evolve

Printex Monthly News Bulletin

June 2013
Issue 5

Printex
Your Printing Partners

TIPS OF THE MONTH

"Surround yourself with the best people you can find, delegate authority, and don't interfere as long as the policy you've decided upon is being carried out."

Ronald Reagan

A great man shows his greatness by the way he treats little men.

~ Thomas Carlyle

MINTZBERG'S 10 Managerial Roles

Apr 15th, 2008 by MAW editor

Management expert Professor Henry Mintzberg has argued that a manager's work can be boiled down to ten common roles. According to Mintzberg, these roles, or expectations for a manager's behavior, fall into three categories: informational (managing by information), interpersonal (managing through people), and decisional (managing through action).

This chart summarizes a manager's ten roles:

Mintzberg's Managerial Roles			
Category	**Role**	**Activity**	**Examples**
Informational	*Monitor*	Seek and acquire work-related information	Scan/read trade press, periodicals, reports; attend seminars and training; maintain personal contacts
	Disseminator	Communicate/ disseminate information to others within the organization	Send memos and reports; inform staffers and subordinates of decisions
	Spokesperson	Communicate/transmit information to outsiders	Pass on memos, reports and informational materials; participate in conferences/meetings and report progress
Interpersonal	*Figurehead*	Perform social and legal duties, act as symbolic leader	Greet visitors, sign legal documents, attend ribbon cutting ceremonies, host receptions, etc.
	Leader	Direct and motivate subordinates, select and train employees	Includes almost all interactions with subordinates
	Liaison	Establish and maintain contacts within and outside the organization	Business correspondence, participation in meetings with representatives of other divisions or organizations.
Decisional	*Entrepreneur*	Identify new ideas and	Implement

In the real world, these roles overlap and a manager must learn to balance them in order to manage effectively. While a manager's work can be analyzed by these individual roles, in practice they are intermixed and interdependent. According to Mintzberg: "The manager who only communicates or only conceives never gets anything done, while the manager who only 'does' ends up doing it all alone."

HINTS & TIPS

Flash Cure Printing of Plastisols

by coutesy of **fujifilm SERICOL** india website.

What is Flash Curing?

Traditionally, multicolour plastisol prints are prepared by a process known as 'wet-on-wet' printing - this means that the whole design is printed without drying between colours, then heat cured at the end. Should two colours overlap they will blend to a different shade, thus all colours should be butt registered if they are to have opacity in their own right. Flash Curing allows one or more colours in a design to be touch dried prior to the subsequent colour being printed; these colours are said to have been 'Flash Cured'. Flash Cure printing on textiles takes advantage of the two-stage curing of plastisol inks. Though plastisol inks require heating to around 130-150°C to fully cure and develop resistance properties, (dependent on the ink system), there is a stage reached at between 90-120°C when the plastisol has no resistance properties but is dry to the touch. The temperature to which the ink must be raised to reach this stage is known as the 'gellation temperature'. If a printed colour is heated to this stage immediately following printing, a subsequent colour, if required, can be printed on top without the two colours mixing. This is the basis of Flash Cure printing.

Why Should I Flash Cure?

Benefits of Flash Curing

1. Improved opacity - Overprint colours can be printed thinly over an opaque white.
2. Improved definition - Allows the use of finer mesh counts for overprint colours.
3. Improved resistance - Overprint colours remain above the fabric, creating a stronger film.
4. Brighter colours - Clean, transparent colours can be used over opaque bases.
5. Versatility - The same print set-up can be used on all colours of garments.

Drawbacks of Flash Curing

1. Harsher handle - Ink sits up on surface of garment.
2. Design limitations - Reduces number of print heads available for the design.
3. Increased costs - Flash unit purchase, increased power usage.

How Do I Flash Cure?

Raising the print to the gellation temperature is achieved by means of a dryer known as a 'Flash Cure Unit' (FCU) or 'Spot Unit'. This is a powerful heater suspended a few inches above the print which, when activated, raises the print to the gellation temperature in a matter of seconds. These units are an integral part of most automatic textile printing machines, replacing one or more of the print heads. Different inks have different gellation temperatures, and thus will require different settings of the FCU. The unit must be carefully set to gel the ink without damaging the fabric. For this reason many synthetic fibres which scorch easily are not suitable for Flash Cure Printing.

Troubleshooting

Problem	Reason / Solution
1. Flash Cured colour sticks to next screen.	a. Ink not fully gelled. Increase Flash time. b. Ink tack too high. Change ink. c. Ink too hot. Reduce Flash time. d. Ink too hot. Put in cooling station.
2. Ink remains wet after Flashing.	a. Flash Cure Unit set too low. b. Print area larger than Flashed area. c. Plattens cold. Heat up before restart. d. Ink not suitable for Flash Curing. Change ink.
3. Poor pick-up on overprint colours.	a. Not enough lift-off. Increase 'snap' distance. b. Squeegee pressure too high. Reduce. c. Overprint deposit too high. Use finer mesh.
4. Overprints pick garment from platten.	a. Platten adhesive not suitable for Flash Cure. b. Excessive garment shrinkage on Flashing.
5. Colour bleed on Flashing.	a. Synthetic fabric not suitable for Flash Cure.
6. Poor definition of overprints.	a. Squeegee pressure too high. Reduce. b. Ink deposit too high. Use finer mesh.

Setting the Flash Cure Unit

Print the required colour, typically through a 34-62T mesh, move the platten under the FCU. Activate the FCU, then remove the print from under the unit and test for gellation by dragging a finger from the print area onto the unprinted fabric - any smudging indicates the print requires a longer dwell under the unit. If the dwell (Flash) time is set too long, the garment may be damaged, so also check the fabric for scorching or embrittlement.

