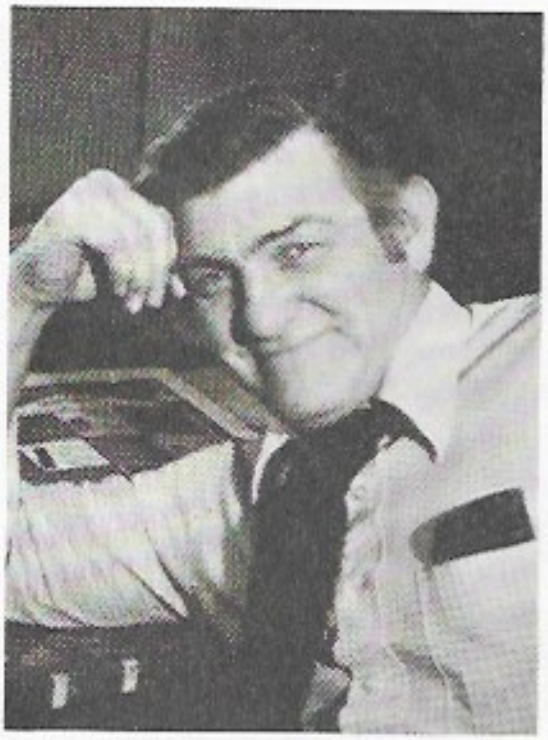
VAN SON

HANDBOOK OF HELPFUL PRESS HINTS

ONE DOLLAR



Lovingly Dedicated

to

the Memory of

Arthur Hastings Sloggatt

Our Art Director and Our Friend

INTRODUCTION

For over one hundred years, Van Son Drukinktfabrieken B.V. has been producing and selling quality printing inks throughout the world. On the occasion of their centennial in 1972, the phrase, "Koninklijke", was officially added to the corporate designation. Translated, "Koninklijke" signifies that Van Son is, by appointment of Her Majesty, the Queen, the official printing ink of the Netherlands. This royal designation for excellence has been achieved by only a few Dutch companies and is awarded only after a thorough investigation by the Dutch government.

For the past two decades, the Van Son product line has been distributed in North America by the Van Son Holland Ink Corporation of America. From a modest beginning, the company has grown steadily to its present position as a major supplier of printing inks and supplies throughout the United States, Canada and South America.

The Van Son product line is designed to serve the complete printing needs of today's printing craftsmen. Our product line is meant to provide the specific printing ink for the many complex demands facing printers today.

In the pages that follow, and throughout this Handbook, we will try to provide helpful and practical assistance to those printers who strive to maintain pride in their printing accomplishments. Any subject not covered or fully explained in this booklet will be answered in detail by Van Son. Simply refer to the Reader Inquiry Cards (on back cover) or direct your question to:

ATT : Technical Information Division

Van Son Holland Ink Corporation of America

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TABLE OF CONTENTS

SECTION I

PROBLEM SOLVING CHART

PROBLEM SOLVING CHART

CONDITION	CAUSE	CURE
1. Tinting - overall background of color in nonprinting area 	(a) ink too soft	(a) add Van Son Lustre Binding Base, Van Son Body Gum #8 or Van Son Aqua Varnish #30 to your ink
	(b) plate not properly processed	(b) prepare a new plate
	(c) fountain solution is too acid	(c) use a pH Tester to test fountain solution—if it does not read between 5.0 and 5.5, adjust fountain solution
	(d) ink and water out of balance	(d) clean up and readjust ink and water
	(e) paper coating is not of right quality	(e) consider the use of paper with different quality
2. OFFSET or SETOFF in delivery pile 	(a) too much ink on paper	(a) use less ink by readjusting fountain keys
	(b) fountain solution is too acid	(b) use a pH Tester to test fountain solution—if it does not read between 5.0 and 5.5, adjust fountain solution
	(c) wrong ink for stock	(c) contact Van Son to determine proper ink
	(d) not enough drier	(d) add Van Son 3-Way Drier, or Van Son Liquid Cobalt Drier to speed up drying of ink on paper
	(e) paper coating of poor quality	(e) use paper of different quality
	(f) ink too heavy and does not absorb into paper	(f) add Van Son Smooth Lith, Van Son Rubber Base Reducer or Van Son #00 Varnish
	(g) delivery pile too high	(g) reduce height of delivery pile and remove smaller piles from press
	(h) pressman squeezes paper pile when removing from press	(h) use board under pile and lift paper on board
	(i) static in the delivery pile is attracting sheets to each other	(i) use static eliminator tinsel across ejector wheel area will free paper of static

PROBLEM SOLVING CHART

CONDITION	CAUSE	CURE
3. **CHALKING INK** Ink rubs completely off sheet when dry 	(a) ink vehicle is absorbed by paper before ink has time to set properly on surface of paper	(a) add Van Son Body Gum #8 or Lustre Binding Base to control absorption by paper
	(b) not enough drier in ink	(b) add Van Son 3-Way Drier or Van Son Liquid Cobalt Drier to ink
	(c) job printed with ink of wrong type	(c) overprint with Van Son Overprint Varnish
4. **SCUMMING on plate** 	(a) ink is too soft	(a) add Van Son Body Gum #8, or Van Son Lustre Binding Base, or Van Son Aqua Varnish #30
	(b) too much ink	(b) adjust for better ink and water balance
	(c) fountain solution pH is incorrect	(c) use a pH Tester to test fountain solution–if it does not read between 5.0 and 5.5, adjust fountain solution
	(d) dirty molleton	(d) replace with new molleton
	(e) too much pressure on ink forms	(e) readjust press pressure:
	(f) too much drier	(f) use an ink containing less drier
5. **HICKIES—Doughnut shaped spots in inked areas** 	(a) particles of dried ink or skin from can	(a) remove all hard or skinned ink from can before putting ink in fountain
	(b) cutting or slitter dust	(b) dust paper pile edges before putting on press
	(c) dust from overhead objects such as lights or heating units	(c) vacuum overhead objects in work area
6. **MISTING of ink.** Ink flies off into atmosphere of room as fine mist 	(a) ink too soft	(a) add Van Son Body Gum #8, or Lustre Binding Base, or Van Son Aqua Varnish #30 to stiffen body of ink
	(b) speed of press	(b) reduce press speed
	(c) ink rollers are nicked or out of round	(c) inspect rollers and replace those defective ones
	(d) too much ink	(d) reduce ink at fountain by adjusting fountain blade closer to ink roller
7. **BACKING away from fountain roller and printed area becomes light in color**	(a) ink rolls up in fountain and will not follow ink roller	(a) work ink with ink knife frequently
	(b) ink is too short and heavy bodied	(b) add Van Son Rubber Base Reducer or Van Son Litho Varnish #3 to increase flow of ink body

PROBLEM SOLVING CHART

CONDITION	CAUSE	CURE
8. SLOW DRYING of INK on paper 	(a) fountain too acid	(a) use a pH Tester to test fountain solution—if it does not read between 5.0 and 5.5, adjust solution
	(b) using wrong ink for paper stock being used	(b) call Van Son for assistance
	(c) not enough drier added	(c) use more Van Son Liquid Cobalt Drier in ink
	(d) paper is too acid	(d) replace with different grade of paper
9. POOR DISTRIBUTION of ink on rollers 	(a) ink too stiff or tacky	(a) add Van Son Reducing Compound, or Van Son Smooth Lith, or Van Son Rubber Base Reducer
	(b) ink rollers out of round	(b) replace bad rollers
	(c) ink rollers glazed	(c) deglaze roller with Van Son "Rapid One-Step" Glaze Remover
	(d) uneven distribution of ink from fountain	(d) re-adjust fountain keys, clean small ink rollers of excess ink
10. PILING on ink rollers 	(a) ink too stiff or tacky	(a) add Van Son Reducing Compound, or Van Son Smooth Lith or Van Son Rubber Base Reducer to ink
	(b) ink has become emulsified with water	(b) clean up and readjust water and ink setting
11. INK ROLLERS STRIPPING - Rollers do not accept ink 	(a) fountain solution too acid	(a) use a pH Tester to test fountatin solution—if it does not read between 5.0 and 5.5, adjust solution
	(b) rollers glazed	(b) deglaze rollers with Van Son "Rapid One-Step" Glaze Remover or Van Son Putz Pomade
	(c) too much water being run	(c) cut back water at fountain
	(d) rollers have become desensitized	(d) pumice and etch ink rollers as recommended by roller manufacturer

PROBLEM SOLVING CHART

CONDITION	CAUSE	CURE
12. FILLING IN of screens and reverses 	(a) too much ink being run	(a) cut back on ink at ink fountain
	(b) ink too soft	(b) add Van Son Body Gum #8 or Van Son #30 Aqua Varnish
	(c) too much drier	(c) use ink formulated for stock
	(d) press pressures incorrect	(d) check and readjust all press pressures
	(e) paper coating not of good quality	(e) change to another type of paper
13. STREAKS or BANDS across cylinder	(a) molletons are dirty or improperly set	(a) use a new molleton and reset pressure of roller
	(b) loose blanket or improper ink roller pressures or rollers out of round or slipping	(b) tighten blanket or reset pressures
14. MOURNING BANDS on molleton edges	(a) improper water and ink balance	(a) adjust for increase of water to wet ends of molleton
	(b) dirty molleton	(b) replace with new molleton
	(c) form roller out of round	(c) replace with new roller
15. DRYING of ink on rollers	(a) too much drier	(a) reduce amount of drier
	(b) not enough printed copy to use ink off ink rollers	(b) allow ink fountain to carry fresh ink to rollers - even a small amount will soften the old ink
	(c) wrong ink formula for job	(c) call Van Son for assistance
16. MOTTLING or uneven appearance of ink; poor lifting 	(a) ink is too heavy or too thin	(a) readjust ink accordingly with Smooth-Lith or Van Son Rubber Base Reducer* or Body Gum #8 if too thin
	(b) ink does not have proper tack	(b) adjust ink accordingly with Van Son Body Gum #8
	(c) paper surface uneven	(c) replace with different type of paper
	(d) press pressures not properly set	(d) readjust all pressures
	(e) ink not water repellent enough	(e) add Van Son Lustre Binding Base, or Van Son Body Gum #8 or Van Son Aqua Varnish #30
17. PICKING of paper	(a) ink too tacky	(a) use Van Son Rubber Base Reducer
	(b) impression cylinder pressure too great	(b) readjust pressure cylinder
	(c) paper of poor quality	(c) replace with different quality paper

* if too heavy

PROBLEM SOLVING CHART

CONDITION	CAUSE	CURE
18. CRYSTALLIZATION of first color down and following color fails to trap	(a) too much time has elapsed between printing of succeeding colors	(a) run all colors as close as possible
	(b) ink is not of proper tack	(b) consult Van Son to determine correct ink
	(c) cobalt drier was used on first color	(c) use Van Son 3-Way Drier
19. SLUR or DOUBLE image	(a) blanket is loose	(a) tighten blanket clamps
	(b) press problem, gears worn	(b) have serviceman check press
20. PLATE WEAR 	(a) improper ink form roller pressures	(a) readjust ink form roller pressure
	(b) too much drier	(b) use less or different type of drier
	(c) fountain solution too acid	(c) use a pH Tester to test fountain solution—if it does not read between 5.0 and 5.5, adjust solution
	(d) too little ink	(d) carry more ink on plate
	(e) improperly developed plate	(e) remake plate
21. SCRATCHING of ink surface after ink has dried on paper	(a) not enough drier	(a) add Van Son Liquid Cobalt Drier
	(b) too much ink on paper	(b) adjust ink fountain for less ink on remainder of run
	(c) ink not of right quality for job	(c) overprint inked area with Van Son Overprint Varnish
	(d) ink surface is not resistant enough	(d) add Van Son Wax Compound or Scuff Proof Drier
22. BLANKET embossing of image area	(a) rubber in blanket is not compatible to ink	(a) replace blanket with blanket of different quality
	(b) use of wrong ink additive	(b) consult Van Son's Ink Additive Use Chart - Page 26
	(c) too much drier	(c) reduce drier content or use different type
23. BLEED through paper shows image on back of printed sheet 	(a) poor grade of paper, which is too absorbent	(a) replace paper with one of better quality
	(b) ink has been thinned with solvent that is absorbed too rapidly into the paper	(b) if solvent had been added by the printer in the shop, it is best to start with fresh ink and use a lay compound such as Van Son Rubber Base Reducer or Van Son Smooth-Lith as a reducing compound
24. COLOR fades in pile	(a) not enough oxygen between sheets to dry ink properly. Heat is generated and bleaches the color	(a) wind stack often during the first few hours after printing. The use of anti-offset spray will lessen the possibility of this happening

SECTION II

FOUNTAIN SOLUTIONS • WATER • pH

FOUNTAIN SOLUTIONS • WATER • pH

The primary purpose of the fountain solution has always been to keep the non-image area of the plate clean. The printer should understand that as long as the fountain solution is maintaining a clean non-image area, it is doing its job.

