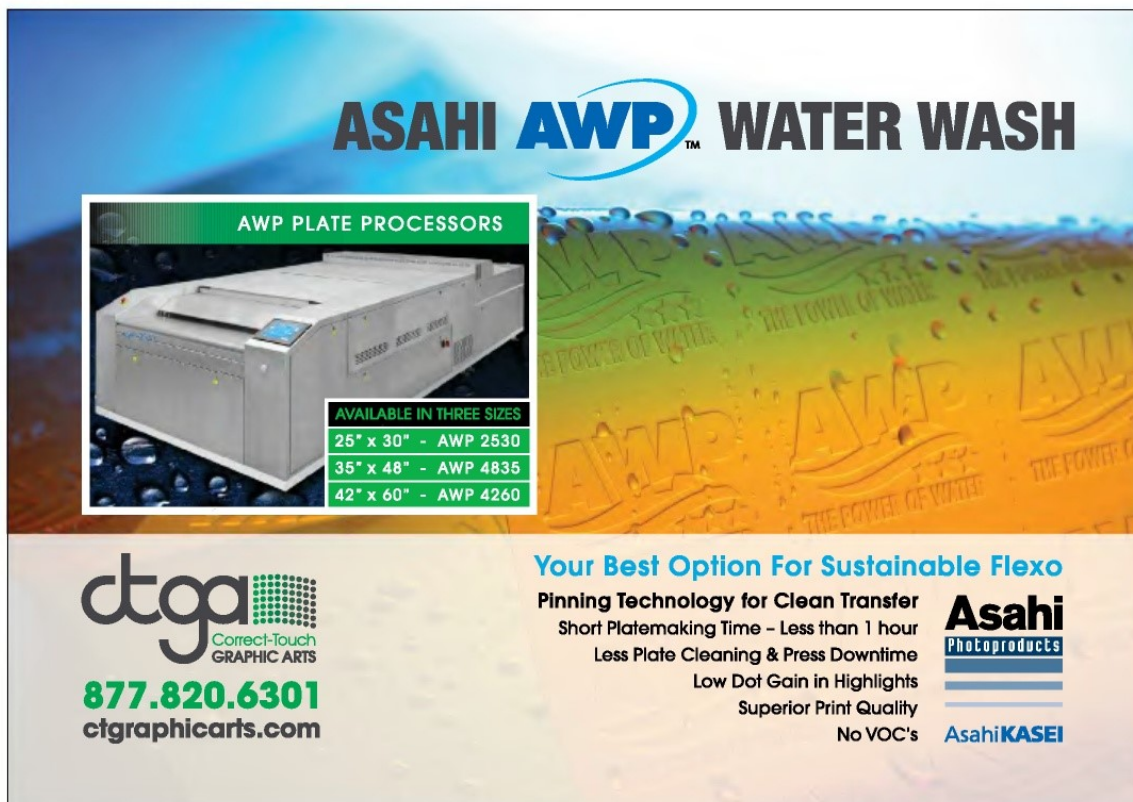
PLUGGED ANILOX ROLL CELLS

Improperly managed ink viscosity could result in print related problems such as deformed dots, dirty print or color variances. Inks that are not thoroughly mixed and homogeneous can trap solids in the anilox cell, creating print imperfections as well as cleaning difficulties. This problem is especially true with water based inks that do not rewet and become soluble.

Additionally, ink viscosity directly affects the transfer from anilox roll to plate. This changes the volume of ink applied to the substrate and therefore the color and intensity of the image. This is the reason many printers use different anilox rolls at different times of the day or year.

JOB REJECTIONS DUE TO PRINT RELATED ISSUES

For many companies, branding is one of their most important marketing tools. In many cases, the color of the packaging is more important than the brand name on it.