The ideal setting is arrived at by beginning at the lowest / shortest setting, and increasing to the point at which the smudging stops, this being the lowest setting at which gellation occurs, and as such is the least likely to cause any damage to the garment.

Many ink systems are specially designed for Flash Cure printing, having a low gellation temperature to facilitate quick and easy Flash Curing. Most dedicated Flash Cure ink systems are also designed to have a low tack surface when hot, reducing any tendency for the hot ink to stick on the underside of the following screen.

Overprinting

The use of a Flash Cure groundcoat allows the overprint colours to be transparent and semi-transparent inks, as well as opaque inks. The overprint colours can be printed wet-on-wet on top of the flash cured base, with the finer mesh counts used for these colours improving the printability greatly. Mesh counts of between 62T and 90T are typically used for overprint colours.

Machine settings for overprinting on Flash Cure groundcoats will differ from those used to print direct onto the garment, as the overprint inks simply lay on top of the groundcoat. Best results are usually obtained by using high tension mesh, minimal squeegee pressure and some 'lift-off'.

Curing of the Finished Print

As with standard plastisol prints, Flash Cure prints must be given a final full cure to attain the print's full wash-resistance properties.

When do I use Flash Curing?

1. When a fine detail opaque print is required, as it allows reduced mesh counts to be used for overprint colours.
2. When the same design is required on various colours of garment. The same print setup can be used for light and dark garments, with a Flash Cure groundcoat being used on the dark garments. It should be noted, however, that the setting of the Flash Cure Unit will vary depending on the garment / ink colour - dark colours absorbing the heat more quickly and hence requiring a lower setting.
3. Improve printability of a large format design. Reducing the mesh counts of the wet-on-wet overprints will improve printability.
4. Improve the definition of a single colour. By Flash Curing this colour, the pick-up / squashing effects of wet-on-wet printing are eliminated, so improving edge definition.

TIPS

1. Before beginning a Flash Cure print job, let the printing machine index around for a few minutes with the FCU on. This will heat the plattens to a temperature similar to that achieved during production, and hence allows the Flash time to be set at a constant level rather than having to adjust the unit down as the plattens warm up during production.
2. Always use a platten adhesive that is suitable for Flash Curing. Many adhesives lose their tack very quickly when heated, causing the garment to be 'picked' from the platten.
3. Wherever possible include a blank printing head after the Flash Unit. This is known as a 'Cooling Station' andallows the Flashed colour to lose any hot-tack prior to the next overprint. Obviously the inclusion of a cooling station depends on the number of print heads available on the machine, and the number of colours in the design.
4. Because of the 'hold-out' effect of overprinting a Flash Cure groundcoat, the groundcoat does not have to be 100% opaque, even when overprinted by semi-transparent overprint colours. Use the finest mesh possible for the groundcoat to reduce handle and Flash time. Should a white groundcoat be used, and white also appear in the design, it is often easier to print a semi-opaque groundcoat, and then a second white overprint later in the design.
5. Many designs benefit from a black keyline to tidy up any registration errors. To allow the keyline to overlap other
colours slightly, without pickup problems, simply Flash Cure the whole design prior to printing the Black. for best results a dedicated Flash Cure ink system should be

used when Flash Curing colours.
6. The most common use of Flash Curing is when a 'Flash Cure White' is employed as an opaque groundcoat. Most Sericol plastisol ink ranges include these, which are specifically designed to Flash Cure quickly and efficiently. There are many variations available, and each printer should evaluate the best ink for their own tastes.
7. Additions of 'Flow Thinner' to an ink to be Flash Cured will tend to increase the time required to gel the ink, and increase the tack of the ink when hot.

Summary

Flash Cure printing can be of enormous benefit, particularly when printing on to dark garments. It should be remembered, however, as with all printing techniques, that it requires testing and practice to achieve the best results.

Plastisol Cure Variables

Size and Thickness of an Imprint: When printing a design directly on a T-shirt, a good starting point would be 1½ minutes at 320°F (160°C). A large athletic number printed on stretch nylon might require as much as 2 ½ minutes at 340°F (173°C). The greater the volume and/or thickness of plastisol on the garment, the longer the time and/or the higher the temperature required.

Color of the Ink: When fusing light colors under infrared lamps or solely infrared conveyor dryers, slowing down the belt speed may be necessary. Light colors may reflect infrared heat sources. With forced gas dryers, color is not that important, but watch the red and black colors for undercure.

Composition and Type of Fabric: The heat required to cure a plastisol imprint on a heavy cotton duck tote bag will be greater than the same design on a T-shirt. Many fabrics contain varying levels of moisture,

water repellents, wetting agents, etc. Most textile fabrics containing any of the above would absorb more heat, and therefore a higher temperature or a longer dryer cure time would be required.

Dryer Type for Fusion of Plastisol: It is important to watch the difference between infrared and forced air dryers. The variables that relate to oven cure are:

Scorching- If a dryer is too hot it may scorch or discolor the garment you are curing. The answer is to lower the temperature to minimize scorching.

Dryer Hot Spots – Most conveyor dryers have varying degrees of efficiency. It is fairly common for gas burners malfunction and electrical sources burn out. Heat strips are essential in determining dryer efficiency.

Effects of Overloading the Dryer – Dryer efficiency is significantly reduced when the belt is completely full versus sporadic usage. Increase the heat output to reflect overloading in the dryer. Weather and Environment Conditions – High humidity in the plant in the colder months or cold drafts will reduce efficiency. If a problem with heat curing is encountered, check all environmental variables.

PRINTEX
190-A,Sabzazar Scheme, Near Darbar Hazrat Baba Shah Fareed, Lahore.
Ph.# 042-37496572. Email: info@printex.com.pk
Web.: www.printex.com.pk