COMMON MISUNDERSTANDINGS CONCERNING FOUNTAIN SOLUTIONS

ACIDITY:

Increasing the acidity of the fountain solution does not keep the non-printing area clean. Instead, it often makes the background area oversensitive and thus even more receptive to ink.—Result? Scumming and toning. Increased acid also contributes to the breakdown of ink color strength and results in grays instead of blacks.

Increased acid often causes ink to emulsify, causing ink to transfer unevenly to the image. (Commonly known as "piling"). Increased acid is a basic cause of ink roller stripping and improper drying.

GUMS OR GLYCERINS:

Generally, gum arabic is the standard anti-oxidant of our industry especially in the professional press field. However, it is on the increase with duplicator size presses too.

The purpose of gum arabic is to attach itself to the background (nonprinting area) of the plate and prevent the exposed metal from becoming grease receptive. This function holds true in the case of presensitized plates, aluminum, zinc, copper and stainless steel bi-metal plates or copper and aluminum or chrome and copper bi-metal plates. Regardless of the type of plate you are using, gum arabic serves to prevent ink from adhering to the nonprinting areas.

While glycerin serves a similar purpose, (it is well known for its ability to attract ink very fast), it causes the ink to break-down or emulsify by breaking up the varnishes used in inks.

Gum arabic can also attract press ink and does not act as fast as glycerin. Therefore it (gum arabic) is a safer chemical, with greater tolerance, than glycerins.

Generally speaking, you can successfully lithograph using water and gum arabic by themselves. It would be very difficult to use nothing but acid and water, so it is wise to pay attention to the amount of gum you have in your fountain solution rather than to always add acid.

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Your acid strength can be much less if you use presensitized plates or bi-metal plates ... even grained aluminum or zinc is run with much weaker acids than they were 10 years ago ... grains are finer, inks are better and papers are much improved today. So, keep it weak.

FOUNTAIN SOLUTIONS • WATER • pH

INTEGRATED FOUNTAIN SYSTEMS

The pros and cons on the various types of dampening systems have not settled a thing in the mind of the printing public, at least, not as far as we know! We're not here to argue the merits of either type, but we have gathered some tips that might be of help to those printers employing the systems feeding the ink and water together.

It seems some operators either get too much or too little water, and we guess thereby hangs the tale—the copy either looks washed or is tinted and in some cases even scummed. Of course, it's a simple matter to say, get the correct balance. And this would probably be the answer, but, —when the water is feeding in a bit too healthy, plus carrying a punch pH factor, below 5.0 or so, ink has a tendency to emulsify.

This condition is even more pronounced when there is even a slight hint of glaze on the ink rollers. Roller glaze creeps up on some press operators so gradually, that they are unaware of the situation, until some condition rudely shocks them into realizing something is amiss. The rollers lose their affinity for the ink which is not carried forward evenly to the plate. Thus, the tendency to emulsify. Blotched and uneven copy also starts giving the sheet some unwanted shades of the color being used. Remember, that after each washup, if a good roller wash is not used, another very thin film of residue is piled onto the rollers; especially, if a glycerine based fountain concentrate is used. Finally, one very important day, when the run is important, the rollers have had it and begin to react. Van Son Putz Pomade and Scata-Glaze or Van Son Rapid One Step Glaze Remover is usually the fastest answer. The ink and water will regain their happy reunion and start going steady again.

Some operators have reported that running with a Bichromate mixture with water setting at 30 on the A.B. Dick press and with ink on 2 gives some good results when using metal plates. If ink has a tendency to pile, shut off ink fountain completely until copy looks ink starved—then adjust again opening gradually until the copy is sharp and full colored.

Roller tension and pressures should also be checked—both are factors on these presses as well as on all offset presses. Other operators report that better results can be obtained by running the press at slower speeds rather than at full speed. Possibly a couple of thousand revolutions slower may prove to be a couple of thousand faster and with improved copy! So, if you watch these above mentioned factors and your stock of Van Son Holland Ink and all other things being fair to middling, nothing else is really needed for fine press production with integrated fountain systems.

CONVENTIONAL DAMPENING SYSTEMS

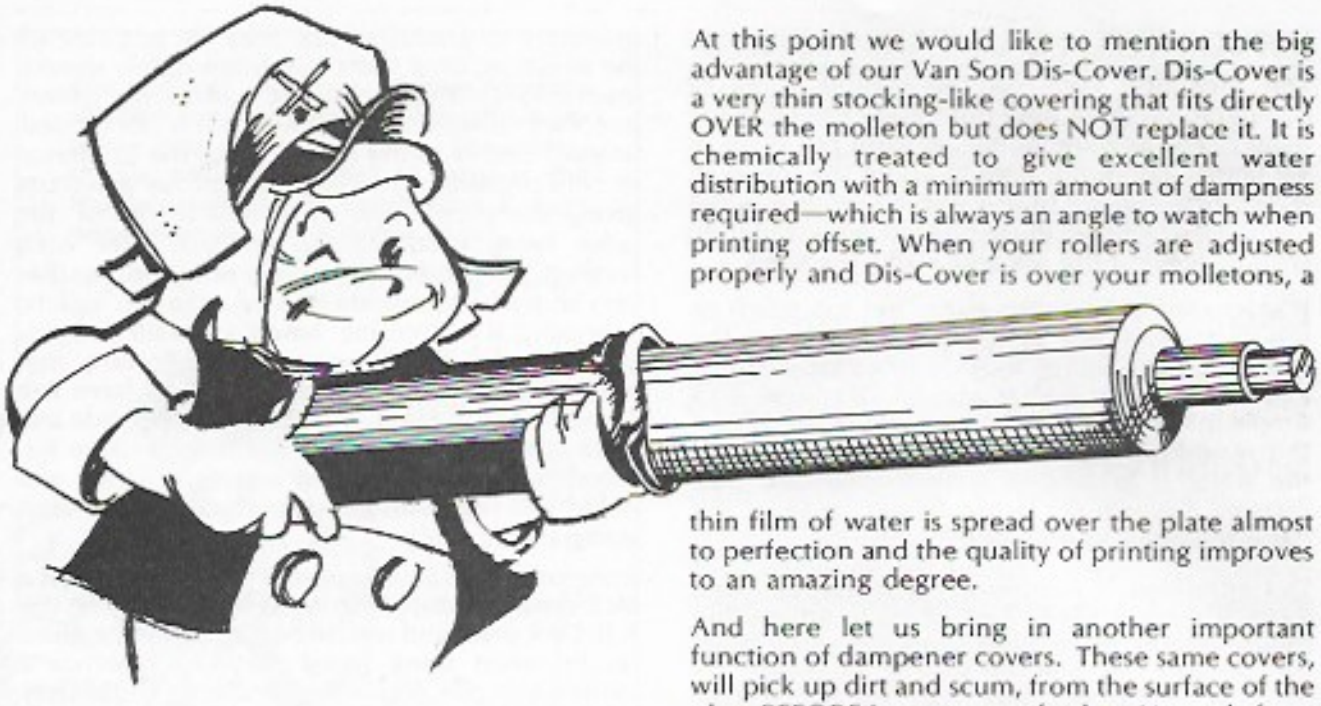
In this period of improving technology, we are apt to be a bit confused in our specialized field as well as in many others. This claim and that claim comes bouncing along so fast we can hardly tell if they have any merit or not.

And this certainly has taken place in the field of dampening systems for offset presses. Since most of the presses in use today still depend on the conventional type of water roller fitted with a covering, we will make this particular type our goal for this article. Actually, you might be amazed at the number of pressmen who do not know what functions the dampening covers really have. They feel that they are there to supply the necessary amount of water to the plate so that no tone or scum appears. Basically, this is true, but certainly their responsibility does NOT stop there!

And while many of them give fairly good water distribution, some might fail badly in the other functions so necessary to good printing, because of inconsistent types of fabrics used. If molletons are not carefully handled in the manufacturing process and if made with substandard materials, they can even fail to provide acceptable water control.

The ability of the molleton cover to absorb and hold water in proper balance is their most important function. If the molleton surface is hard and non-absorbent, it can leave dry and water-starved spots in one area and flood badly in another. Extreme pressures are then usually

FOUNTAIN SOLUTIONS • WATER • pH



brought to bear and plates will have very short production life. On the other hand, if the molleton does not have the proper fiber strength, it might have a tendency to carry too much water and the constant flow becomes extremely hard to control.

At this point, we might also warn of covers which have a tendency to shed lint like sand in a windstorm. We need not point out what an aggravating situation these strings of fuzz can bring about. However, this type of curse need not be tolerated if the molleton is of good grade and handled properly when in the making.

A good molleton will carry a good amount of water equally over its entire surface and release just as equally when passing over the plate area. This water release must come easily with just a "kiss" touch of the covers on the plate and not with a squeeze effect. As stated previously, a heavy squeeze will wreck plate life and cause faded blotches on the printed copy.

At this point we would like to mention the big advantage of our Van Son Dis-Cover. Dis-Cover is a very thin stocking-like covering that fits directly OVER the molleton but does NOT replace it. It is chemically treated to give excellent water distribution with a minimum amount of dampness required—which is always an angle to watch when printing offset. When your rollers are adjusted properly and Dis-Cover is over your molletons, a thin film of water is spread over the plate almost to perfection and the quality of printing improves to an amazing degree.

And here let us bring in another important function of dampener covers. These same covers, will pick up dirt and scum, from the surface of the plate BEFORE it can go any further. Not only from the nonprinting areas but from the PRINTING areas as well; especially in halftone and fine line copy. When one uses water, ink, and paper, a certain amount of residue material gathers at the point of contact of these three. This "contact point" is, the plate.

When an ordinary molleton gets to a point where its surface is covered with ink and scum, it is best to either discard it or cover it with a Dis-Cover. Plain white molleton does get to a point where even its water distribution is greatly affected, and if washed, the nap gets bristly and almost sharp. In such condition it cannot be expected to carry dampness properly. If washed, it soon cuts the length of the plate life and the supposed saving is more than overcome by resulting plate costs and poor copy.

The best cure for a dirty molleton is to grab a Dis-Cover, wet it thoroughly and slip it over the cover and go to town again—it takes less than 5 minutes and you are back in action at far less cost and less time than changing a molleton cover. Not only that, but you are headed for better copy!

FOUNTAIN SOLUTIONS • WATER • pH

INK AND WATER BALANCE

Everyday press operation is primarily a job of keeping the feeder delivering smoothly and maintaining INK and WATER balance on the many different plates that come to your press. While the feeder can act up and cause some problems, it is not as critical to maintain as the proper printing quality of the press sheet.

Unless you start from the beginning, when you set up your press, the correct relation of ink and water is almost always a guess. Like a pilot preparing for takeoff .... there is a list of checks that must be made before it is too late.

Even though you have run a press for many years, it is wise to take the time to recheck the various pressure settings and the quantity settings of your rollers as well as your ink and water fountains. A Saturday morning, or a slow afternoon, is a good time to do this, for it takes time and should not be skipped over lightly.