ASAHI AWP™ WATER WASH

AWP PLATE PROCESSORS

AVAILABLE IN THREE SIZES

- 25" x 30" - AWP 2530
- 35" x 48" - AWP 4835
- 42" x 60" - AWP 4260

dtga Correct-Touch GRAPHIC ARTS
877.820.6301
ctgraphicarts.com

Your Best Option For Sustainable Flexo

- Pinning Technology for Clean Transfer
- Short Platemaking Time – Less than 1 hour
- Less Plate Cleaning & Press Downtime
- Low Dot Gain in Highlights
- Superior Print Quality
- No VOC's

Asahi PhotoProducts
AsahiKASEI

“

Ink formulations are as important to printing as recipes are to cooking: A wrong ingredient added, or over or undercooking a dish, can turn an evening of fine dining into a gastronomical nightmare. The same holds for inks.”

Anything associated with a company's brand comes under greater scrutiny and expectations for a higher quality print job become the norm. If the color associated with the brand is not absolutely correct or if there are any print related imperfections, there is a higher chance for a job to be rejected. Often, these rejections, or customer returns, can be traced back to inconsistent ink viscosity.

Ramifications of job rejections are many. Potential for thousands of dollars in lost revenue due to production downtime, manpower needed to set up and rerun the job, additional film, additional ink and additional press time all seriously affect the bottom line.

EXCESSIVE CLEANUP DUE TO INK RELATED ISSUES

If you have housekeeping issues around the ink pail and throughout the press, you may have a viscosity related problem. Ink management, including viscosity control as well as correct ink mixing, can aid in ensuring fewer issues with, among other problems, slinging or buildup.

Commonly, this “slinging” results in longer, more extensive cleaning time due to the thin ink being thrown or spilling throughout the harder to reach areas of the press during a run.

The other side is cleaning problems due to high viscosity inks, which can build up and take more time to remove. Both of these issues require time, manpower and resources to ensure they are resolved.

PRESS STOPPAGE TO ADDRESS CLEANING RELATED ISSUES

Proper ink viscosity management can reduce the number of times it is necessary to stop a press during a run to clean plates, rolls or other areas due to ink buildup or slinging.

As viscosity begins to drift out of range and affect the quality of the finished product, it may require more than adjusting the viscosity, impression and other quick fixes. It may involve a complete cleaning of the deck(s) responsible. Once it's apparent the usual tricks won't work,

it's back to lost time, lost production and lost resources. Margins, which are already tight, begin to shrink even more.

ADHESION/FLAKING ISSUES

When manually maintaining ink viscosity, there is a risk of adding too much or too little solvent to bring it back into spec. In many cases, the operator relies on his/her experience in “knowing” the viscosity is out of range and how much solvent to add to bring it back into spec. This haphazard approach is very inefficient, and can result in large swings in viscosity and cause a high use of solvent per job.

Further, if different solvent blends are used for different inks, the chance for adding the wrong one exists, which can result in contaminating the ink and causing additional problems, such as adhering, peeling or flaking.

INKS NOT DRYING/DRYING TOO QUICKLY

When manually measuring and controlling ink viscosity, there is always the possibility the ink to solvent ratio may not be correct for the volume applied. This can result in the ink drying either too quickly or not quickly enough. Variation in ink drying time can lead to a variety of print related issues including inconsistent color, bleeding, smearing and flaking. Each of these may cost valuable time, labor and lost income due to rejections.

A common thread running through all of these issues is the potential costs applied when the print job is not monitored from start to finish. Although not the only critical process to affect the final product, ink viscosity is one of the most crucial elements of any printing process. If you are experiencing any of these symptoms, ink viscosity may be the first and easiest place to start your investigation. ■

About the Author: James Dulong has been involved with process viscosity control for more than 17 years. As technical sales manager of Norcross Viscosity Controls, James is responsible for working directly with many companies in a variety of industries to implement process improvement systems that measure and control the viscosity, pH and temperature of their fluids.

Additionally, James also oversees a global network of highly trained sales agents and representatives, ensuring customers receive the solutions they need, and the personal attention and support they require.

In his (limited) spare time, James enjoys golfing and traveling with Patty, his wife of 38 years, as well as squeezing in some guitar playing and running.