Any troubleshooter, working in the plate and press field, will tell you that 90% of his time is spent in getting the various presses back to correct pressure settings .... just plain old INK and WATER balance.
In the sincere hope that we can assist the pressman, we submit an old tried and true procedure in the following CHECK LIST for setting your press.

It is wise to use a plate that contains a good halftone, a solid with some reverse lettering and some body type ... in fact, many plants have a test plate that they put back on press from time to time and check out present press sheets with samples printed earlier.

Here's Van Sons "press check" list for Proper Ink and Water Balance.

(1) Have press completely washed up—no ink in fountain.

(2) Close all ink keys until they stop turning—do not force.

(3) Now add a small amount of ink and spread evenly along the fountain roller for its entire length.

(4) Turn the roller by hand—notice if the ink layer is collecting at any one key area—if it is, close until the roller remains clean when turning it.

(5) NOW, open each key ONE TURN and observe if the ink film is even and uniform on the fountain roller ... this should give you a minimum ink film for delivery to the remaining ink rollers.

(6) Set fountain roller rachet at one notch and proceed to ink up the press.

(7) When form rollers are inked, drop them onto the dry plate and note the width of the ribbon that they leave on the plate—this ribbon should not be wider than 3/16 inches for each roller and should measure the same across the plate ... correct the rollers if you do not have this setting.

(8) Move the plate cylinder around so that the ink ribbons are in position to contact the clean blanket and drop the plate to the blanket ... the ink ribbons should repeat themselves without any change in width and remain the same across the blanket. Reset the blanket cylinder if the ribbons are not the same width at each end ... repack the blanket if the ribbons are wider than the plate ribbons by removing a point of packing ... if the ribbons are narrower, add a point of packing.

FOUNTAIN SOLUTIONS • WATER • pH

PREPARING THE WATER MOTION

Regardless of whether you operate a single form roller system or a two-roller system (single water forms are primarily on duplicator presses), the procedure is the same.

(1) Start with CLEAN form and ductor roller covers.

(2) Clean out the fountain water bottle and the fountain pan.

(3) Pumice the metal vibrator roller and the fountain pan roller until it is thoroughly clean and then etch with equal parts of Fountain Solution (concentrate) or equivalent and Gum Arabic 14 baume. Allow the etch to dry on the rollers.

(4) If you operate Multilith presses, take off the spring pressure from the hold-down section of the metal vibrator roller.

(5) On professional presses, check the pressure between the ductor roller and the metal vibrator ... the feeler gauge should pull evenly at both ends and lightly. The same feel should occur between the ductor and the water pan roller when it comes back to contact ... this is important. MAKE SURE THAT THEY ARE PARALLEL TO EACH OTHER OR THE PLATES WILL DRY UP ON ONE SIDE OR THE OTHER BECAUSE OF TOO MUCH SQUEEZE AT ONE END OF THE ROLLERS.

(6) Place the form roller (duplicator presses) in position and set it against the metal vibrator lightly (on Davidson equipment ... Multilith does not have this setting). KEEP IT EVEN AT EACH END AND THE MIDDLE. For other presses, set the bottom form lightly to the metal roller and then to the plate. After the bottom roller is set, place the top roller into position setting to the metal roller first and then to the plate.

(7) Prepare your fountain solution in a gallon bottle. Use ¼ ounce of concentrate to 1 ounce of Gum Arabic 14 baume to one gallon of tap water. Fill your fountain pan or bottle from this supply.

(8) Cloth covers, such as molletons, will absorb an average of twice their own weight of water BEFORE they deliver a uniform supply of that water to the plate. Therefore, be sure to allow plenty of time for the covers to be properly wet or your results will not be stable. DIS-COVER does not absorb any appreciable amount of water ... it transfers the water, delivered by the ductor roller, at once. DIS-COVER is dependent upon the water balance of the ductor roller cover so make sure the ductor is wet.

Now you're ready to prove your Ink/Water Balance Check List with a trial run. Proceed as follows:

(1) Have at least 100 waste sheets in the feeder.

(2) With the ink and water motion ON IMPRESSION, bring down about 10 sheets and check the lay of ink on the image. If the ink appears weak, open the ink fountain one notch—don't change the key settings—and wait two or three minutes for the ink to reach the form rollers.

(3) Bring down another 10 sheets and note if the ink color strength is stronger. NOW, set the keys only a quarter turn at a time until the image is even in color strength. Bring down a few sheets each time you change key settings in order to check what you are doing.

(4) If you have the proper color strength, check the press sheets for any slur or scum. Knowing that you have a minimum layer of ink on the image you now open the water fountain one or possibly two notches until the background and images print sharp and clean.

(5) Remember, each time you increase ink delivery, you must watch for slur or toning and compensate with more water. Stronger acid will not help.

FOUNTAIN SOLUTIONS • WATER • pH

To summerize, here are the fundamentals of Ink and Water Balance once again . . .

(1) The amount of ink delivered to the image governs the amount of water needed to keep the plate clean in the non-printing area. Acid does not take care of this function.

(2) The fountain keys should not be used to govern to the total amount of ink delivered to the plate ... their only function is to add or decrease the ink according to the image requirements across the plate.

(3) Frequently, ink is forced onto the press sheet Smooth-hieve a DARKER color than the ink film can give. Instead of this use a DARKER shade of ink thus allowing a minimum amount of ink to reach the image. Less ink and less water result in faster drying and good color strength.

(4) Excessive squeeze between the plate and the ink and dampener rollers cause the ink and water to mix (acts like an ink mill and grinds the water and ink into a mixture). The result is excessive ink roller stripping and much faster dirtying of the water roller covers as well as wear on the water roller covers and the image of the plate.

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Light pressure is the first requirement of ink-water balance .... minimum ink and minimum acid and minimum water equals ink and water balance.

WATER AND ITS RELATION TO INK

In wet offset printing, water is necessary to keep the plate clean in the non-image areas so that ink will not adhere and print where it is not desired. Water greatly affects the ink in many ways. If the water and ink are not properly balanced, toning on the plate will result and emulsification will occur to a point where the ink runs with a washed out look. This same emulsification can cause ink to pile on the ink rollers and slow down the drying qualities of the ink if the emulsification is high or acid. In other words, improper ink and water balance can create problems that cost you time and money. Understanding the function of water, may help you eliminate some or all of these problems.

Concentrated fountain solutions are added to the water and the purpose of these chemicals is to make it easier to keep the plate clean. Don't abuse these products. Consult the manufacturer's label if there are questions as to their use and purpose. All offset inks will emulsify with the water to some degree. A balanced ink and water setting on the press will keep the emulsification to a minimum and the ink will perform as expected.

Running a surplus of water has effects on the paper stock being printed as well. The blanket will carry a percentage of water to the paper and the paper will absorb this moisture. When more than one pass through the press is required, the paper absorbs more water each time it goes through the press. This can produce poor trapping of colors, slow drying of ink and poor register.

The mixing instructions on the bottle of fountain concentrate are a good guide to mixing, but it is still necessary to check the pH factor so that the solution is not too acid. 5.0 pH or higher is the recommended reading for good printing qualities. If alcohol is used in the fountain solution, it is recommended that the pH reading be made before the alcohol is added.

Water plays a very important role in offset printing. It is important that this be understood and not abused.

FOUNTAIN SOLUTIONS • WATER • pH

WHAT DOES pH MEAN?

pH is nothing more than a symbol for the strength of acid present in any solution ... the letters pH are like FM or TV; just a symbol. It is important to know the amount of acid present in a lithographic solution. If too much is present, it might cause some of the problems listed under the paragraph on acids.

For pressroom use, the paper-type pH Indicator is sufficient and fast and simple—there are many types of pH Indicators; colorimetric, using dyes or colored glass standards and electric types using current to measure the acid resistance to electric impulses.

Generally, a pH reading of between 5.0 and 5.5 is good for most plates, inks and papers. As pH numbers become smaller, the acid strength is GREATER so that a reading of 5.5 is much weaker than 4.5—as Zero is a darn sight colder than freezing!

pH readings less than 3.0 will cause fast plate breakdown and loss of color strength and very well can cause bad stripping of your rollers.

Keep your readings around 5.0 and watch your amount of Gum Arabic and you should have good everyday results.

pH

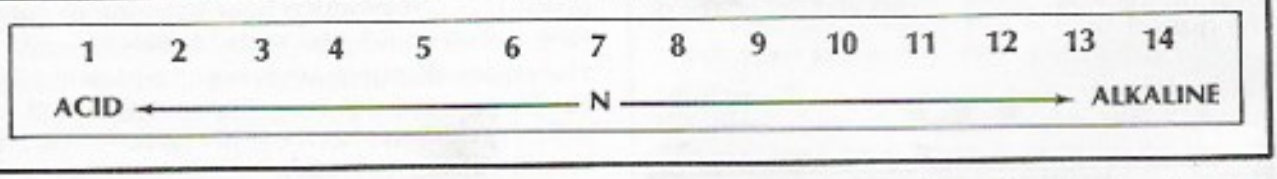
There are countless types of fountain solutions being sold today and with each separate formulation, it is the pH Factor that is important to the printer.

pH is the measurement of the acidity or alkalinity of a solution. The pH scale runs from 0-14. The neutral reading is 7.

The lower the pH number, under 7, the more acid the solution. The higher the pH number, over 7, the more alkaline the solution.

Van Son recommends that inks be run with a fountain solution having a pH as close to neutral as possible.

Inks printed with fountain solutions having pH readings that are less acid will dry faster, harder and with less press problems.



The acid factor increases rapidly as the pH reading gets lower.

Example: A 4.0 pH is 10 times as acid as a solution with a 5.0 pH. A 3.0 pH Factor is 10 times as acid as 4.0 and 100 times as acid as a 5.0 pH Factor. A 2.0 pH reading is 1,000 times as acid as a 5.0.

Formulas for mixing fountain solutions for press must be adjusted to give the proper pH reading. Fountain solution on the press will change it's pH value as it runs, influenced by ink and paper. Check the pH of the fountain solution periodically on the press while running and adjust when necessary.

FOUNTAIN SOLUTIONS • WATER • pH

pH Factor - Its Meaning and Effect on Good Printing

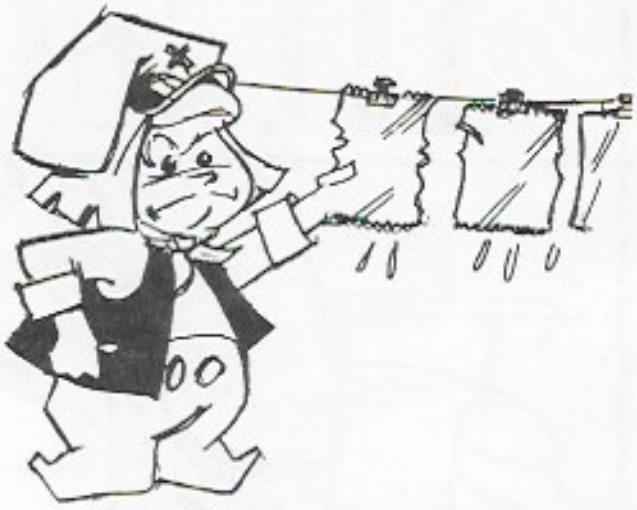
The letters, pH in themselves, mean very little as far as their actual use is concerned in regard to water fountain mixtures for lithographic printing.

However, the message that they convey cannot be overlooked. The pH Factor in the water fountain reflects the strength of the acid content of the mixturc being used. Herewith, we will list just a few of the evils encountered if the pH Factor is too strong and then we will go into the correction of the problems. All of the following can directly or indirectly be traced to an improper (too acid) pH Factor; nondrying of inks; roller stripping; short plate life; glazing of rollers; copy fading; ink emulsification; ink piling, etc.

With present day plates and inks, a very general pH reading should be about 5.0 to 5.5—and at this point, let us point out at once that the SMALLER the reading, the STRONGER the acid content of your mixture—thus, if your reading is down around 3.0 to 3.5, it is much stronger than if you had a reading of around 5.0 or higher.

We have had users of Van Son Holland Inks report excellent results with running just plain water in their fountains. However, we don't fully recommend this method as we feel that a weak fountain mixure is essential to good, clean fine line and halftone copy.

On the other hand, we dislike using fountain mixtures that contain glycerine, which is a retardant to good ink drying. If the mixture being used does contain glycerine, we suggest it be cut to about one-third its normal recommended strength when being used with Van Son Holland Inks. Gum Arabic does fine instead and causes less headaches.



The pH Factor of your fountain can drift with atmospheric conditions and if one is highly interested in keeping the copy at its absolute best, it should be checked several times during the day. pH Indicators are readily available and are inexpensive. The reason printers add substances such as Glycerine or Gum Arabic to the fountain solution is to keep the nonprinting areas clean and ink repelling. However, glycerine has a bad habit of becoming attractive to inks, and when used in excessive amounts, will cause emulsification. In the larger press field, glycerine is not used to any extent—the switch is to Gum Arabic which can do the same job, and do it, without as many bad reactions.

Now to return to the specific reactions caused by a pH Factor that is too healthy for its own good—the old bugaboo, "nondrying of inks." If the acid content of a glycerine based fountain solution is too strong, you can expect trouble to be almost as near as your starting switch! The action of the acid on the vehicle of the ink and the concurrent dilution of the same vehicle by the glycerine will cause a static condition as far as drying is concerned; especially on days when humidity is high. By high humidity, we mean anything over the 50 to 60% mark. It would take a long technical explanation as to why this takes place, but suffice it to say, it does take place. Keep your pH around the 5.0 mark, your fountain mixture free of glycerine and your production will be greater and easier.

At this point, we might add that the paper stock also has a pH Factor and it also enters into the drying action of the ink—if a combination of a low pH Factor occurs in BOTH paper and fountain, even driers cannot do the job intended and this happens more often than realized, especially in the smaller shops.

FOUNTAIN SOLUTIONS • WATER • pH

When the pH is too low or strong, and the acid is reacting badly on the ink action, roller glazing can be expected. On the metal rollers, low pH will cause stripping. This condition can also take place on rubber rollers if the glazing has become excessively prevalent. The cure—get your pH right and use a good roller wash that may cost a few cents more per gallon, but will cost a lot less in lost motion and in new press rollers.

pH can also play havoc with the life of your plates. Too much acid eats on the image and while it might seem sharp and very good for a period, it is doomed to a short run. If you are having short plate life, check the pH before you start blaming the plates. Fading copy after a run of real sharp copy is a signal that this might be your first stop in the inspection trip to determine what has happened to your job. Ink emulsification is still another favorite trick of a strong acid. Uneven images and very fine specks of ink spread here, there and everywhere might mean that the Sunday punch of the pH is reaching home. Colors will appear to be faded and no matter how much ink is forced onto the rollers, the copy just doesn't react properly.

★★★

In the same trend of thought is the matter of ink piling on the rollers. The low pH Factor holds the ink from the image and when ink is forced onto the rollers, piling is inevitable. When the resistance is removed, the ink flows smoothly and once again, the image will be ink attractive and better copy will soon result.

SECTION III

INK ADDITIVES

INK ADDITIVES

INK DRYING FACTS

When failure of ink to dry is discovered, the damage has already been done, and at best, the result is an inconvenient delay in finishing the job. Sometimes, however, delay involves a serious loss and it is necessary to apply a remedy to enable completion of the job on time. But remedies are inconvenient and often expensive. They are a poor substitute for intelligent planning to avoid drying troubles. Intelligent handling of inks is possible, and the following discussion of typical pressroom troubles and their causes may serve as a guide to the pressman ....

EFFECT OF FOUNTAIN WATER ACIDITY:

Acids and acid salts which have dissolved in the press fountain water will react with the drier in the ink to render it inactive. The greater the acidity of the water, the greater is the amount of drier destroyed and the more drying is retarded. Since the drier is destroyed, the effect is permanent and the original drying properties of the ink cannot be restored by "winding" or "hanging" the sheets. Satisfactory drying can be assured **only** when the pH value of the fountain water is kept preferably from 5.0 to 5.5. With presensitized aluminum plates, fountain water as weak as 5.5 can be used. If the water is too acid, don't attempt to aid drying by adding an excessive amount of drier.

EFFECT OF MOISTURE:

The effect of moisture on drying is the same regardless of whether it comes from the paper, the atmosphere, or the press fountain. Since drying usually takes place in the delivery pile, the moisture from all these sources combines to produce humid conditions in the atmosphere between the sheets and in the pores of the paper. It is this humidity condition that affects the drying of ink. The extent of its retarding effect depends upon the nature of the ink and of the paper. The effect of moisture alone on drying is not permanent. The original drying property of the ink can be restored by getting rid of the excess moisture, either by "winding" the printed sheets or by hanging and blowing dry heated air through them. However, to insure satisfactory drying of ink, the importance of running a minimum amount of moisture on the plate cannot be over emphasized.

EFFECT OF HUMIDITY:

For colors known or suspected to be "poor driers," the amount of drier should be increased during humid weather. For example, an ink that requires one ounce of drier per pound at 30 to 40 percent relative humidity will require more than two ounces of the same drier at 90 percent relative humidity. On the other hand, some "easy drying" colors may not require any increase in drier.

EFFECT OF TEMPERATURE:

The drying of ink is more rapid at high rather than at low temperatures. The drying time is reduced about 25%for each 10 degrees F. increase in temperature.

INK ADDITIVES

SOME OTHER INK DRYING HINTS . . .

Cold paper can also cause offsetting. The low temperature increases the viscosity of the ink and it may be thinned with a little Van Son Reducer to speed up penetration.

Static electricity can often cause offsetting. By creating a strong attraction between the sheets of the delivery pile, the sheets cling together and offset. A static eliminator or anti-static spray will cure this problem.

Ink can dry on the rollers and not on the printed sheet if the fountain solution is too acid. The presence of too much acid can neutralize the drier. Make certain the pH value is never lower than 5.0.

Ink will dry faster on certain brands of a similar type paper than on others. This is due to the variance of the moisture content of the paper. If it is higher, more drier is required. Thus, if it is necessary to run more than one type of paper—even if it is similar—it may be necessary to adjust the ink when going from one brand to another.

Drying can be retarded in the center of the sheet, while the edges dry normally, if more moisture is run at the center of the rollers than at the ends.

Ink may not dry in the center of the sheet when heavy solids are run with too much ink. In these instances, the amount of ink applied should be kept to a minimum. It may be necessary to "wind" the sheets to supply sufficient oxygen. Heat is generated by the oxidation drying of ink and when heavy forms are printed, this raises the temperature of the paper considerably, except at the edges where the heat can escape. The fluidity of the ink vehicle and its rate of absorption into the paper are increased and the pigment is left in a chalky condition in the center of the sheet. The introduction of oxygen into the pile will help dissipate this heat.

Ink can dry where it overlies a previous color and yet fail to dry where it is printed directly on the paper. The ink could contain insufficient drier, but the preceding color may still contain sufficient active drier to dry this superimposed ink film. Another possibility may be that the unprinted areas of the paper have been rendered sufficiently acid through the absorption of fountain water during previous printings thus destroying the drying properties of the ink.

Ink can dry in areas superimposed over a previous color and at the same time chalk in areas where it is printed directly on the paper. This means the ink is improperly adjusted to prevent chalking when printed directly on the paper. In the areas where it is superimposed over the other color, its vehicle is not drained away from the pigment and normal drying takes place.

INK ADDITIVES

Practically speaking, the oxygen available for drying of ink is limited to what is in the air, trapped between the sheets and within the pores of the paper in the delivery pile. When the form is light and when a moderate amount of ink is carried, drying is not appreciably retarded because of this limited supply of oxygen. However, when large solids are printed, drying may be delayed considerably. Drying problems of this type can usually be avoided by running the ink concentrated and sparingly. When the running of large heavy solids is unavoidable, it may be necessary to "wind" the sheets in order to hasten drying.

Paper is an important factor in the drying of ink. Its surface absorbency or permeability determines the rate of setting. Absorption drying and its chemical properties (acidity and alkalinity) retard or accelerate drying of ink by oxidation and polymerization.

The amount and type of drier required by an ink depends primarily on the nature of the pigment. Some pigments, such as chrome yellows, chrome greens, and iron blues, actually promote drying. Inks containing these elements require only a small amount of added drier. On the other hand, carbon blacks and some other colored pigments retard drying and their inks require larger amounts of drier. Carbon blacks and such colors that are difficult to dry require cobalt drier while most of the others can be dried satisfactorily with paste driers. Ink will dry unevenly over the sheet if the drier is not thoroughly mixed with ink or if a paper with non uniform absorbency is used.

Ink will chalk if the paper is too absorbent or if the ink vehicle is too thin. In either case, the addition of a heavy litho varnish or body gum will eliminate the problem. On the other hand ... ink will chalk even if the paper has the proper absorbency and the ink vehicle is proper when drying is retarded for any reason. This is usually due to either high humidity, excessive press moisture or acidity of the fountain water. Extra careful control over drying conditions should be exercised when running coated papers, and drier should only be added to overcome the most adverse of drying conditions. Once chalking has taken place, the only remedy is to run an overprint varnish either over the entire sheet or over the chalked color after all colors are printed.

Smudging of ink is caused by too much non-drying compound in the ink or loss of vehicle by absorption into the stock. In the first instance, the prevention is to keep the use of driers and greasy or waxy compounds to a minimum. Use small amounts of a more concentrated drier. If the cause is over absorption, a heavy litho varnish should be used.

HOW MUCH DRIER SHOULD BE USED?

Generally speaking, not more than 1½ ounces of drier per pound of ink. Many driers contain non-drying substances and, if used in excessive amounts, will actually retard drying and prevent "smudge-free" drying.

INK ADDITIVES

COBALT AND PASTE DRIERS

There is a distinct difference in the drying action found in cobalt and paste driers. Cobalt driers tend to dry inks rapidly on the surface to form a glossy, elastic skin; while the ink underneath may remain wet for some time. Paste driers, on the other hand, usually contain lead and manganese, and tend to dry the ink throughout to a tough, leathery film that has less surface gloss.

Cobalt drier is the most powerful, and is therefore preferred for inks containing pigments that may retard drying, and, where a high gloss finish is desired. It is usually avoided in multicolor printing unless a "trapping" agent is also added. This is because the dried ink films are non-receptive to other ink. In other words, cobalt driers tend to produce "crystallized" ink films which won't trap on succeeding colors. The obvious exception to this is wet multi-color printing, where the inks do not dry between impressions, but trap because the successive inks are properly adjusted with regard to decreasing tack. Cobalt driers are so powerful that they must be used with utmost discretion. An excessive amount may cause inks to dry on the press rollers.

REMEMBER USE COBALT DRIER WITH CARE!!

Just the **"right amount"** speeds drying—but as more is added, the decrease in drying time is less—and a point can be easily reached where drying time may actually be retarded. Even a little too much is apt to cause feathering—and it should never be used in any color that is to be overprinted. In most cases, a balanced drier, such as Van Son's Three-Way Drier, should be used. Not only does it dry the surface as does cobalt drier alone—it dries all the way through—and certainly is safer because the amount used is not as critical.

Paste driers usually contain a combination of lead and manganese found satisfactory for most colors, particularly in multi-color printing. The need for caution stressed for cobalt drier is not as critical in the case of paste driers. They are not considered as suitable as cobalt driers for blacks or for some of the colors that are naturally poor driers.

FOUNTAIN STIMULATOR

Van Son's Fountain Stimulator is a liquid suspension of cobalt drier that is designed to be added to the fountain solution. It has been developed to aid drying of ink on paper or on paper finishes that are partially non-porous, such as metallic and some semi-plastisized finishes. Van Son's Fountain Stimulator will also aid the drying on ink on paper that has a higher than normal moisture content. For work and turn jobs that require fast back-up, it will help set and dry the ink to prevent scuffing, picking and setting off on the impression cylinder.

The pH Factor of fountain solution may be more easily controlled with the addition of a Fountain Stimulator. Printing ink will print and dry on paper best with a fountain solution pH Factor of 5.0 to 5.5. It is common that the normal fountain solu-

INK ADDITIVES

tion mixture will have a low or more acid pH Factor. With the addition of a Fountain Stimulator, the pH reading will become more neutral and less acid. The use of a Fountain Stimulator will enable the plate to run cleaner and screen dots will have less gain.

Only the ink in contact with the fountain solution is affected by the Fountain Stimulator. The ink on the rest of the inking train maintains its original characteristics.

It is suggested that 1 to 3 ounces of Van Son's Fountain Stimulator be used to each gallon of prepared fountain solution.

STEREO DRYING AGENT

Van Son's Stereo Drier is formulated especially for wet offset printing to speed up the drying process of the ink in the delivery pile. When combined with water, Stereo Drier will begin to produce oxygen, and will continue after the ink film is on the paper. In the delivery pile, each sheet will have a layer of oxygen between it, thus creating a "top sheet" condition throughout the delivery pile.

Winding large piles of paper is a time consuming and virtually impossible task. Some printed jobs reach a point of slow drying that affects the hardness of the ink surface; and in some instances, ink will not dry completely. The use of Stereo Drier will give you more confidence, on those troublesome papers. Using Stereo Drier is similar to winding the paper pile. It will provide the needed oxygen between the sheets to insure the proper drying of the ink.

Another advantage to using Van Son's Stereo Drier is that it induces the ink to set and dry faster. This results in a more scratch resistant surface. The increased drying rate of the ink controls the actual absorption of the ink vehicles into the paper surface and a superior bind is accomplished.

Van Son Stereo Drier mixes easily into the ink, and a very small 2-3% is needed to the pound of ink.

AN OUNCE TO THE POUND ... WHAT DOES IT MEAN?

Undoubtedly, many press operators have heard the expression, "Add an ounce of this additive or that additive to the pound of ink and mix it in well and all will work out fine." And many of these same pressmen have been confused as to just how much is an ounce of this or that and how do we go about measuring an ounce?

Most of the medium and smaller sized shops do not have the necessary scale. Therefore, we suggest that the nearest kitchen be raided and the humble teaspoon and tablespoon be "requisitioned."

We have made some tests with said teaspoon and tablespoon on various Van Son additives. While the actual amounts listed will be specifically for Van Son additives, you will find that these measurements applicable to most brands of comparable additives

When an ounce of Van Son's Three-Way Drier is desired, all you need do is get out the trusty tablespoon, dip in, and come up with a fairly well-filled spoon—add it to the pound of ink—mix in well and you have a measurement that is 99% accurate. If less than a pound of ink is involved, the smaller teaspoon can be brought into action and for one-half ounce, just fill a well-rounded teaspoon and mix in well.

INK ADDITIVES

Note: For Van Son's Reducing Compound, the measurement is somewhat different.

Here we must heap the tablespoon to reach the one-half ounce figure.

For Van Son's 495 Overprint Varnish, the measurement is two level tablespoons for the needed ounce. A level teaspoonful gives you about one-fourth ounce of Varnish.

Van Son Smooth Lith additive measures six level tablespoons for the required ounce. Smooth Lith comes in very light body-form and reduces the body of ink rapidly. Therefore, it must be used according to recommended measurements. When used as directed, it is one of the finest additives available today.

The correct additive can avoid chalking, scuffing, and non-drying. Whenever an additive is used, it is a good idea to wash the press for overnight stops. This will enable prompt and efficient start up in the morning.

WHEN USING OVERPRINT VARNISH BE CAREFUL!

Yes, that's just what we said—when using Overprint Varnish, you had better not **"push it"** to add that extra sparkle and lustre to the finished sheet.

Overprint Varnish is designed to do the job when spread thinly and evenly over the surface. It is handled in much the same manner as ink with the exception of holding back the flow. A thin, even film is all that is required. Too much varnish will only cause the sheets to stick together and your efforts to achieve more gloss will be defeated.

The printed sheets coated with Overprint Varnish should not be stacked in high lifts. Small amounts, winded after the varnish has had a chance to set, usually proves to be the best bet. Be sure that the varnish has had some time to start setting before winding too often or again your efforts will be in vain.

Overprint Varnish can be added directly into the ink when the initial printing job is being done if desired. This gives the job some added sparkle and it also speeds the drying time of the ink. Ink which has been processed in this manner should never be left on the press rollers overnight.

If possible, it is best to do overprinting in a warm temperature and low humidity. If too much moisture is in the air, slow setting of the varnish is sure to be encountered and the chance of the sheets sticking together is increased.

However, if you follow the necessary precautions and use Van Son Overprint Varnish #495, your job will be well on its way to a successful conclusion with snap and sparkle.

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VAN SON's #30 AQUA VARNISH is designed for use on presses equipped with Aquamatic type dampening systems. These presses, such as the A.B. Dick, often encounter emulsification problems at high speeds. #30 Aqua Varnish, used as an additive, will add water repellency to the ink and give the ink a heavier body. This heavier body and added water repellency will allow the printer to print at higher speeds without piling on the ink rollers due to emulsification.

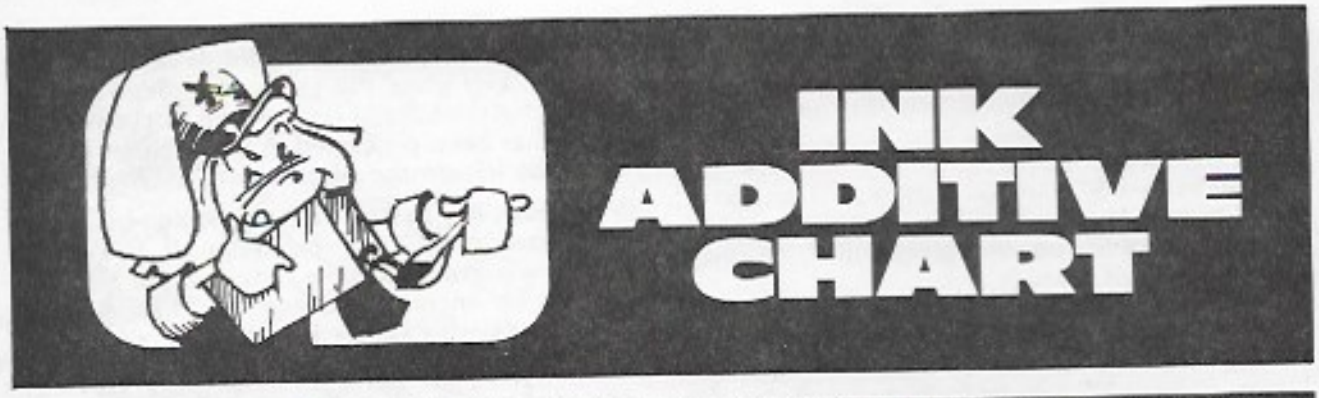
At high speeds, inks may tend to have a washed-out look. This condition is caused by emulsification of water into ink. With the addition of #30 Aqua Varnish to ink, this condition can be eliminated.

#30 Aqua Varnish will increase tack, water repellency and make the ink more viscose.

It is suggested that caution be taken and #30 Aqua Varnish be used in moderation, starting with ¼ ounce to the pound of ink. Amounts up to 1½ ounces per pound of ink may be safely added if needed.

REMEMBER .... thoroughly check out your press and refer to Van Son's Problem Solving Chart before "Doctoring" your ink.

INK ADDITIVES



TO INCREASE FLOW AND TO REDUCE TACK...

VAN SON PRODUCT	HOW MUCH TO USE
VAN SON SMOOTH LITH .... is a smooth lay and anti-offset compound. It is a liquid, and therefore, will mix easily with ink. Smooth Lith will reduce the tack, which will prevent picking, and not alter the color of the ink as it is almost colorless. Smooth Lith will aid in the drying of ink.	To the pound of ink, start by adding one capful slowly and then add as much as is necessary. To mix into small amounts of ink, add Smooth Lith by drops. (An eyedropper is a handy tool for this purpose)
VAN SON RUBBER BASE REDUCER .... is a smooth lay and anti-offset additive to correct picking of paper or where the ink does not lay down as it should for proper coverage. Rubber Base Reducer will not dilute the color of ink if used in moderation. Rubber Base Reducer will reduce the tack of ink quite rapidly. Van Son Rubber Base Reducer may be used on all size presses from duplicator to commercial.	To the pound of ink, add from ½ ounce to two ounces per pound of ink. (A heaping tablespoon is approximately ½ ounce)
REDUCING COMPOUND .... is used to cut the tack of the ink only. This compound mixes with the ink easily without changing the body of the ink. Reducing Compound should be used where the ink viscosity is of great importance.	According to tack required, it is advisable to start by adding ½ ounce to the pound and increasing the amount as needed. (A heaping tablespoon is approximately ½ ounce)
#00 LITHO VARNISH and #0 LITHO VARNISH ... are thin bodied varnishes that are used mainly as a lay compound to reduce the body of the ink quite rapidly. These varnishes should be used with moderation as thin-bodied varnishes are not too water repellent. For oil-based inks.	Start with ¼ ounce of varnish to the pound of ink and add accordingly. (A teaspoon is approximately ¼ ounce)
#1 LITHO VARNISH .... This varnish is used to reduce tack and body slightly. Use as a lay compound and to prevent picking. For oil-based inks.	Start with ¼ ounce of varnish to the pound of ink and add accordingly. (A teaspoon is approximately ¼ ounce)

INK ADDITIVES

ALSO USED TO INCREASE FLOW...

VAN SON PRODUCT	HOW MUCH TO USE
#2, #3 and #4 LITHO VARNISH .... these varnishes will increase the flow of the ink without much change in body according to the viscosity of a particular ink. For oil-based inks.	Start with ¼ ounce of varnish to the pound of ink and add accordingly. (A teaspoon is approximately ¼ ounce)

FOR OVERPRINTING...

VAN SON PRODUCT	HOW MUCH TO USE
Overprint Varnish #495 & S.S. OVERPRINT VARNISH #4050 .... synthetic varnish with excellent gloss, very pale in color and does not readily change the color of the inks that are being overprinted. Overprint Varnish can be added to ink to help prevent chalking on coated paper.	Use "as is" from the can if using to overprint. If added to ink to help prevent chalking, you can add up to 1½ ounces to the pound of ink. (A tablespoon is approximately ½ ounces) See Pg. 27

TO SPEED DRYING...

VAN SON PRODUCT	HOW MUCH TO USE
THREE-WAY DRIER .... is a combination of Cobalt, Lead and Manganese. This is called the "safe-drier" because it will dry slower and more thoroughly than Cobalt. If multicolors are to be trapped, Three-Way Drier will give a wider latitude of time between printing of succeeding colors. Add to inks to make them set faster on some of the more difficult stocks.	To the pound of ink, add from ½ ounce to 1½ ounces depending on the extra drying speed needed. (A tablespoon holds one ounce, a teaspoon holds ½ ounce)
VAN SON LIQUID COBALT DRIER .... is a concentrated drier recommended for blacks or colors that must be folded or cut soon after printing. Van Son Liquid Cobalt Drier is not recommended for Process printing or for inks that are to be overprinted.	Normally add to the pound of ink from ¼ ounce to one ounce. Use caution in over use of Van Son Liquid Cobalt Drier. (A teaspoon is approximately one ounce)
COMBINATION SCUFF-PROOF DRIER .... is a binding type drier which imparts improved scuff resistance to the ink. Excellent for label package type printing where the finished product will get more than normal handling.	Normally add to the pound of ink from ¼ ounce to one ounce. (A teaspoon is approximately one ounce)

INK ADDITIVES

INK ADDITIVE CHART

TO BUILD UP INK BODY

VAN SON PRODUCT	HOW MUCH TO USE
LUSTRE BINDING BASE .... does basically what the name implies; gives the ink a lustre. This additive also makes the ink more water repellent as well. Lustre Binding Base may be used as a body gum to build up the viscosity of the ink and lessen the possibility of chalking on coated papers.	Add up to 1½ ounces to the pound of ink. Usually, it is wise to add an equal amount of Drier to compensate for extending the ink. (A tablespoon is approximately ¾ ounce)
#30 AQUA VARNISH .... is a heavy-bodied Litho Varnish that is used to build up the body of the ink rapidly as well as the tack. This varnish is excellent for inks that are to be used in the Aqua Type Fountain Systems to build up the water repellency to its maximum.	Start with ¼ ounce of varnish to the pound of ink and add accordingly. (A teaspoon is approximately ¼ ounce)
#8 BODY GUM .... this is a heavy litho varnish that is used to give the ink more body and add to its water repellency. Tack is also increased.	Start with ¼ ounce of varnish to the pound of ink and add accordingly. (A teaspoon is approximately ¼ ounce.)

TO IMPROVE SCRATCH RESISTANCE

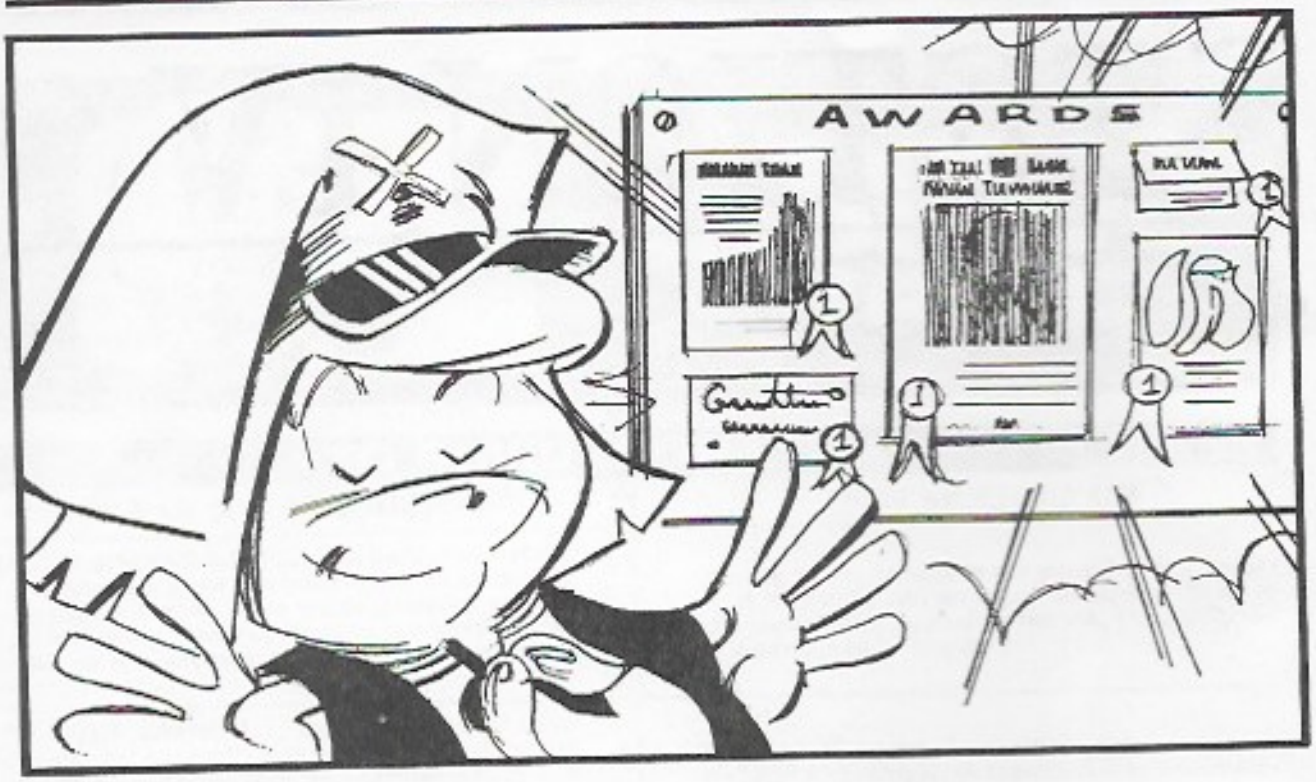
VAN SON PRODUCT	HOW MUCH TO USE
GLOSS VARNISH .... when added to the ink, will give the ink more gloss on paper. Gloss Varnish will also give the ink film a more scuff resistant surface and help prevent chalking on coated papers.	Add from ½ ounce to two ounces to a pound of ink, depending on the color strength of the ink. (A teaspoon is approximately ¼ ounce.)
WAX COMPOUND .... is a Polyethylene compound which reduces tack, picking, and improves scratch resistance of ink. Do not use where ink is to be overprinted. Excellent for label or package-type printing.	Normally, add to the pound of ink from ¼ ounce to one ounce. (A teaspoon is approximately one ounce)

TO AID DRYING WITH FOUNTAIN SOLUTIONS

VAN SON PRODUCT	HOW MUCH TO USE
VAN SON FOUNTAIN STIMULATOR .... when added to the mixed fountain solution, will increase the drying rate of the ink even on difficult papers; including those with higher than usual moisture content. The advantage of using "Fountain Stimulator" in the fountain solution is, only the ink being applied to the plate has the added drier. This allows the ink on the inking train to maintain its stay-open ability. "Fountain Stimulator" raises the pH Factor of the fountain solution, a side effect that reduces the possibility of neutralizing the driers already formulated in the ink.	Add one ounce to one gallon of prepared fountain solution. More may be added to increase drying rate.

SECTION IV

SPECIALTY INKS AND SPECIAL PRINTING PROCESSES



INTRODUCTION TO METALLIC INKS

WHY USE METALLIC INKS?

The use of metallic inks enables the printer to add distinction as well as sales appeal to many printed items, such as greeting cards, labels, luxury packaging, letterheads, etc. More and more printing jobs are being printed with metallic inks. The color gold, like the precious metal gold, signifies luxury. The printed material in gold reflects this subconscious thought.

HOW DOES THE PRINTER USE METALLIC INKS?

Metallic gold inks should be mixed just prior to actual printing. It is advisable to make ready with a colored ink. Yellow is a compatible color and helps clean up the press of other colors. This is important inasmuch as gold ink can become tarnished and thereby reduce the color brilliance.

When setting up the press for printing with Metallic inks, reduce all pressures as much as possible and use as few rollers as is practical.

Excessive pressure setting can distort the metallic powder percentage balance in the ink. If this happens, it will result in a loss of brilliance, as the surface area which reflecting the light is reduced. For best results, press speed should be reduced to approximately 60%of the normal speed. This is only a **"rule-of-thumb"** and will change with each individual press, coverage, and paper.

WHAT ABOUT FOUNTAIN SOLUTION AND PAPER?

When printing offset, it is most important to use the proper fountain solution. Gold metallics require fountain solution to be of higher pH than is normally mixed for conventional inks. A pH of 7.0 (neutral) is suggested. For best results with metallic inks, coated papers are recommended as they will produce the richness and brilliance that one expects from metallics. Because of the coating, the printed metallic ink forms a controlled continuous metallic film. Uncoated papers will absorb both varnish and pigment and form an uneven surface that will reduce the light reflectance of the metallic pigment.

WHAT ABOUT ADDITIVES?

Additives are not recommended for use in metallic inks. Driers are not normally needed or recommended as they attack the metallic pigments. Adding varnishes or reducers may also lead to problems. Metallic inks are formulated to produce the best quality of print when used direct from the can. Any additives will alter the ink and may very possibly change the running and print qualities.

SPECIALITY INKS & SPECIAL PRINTING PROCESSES

HOW TO PRINT WITH METALLIC INKS

IMPORTANT:

Follow the instructions on ink can. When mixing paste and varnish, do so as recommended by the manufacturer. If too much paste is used, you will encounter press problems due to its pigment content. The printed surface will have a poor rub resistance. On the other hand, if too little paste is used, the printed surface will become mottled and dull. In either case, you will not be able to improve gloss and color by using more or less paste than recommended by the manufacturer.

As mentioned, fountain solutions used in offset printing with metallic inks run and print best with a fountain solution pH of 7. This pH is considered neutral. Fountain solutions that are acid will attack the metallic powder and less brilliance would result in the printed surface.

OFFSET PRINTING

Prepare a fountain solution with a pH of 7. Make ready and washup. A thorough press clean up before using metallics will save headaches later.

Fill the ink fountain with freshly made two-part gold ink mixed in accordance with instructions on the can. (Premixed inks need no further mixing). Allow for an even flow of ink from fountain onto ink rollers.

Metallics tend to spread more slowly onto ink train. Use slow press speed and allow time to get good coverage on all ink rollers before beginning to print. Use minimum water settings.

Operate press at speed that you find gives the best printed results.

LETTERPRESS PRINTING

Make ready and washup thoroughly.

Follow instructions outlined above for offset printing.

For best printed results, avoid fine line reverses, fine lines or halftones. Coated paper obtains the best results. If cast coated papers are to be printed, press proof paper and ink to insure proper binding of ink to paper. Press proofing of metallic inks is a good practice on all paper stocks.

MAGNETIC INKS

Van Son Magnetic Inks have been formulated for use on both offset (either conventional or integrated system) and Letterpress.

Due to special pigments in magnetic inks, the ink has the ability to be magnetized when passed through special electronic equipment. The characters are then read, and the electronic reader passes the information on to a programmed computer that will complete the processing of the information.

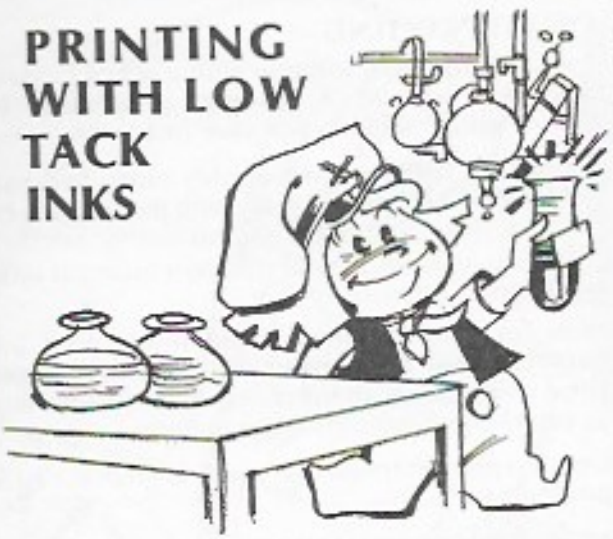
When printing with Van Son magnetic inks, no special procedures are required. The magnetic ink will print in a normal manner, and ordinary precautions of correct ink thickness, film and fountain solution pH and mixture should be followed.

The printer should understand what is expected of the printed form. Complete understanding of what the customer requires of the finished product should be understood before going to press. Information on registration, amount of ink required for proper reading, and character sharpness are but two of the points to clarify before press time.

It is possible to print the whole check with magnetic ink. Be sure that the proper spacing of the encoding numbers is maintained from the other printed areas so as not to confuse the electronic reader.

Van Son Magnetic ink has been formulated to print with the highest reading possible with a minimum ink thickness. Positive and constant readings control, as well as ideal press stability, are outstanding features of this fine ink.

PRINTING WITH LOW TACK INKS



Low tack inks were formulated to help the printer in several ways. Conventional inks often register a high tack reading and it restricts the printer to certain grades of paper. With the inception of Secret-Set inks, Van Son introduced, for the first time, a truly low tack ink.

WHAT'S DIFFERENT ABOUT VAN SON'S LOW TACK SECRET-SET INKS?

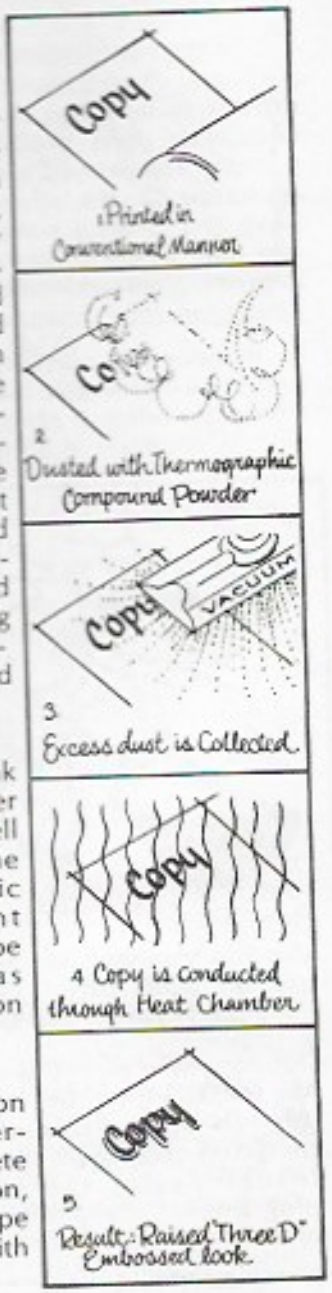
Secret-Set inks have the ability to adhere to themselves. This is a unique chemical process that gives the ink the characteristic and ability to trap without tack.

To prevent piling on the blanket, use minimum squeeze, and preferably a firm or hard blanket. If printing with a compressible blanket, a blanket hardener may be used. The extra packing that is often required with these blankets, plus the soft surface of the blanket and the extra squeeze may enlarge the dots in the halftone area. To overcome this, keep a **"kiss of impression"** and light ink and water form roller settings, and the inks will give top grade performance with clarity and maximum color.

Low tack Secret-Set will allow papers of lighter weight and less expensive grades to be printed without any indication of sheet curl. Lint and paper picking problems can also be eliminated.

THERMOGRAPHY

The process commonly known as thermography involves printing paper in black or a color by either offset or letterpress. The printed sheet is then ejected from the press, received on a conveyor belt and dusted with thermographic compound powder. The printed sheet then passes through a vacuum that collects the excess dust from the non-printed areas. The continuous belt carries the paper through the heat chamber. This heated oven area melts the thermographic compound powder into the ink giving the ink a three-dimensional or raised appearance.



All of the Van Son ink lines, including Rubber Base Plus, perform well with this process. The leading thermographic printing equipment manufacturer (Verkotype Corporation) has recommended Van Son inks to their customers.

As long as the operation of printing and thermography is as a complete unit, in one operation, even a quick drying type of ink can be used with excellent results.

SPECIALITY INKS & SPECIAL PRINTING PROCESSES

PRINTING WITH PHOTO DIRECT PLATES

Before starting, make sure that the press is clean and that the ink fountain and rollers are clean and in good condition. Here are several important steps to follow in order to achieve top printing results with Photo Direct Plates:

All press pressures should be checked for proper settings. Pressures of Ink Form Roller to plate ... and Water Form Roller to plate ... are most important. These are two areas where emulsification may take place. A pH of 5.5 is good and should not be lower than 5.0. If pH is too low, check pH of water at source of supply. Adjust accordingly.

Use new or very clean water molletons for best water transfer. The water molletons should carry enough water to the plate to keep the plate clean. The pressure from the water form roller should be sufficient to keep the molleton turning without slipping on the plate. Water fountain should be clean and solution changed daily. Metal water rollers should be desensitized to become more water receptive and to give an even flow of water to the plate.

Ink rollers should be deglazed frequently in order to remove chemicals that may cause emulsification. Ink fountain keys should be adjusted to allow only enough ink on the rollers to print. The ink rollers should show an even smooth layer of ink.

Ink and water should be run at a minimum—as little as possible.

Photo Direct Plates that have been stored for any length of time will tend to be very dry. It is best to wet the plates with water. Sometimes it helps to soak the plate in a tray of water for a few minutes before installing on press. The plate may then be etched again with water or clean fountain solution.

The problem of toning, due to build-up of plate processing chemicals, fountain solution acid, humidity or plate material variation, can be substantially reduced or even eliminated with Van Son's **"NO-TONE".** Apply "NO-TONE" to the plate as a pre-etch just prior to putting the plate on the press or it may be applied to the plate while on the press.

Wipe plate with pad and wet down entire plate. The plate may be etched on or off the press. Start press as soon as possible. To maintain a low acid condition in the fountain solution, add 1-2 ounces of **"NO-TONE"** with your concentrate to water.

★★★

PRINTING WITH ELECTROSTATIC PLATES

Printing copies from electrostatic plates is becoming a major factor in the dry copy industry as well as the printing industry.

Just as with an ordinary office copier, the original to be reproduced is placed in the electrostatic platemaker. However, instead of a copy on paper, an electrostatic plate is ejected with a printable image of the original fused to its surface. The plate is then coated with electrostatic conversion solution to fix the image and make the non-image area ink repellent.

Now ready for printing, the plate is placed on the press as with a standard metal pre-sensitized plate.

Normally, the plate converting solution diluted 13 to 1 with water, provides an excellent fountain solution. Depending on the brand, the plate will usually produce 300 to 500 copies at a cost of about 5 cents per plate.

There are several electrostatic platemakers on the market, however, the major system in use is the automated Addressograph Multigraph Total Copy System.

Van Son has formulated an ink especially for electrostatic printing. Designed to stay open indefinitely, Van Son's Electrostatic Black 36747 affords the printer dense black copy on uncoated stock. A compatible fountain solution etch (Van Son Electrostatic Fountain Solution) is also available for users of electrostatic plates.

PRINTING WITH FLUORESCENT INKS

Here are several important thoughts to be considered when using Fluorescent Inks:

Press should be immaculate. (Remember, you probably have been using an oil base or latex based ink until now. You're playing a **"new ball game"** now!) Clean all ink rollers and ink fountain several times, including a wash-up with opaque white ink to take up any colors that may not be visible to the eye.

Use ink directly from the can. Run as much ink as possible to lay the heaviest layer and use as much non-offset spray as needed.

White paper is best. The whiter the paper, the brighter the finished job.

Due to the heavy amount of ink carried on the plate; it is recommended that halftones, small type in the direct line of solids and fine line screens be avoided if possible.

Offset plates that are grained will carry more ink and produce a more satisfactory job than smooth plates.

Mileage can be figured on 80,000 square inches per pound of ink on coated paper.

All types of letterpress are satisfactory because a heavier layer of ink can be laid down and will usually print stronger color than offset.

PRINTING ON NONPOROUS SURFACES

The requests for printing on nonporous surfaces (foil, plastics, etc.) are becoming more frequent. At first, the thought of printing on these exotic stocks may seem insurmountable. However, with a reasonable amount of caution and proper press preparation, this initial apprehension will disappear.

HERE ARE SOME VAN SON SUGGESTIONS ON HOW TO PROPERLY PREPARE FOR YOUR PRINTING JOB ON NONPOROUS STOCK:

An ink specifically formulated to print on nonporous surfaces is essential. (Van Son has developed Tough-Tex for this purpose; refer to Section VI for specifics) These inks dry by oxidation, rather than absorption.

Wherever possible, allow your special stock to adjust to the temperature and humidity conditions of your pressroom before printing.

Minimize your use of fountain solution. A pH reading of 5.0 should insure freedom from toning or scumming. No special fountain solution or plate is required. (Be sure plate has been properly developed and desensitized)

Do not overload your delivery pile. Realizing that the ink is drying by oxidation, it is a good idea to keep the pile one-third to one-half of normal. Offset spray powders may be used in moderation and will serve to speed up the drying process.

Examine press settings closely before starting to print. A few minutes spent to thoroughly clean the press and to check for correct plate and blanket packings can save you time and money in the long run.

Do not leave the press unattended. Inks designed to print on nonporous surfaces do not have the press stay open characteristics that other inks may have. Van Son suggests that you proof the job prior to undertaking the actual production run. In this manner, any potential problems may be resolved before expensive stock and time have been wasted. A further reason to "pretest" is evident when one realizes that each nonporous surface stock is different and the press reaction may not always be the same.

SECTION V

COLOR AND PAPER

THE PANTONE (PMS) MATCHING SYSTEM

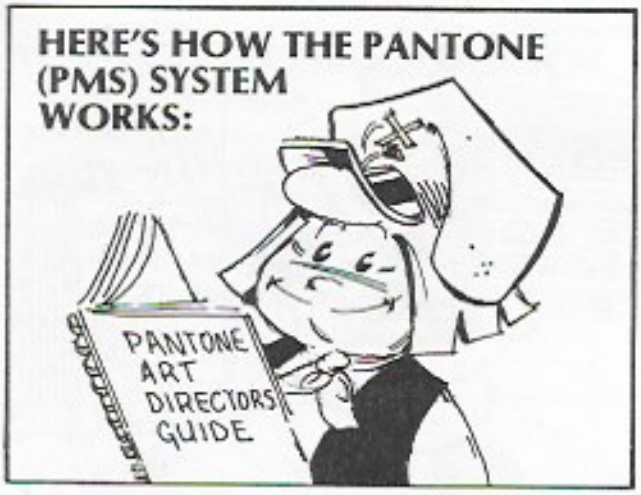
For over twenty years, the Pantone (PMS) Matching System has been the leader in the field of color communication. Today, any one of 564 PMS colors may be specified **"by number."** The customer, the artist and the printer can all identify and communicate the exact color to be furnished.

Van Son was one of the first ink companies to subscribe to this universal color matching system, and today is a leading supplier of all Pantone (PMS) colors—either as one of the ten basic colors or as special matched (including corporate) colors.

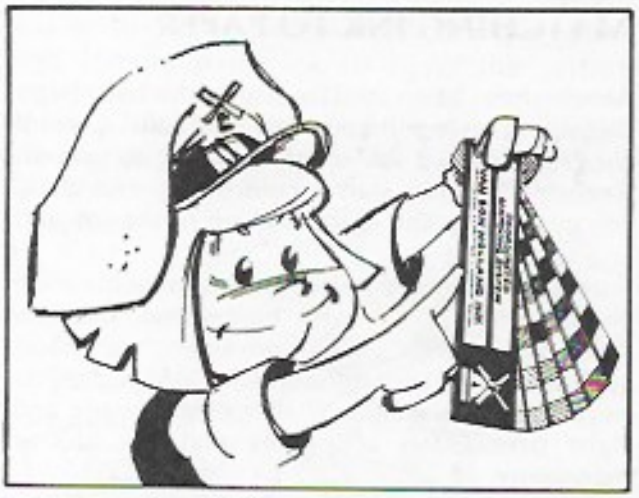
For your convenience, Van Son provides a series of ink mixing kits designed to assist you in your color formulation. These kits range in scope from the simple mixing necessities to the more sophisticated, which includes scale and a high intensity light.

Consult a Van Son price list for details on the PMS Mixing Kit best suited to your needs.

COLOR AND PAPER



Suppose a customer desires to have a brochure printed using a particular shade of red. After consulting the Pantone Art Directors Guide, he selects the shade listed as PMS 192.



The printer, noting his customer's preference, refers to the identical color listing (PMS 192) in his Pantone Formula Guide. Underneath each shade is the exact formula required to achieve the desired color.

(In the case of PMS 192, a simple mix of 10 parts Warm Red and 6 parts of Rubine Red is all that is necessary).

The printer then weighs the necessary quantity on a blending scale . . .

. . . and mixes thoroughly to achieve the exact color.

Total Mixing Time: **Less than 7 minutes!!**

COLOR AND PAPER

MATCHING INK TO PAPER

Much has been written—much has been said—and more will be written and said .... about the importance of matching ink to paper. Realizing we may start a controversy—we think too much time and space is given to the subject!

Sure, it's of prime importance to large publication printers—to printers with high-speed, multiple color presses—to paper converters, etc. Most such producers use special stocks and special inks keyed to those stocks. High-speed printing and tight production schedules make it almost mandatory.

But how many large publication printers are there as compared to the multitude of job shops and implant operations?

Every time you order paper, insist on a **"brand name"** stock. If you are switching to a different type of stock—ask your paper salesman's advice—and don't be surprised if he recommends Van Son Holland Ink. **In fact, almost all of the leading paper merchants now include Van Son Inks in their product line.**

When you receive paper, treat it with care. Don't unwrap it until you are just about ready to use it. Store in a dry place and, once opened, away from water coolers, air-conditioners or other equipment that might cause it to absorb moisture. In damp or muggy weather, it often pays to buy mill-wrapped **"cut-size"** stock readily available in convenient Junior Cartons.

Be cautious of "special buys".

Too often these "special buys" are mill ends, rejects, or special runs of inferior quality—and their variance from standard can cause more trouble than the few cents you save. The better paper mills have done an outstanding job of standardizing papers and the problem is not nearly as great as some would have us believe. Van Son Inks are being used, direct from can or cartridge, on all types of commonly used stock. This is primarily due to the uniform quality of today's paper stocks—and to the fine qualities and unique formulae of Van Son Holland Inks.

But whether you use Van Son Holland Ink or not—you owe it to yourself to take advantage of the studies made by reputable paper manufacturers. They all have instituted excellent standards of uniformity—and maintain rigid quality control of alkalinity, surface qualities and moisture content.

COLOR AND PAPER

WHEN COLOR FAILS TO MATCH

A color selected from a color card or a color matching book, such as the Pantone Matching Guide, may not print the exact shade you desire. There are many factors involved that determine the shade of the printed color. Most times, the printed color will be correct; but when the color is off shade, a few tests will determine where the blame lies.

Paper coloring will affect all inks to some degree. Transparent inks, however, are greatly affected as the paper adds another color to the ink by showing through the ink film. Colored inks to be printed on colored papers, should be matched on the paper stock to be used. Transparent colored inks will not print the same color on white paper as they will on colored paper, so proof the job before going to press.

Paper absorbency is also a big factor in printing with transparent inks. The color of transparent inks is formulated by the manufacturer to print a given color using a normal ink layer on the printed surface. If the paper is very absorbent, it will require more ink to cover the surface especially if the paper surface is not smooth. When a heavier ink layer is printed on the paper, the transparent ink color will be deeper and more intense.

To check the ink color, tap out a small amount of ink on a paper stock of similar quality or even on the color card itself. In tapping out a color, use a small amount of ink on the fingertip and tap out the ink on the paper in a circular pattern. Move the finger tip so that the ink goes from heavy to very light and only fingerprints appear. Somewhere in this range of shading should be the color you selected. If the desired color is present, then you will have to examine the other possibilities that affect color.

Colored inks, when printed, can be affected by the light source used in viewing the printed sheet. Compare printed color with original color swatch under the same light source

COLOR AND PAPER

EFFECTIVE USE OF COLOR

No one disputes the effectiveness of color printing—but some avoid the use of colors because they believe it may be too costly.

They think, first, of the cost of color separations. Then, they think of the accuracy needed in positioning; the color matching and infinite ink and water control, the micro-register and other details necessary for a good color process job.

Fact is, only a very small percentage of effective color printing is in process—the majority by far is easy to do single or multicolor printing requiring no special costs or techniques.

Let's start from the bottom .... a single color on white stock. We're sure you will agree that a pamphlet printed in color will receive greater attention than one printed in black. That a simple letterhead printed in say, Brilliant Blue, would be more attractive. That invoices and other ruled form color-printed in Slate-Gray rather than black would make the added information more legible.

The next step up the "color ladder" is color-on-color—the use of a single colored ink on a colored stock. Today, with practically all types of paper available in a wide range of colors, there is little reason for not taking advantage of "two colors for the price of one." Certainly a piece printed in, say, Evergreen on a pale green stock would be more attractive than black-on-white. And with envelopes-to-match, the printed material "stands out" from the rest of the mail—like a beacon demanding attention! Single color work on white or colored stock demands no more from equipment than black. The only "extra" requirement is a press wash-up.

Continuing up the ladder we arrive at the two color work level. The simplest form of which is generally referred to as "spot" color. While the stock may be white or colored and the first color may be black or a dark color, the second printing is a contrasting color. Company trademarks in color on letterheads is one such use. Another is the printing of headlines, illustrations, and the signature in advertising literature.

Additional costs of this type of color work are negligible. Usually, only one negative is required. Positioning is simple. Pinpoint registration is not necessary. With the exception of press wash-ups, each color requires no more attention than if it were black.

If you are not one of the many that are daily turning to "simple color" for effectiveness, don't hesitate any longer. If you are in a private plant, effective color work will add to its value—and to the value of your department. If you are a commercial printer, promote "simple color" work to your customers. Its effectiveness will make you valuable to them—and will enable you to increase your billing without additional capital investment. Van Son will provide at no charge, color charts showing over 60 colors on both coated and uncoated paper.

SECTION VI

THE VAN SON PRODUCT LINE

THE VAN SON PRODUCT LINE

HOW OFTEN HAVE WE HEARD THIS PHRASE?.... ... AND HOW OFTEN MAKE A MAD DASH FOR THE KITCHEN? WELL, JUST FOR ONCE, WE'RE ASKING YOU TO FORGO THE REFRIGERATOR AND TO GLANCE AT OUR COMMERCIAL MESSAGE". (IF YOU MUST LEAVE, TAKE OUR HANDBOOK WITH YOU!)

Our printing inks may be divided into five categories. Let's start with a description of our full line of Van Son Black Inks.

BLACK #40904. This is a long time favorite. Stays open without skinning indefinitely, instant setting for quick back-ups, can be used on metal or direct image plates. For uncoated papers. A long mileage ink.

RUBBER BASE PLUS BLACK #10850. Instant setting and rapid drying on both coated and uncoated papers. Truly an all-purpose ink. Gives superior solids and sharp, clear halftones. Rubber Base Plus Black stays open indefinitely without skinning. Compatible with metal, direct image plates. Trouble-free operation with conventional dampening systems.

"RUBBER BASE PLUS" BLACK #12630. Formulated for use on presses with integrated fountain systems (A.B. Dick) in conjunction with metal or Photo Direct Plates. Also for use on conventional presses with Photo Direct Plates. Instant setting and rapid drying on both coated and uncoated papers. Will not skin on the press or in the can. Produces crisp, clear halftones and superior solids.

MAGNETIC BLACK #68841. For check encodings. Strong character readings.

MERCANTILE BLACK #19948. For uncoated stocks—long mileage—stays open.

SECRET-SET BLACK #200. Formulated for coated papers where low tack is required. Secret-Set can minimize set-off or contamination by using a minimum of spray powder.

ELECTROSTATIC BLACK #36747. Formulated exclusively for electrostatic printing. Especially adaptable to Addressograph Multigraph units such as Total Copy System (TCS).

FORMULA #88 FOR ITEK. Dense Black with heavy body for quickly overcoming toning problems. Heavier body is compatible with all fountain systems including Aquamatic systems such as A.B. Dick.

PHOTO PAPER PLATE (ITEK). Standard bodied black for all fountain systems. Van Son's original formulation for Photo Direct, Itek or other photographic plates.

"RUBBERBASE PLUS" PMS*BLACK #10923. Similar to #10850 except has no blue toner. For coated and uncoated papers. Excellent for text printing, forms, rotary web or sheet-fed.

TOUGH-TEX BLACK #10577. For various nonporous printing surfaces. (Recommended that stock be proofed with ink before press run)

*Pantone Matching System

THE VAN SON PRODUCT LINE

RUBBER BASE PLUS INKS

A unique and unusually consistent all-purpose printing ink. Rubber Base **Plus** contains the Van Son **"quality extra"** that enables it to be used in most day to day printing situations. Rubber Base **Plus** formulation may be used on either letterpress or offset; with coated or uncoated paper, conventional or integrated fountain systems. How's **that** for "all-purpose"?

Rubber Base **Plus** inks (colors and blacks) will not skin in the can and may be left open (without skinning) on the press overnight. For quick and easy start up after press down time, allow slightly more ink to flow onto the ink rollers before shutting down press. The resulting heavier than normal ink film on the rollers will remain soft overnight and facilitate start up.

When using Rubber Base **Plus** inks and integrated fountain systems (A.B. Dick), allow a minimum amount of ink to equally cover the ink rollers. The dense pigment content of Rubber Base **Plus** will require less ink (and water) resulting in faster drying. Close attention should be paid to the acid (pH) content of the fountain solution. Van Son recommends that the pressman keep his pH reading at a minimum of 5.0 to 5.5. It is also advisable to take pH readings throughout the day as the fountain solution tends to become more acid later in the printing day.

THE VAN SON PRODUCT LINE

SECRET-SET INKS

Our unique, high quality, strongly pigmented inks designed and formulated to provide high color performance. Able to trap in any sequence, Secret-Set offers unusually low tack thereby eliminating sheet curl and picking. Further color clarity is achieved by greatly reducing the amount of spray powder required. Of course, Secret-Set inks are fully transparent and are available in several process sets, including Kodak, PMS colors and Van Son's own High Gloss Series.

TOUGH-TEX INKS

The newest addition to the Van Son product line, Tough-Tex, fills the ever increasing need for printers who ask, "What do I use to print on nonporous surfaces"? Well, for those who find themselves becoming more and more involved with synthetic stocks, such as plastics, mylar and similar type material, Van Son offers Tough-Tex. Available in an all-purpose black as well as the PMS colors, premixed Metallic Gold and Silver and Opaque White. Tough-Tex dries by oxidation rather than absorption. A word of caution: due to the cost of stock usually used with Tough-Tex, care should be taken to proof the job before undertaking full production. Once the run has begun, Tough-Tex inks should not be left on an idle press for more than thirty minutes, as they will begin to show evidence of drying.

THE VAN SON PRODUCT LINE

VAN GLO FLUORESCENT INKS

Van Son offers five vivid fluorescent colors. Van Glo inks are suitable for either letterpress or offset and may be run on coated or uncoated stock. Press hints on how to get the best results with fluorescents are offered in Section IV on Page 34.

JOHNSON AND BLOY METALLIC INKS

Consistent with Van Son's desire to market only the finest quality printing inks, the Johnson and Bloy line of fine inks has now been added to our product line. Johnson and Bloy Metallics are available in two premixed golds (light and medium shade) and a premixed silver. For those who desire to prepare their own mix, a light, medium and deep paste, as well as tinted and clear varnish is available.

Thanks, Van Son, for providing interesting and informative "press hints." I would like further Van Son assistance as noted below:

☐ Please have a Van Son technician contact me concerning a press problem.

☐ I would like additional information concerning (please specify).

_____

☐ Please provide a sample of the Van Son product checked below:

Van Son Colors: (Refer to Section V)

Formulation_____

Color_____

Van Son Black: (Refer to Section VI)

☐ 10850	☐ Mercantile
☐ 40904	☐ Itek
☐ 12630	☐ Magnetic
☐ 200	☐ Tough Tex
☐ Electrostatic	☐ Other_____

Van Son Ink Additive (please specify)

_____

_____

Individual

_____

Company

_____

Street

_____

City

_____

State Zip

_____

Telephone

I presently buy my printing ink from:

_____

Thanks, Van Son, for providing interesting and informative "press hints." I would like further Van Son assistance as noted below:

☐ Please have a Van Son technician contact me concerning a press problem.

☐ I would like additional information concerning (please specify).

_____

☐ Please provide a sample of the Van Son product checked below:

Van Son Colors: (Refer to Section V)

Formulation_____

Color_____

Van Son Black: (Refer to Section VI)

☐ 10850	☐ Mercantile
☐ 40904	☐ Itek
☐ 12630	☐ Magnetic
☐ 200	☐ Tough Tex
☐ Electrostatic	☐ Other_____

Van Son Ink Additive (please specify)

_____

_____

Individual

_____

Company

_____

Street

_____

City

_____

State Zip

_____

Telephone

I presently buy my printing ink from:

_____

Thanks, Van Son, for providing interesting and informative "press hints." I would like further Van Son assistance as noted below:

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☐ 10850	☐ Mercantile
☐ 40904	☐ Itek
☐ 12630	☐ Magnetic
☐ 200	☐ Tough Tex
☐ Electrostatic	☐ Other_____

Van Son Ink Additive (please specify)

_____

_____

Individual

_____

Company

_____

Street

_____

City

_____

State Zip

_____

Telephone

I presently buy my printing ink from:

_____