THE COATES COLOUR FILM

(Episode No. 2)

IN Episode No. 1 we concerned ourselves with the raw materials necessary for ink making, their source, storage and testing. Episode No. 2 continues from there.

1. The liquid medium, or vehicle, used varies with the type of ink or metal coating being made. The basis of most letterpress or litho inks is linseed oil, which is heat-treated in varnish pots under carefully controlled conditions of time and temperature to produce the various stand oils.

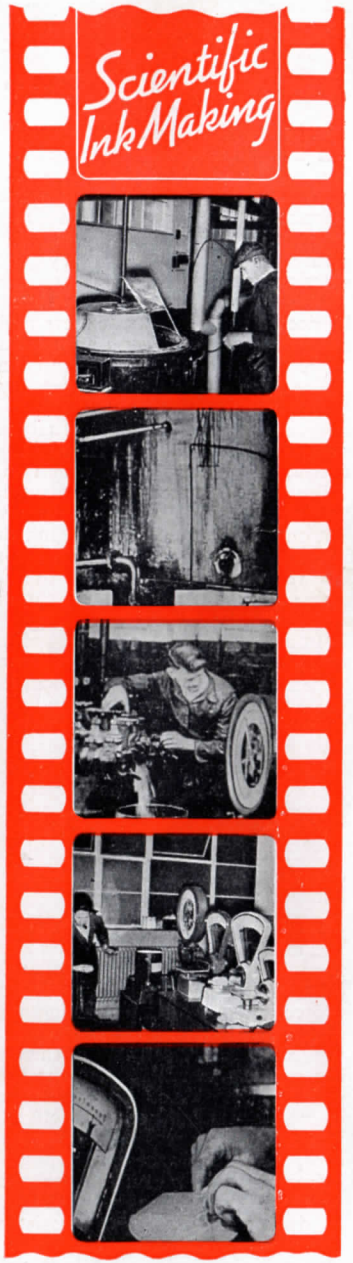
2. Synthetic resins, which impart drying qualities and gloss to the ink, are made in vessels similar in general principle to the stand oil pots and are of different sizes up to 5 tons capacity. These giant pots are provided with condensors, cooling coils and other accessory equipment.

3. Both vehicle and pigment must be carefully weighed out prior to mixing, and the varnish is led to a central point where it is filled into containers and weighed at the same time. It is interesting to note that both liquids and solids are dealt with by weight.

4. Just as the original ink formulæ are worked out to .001 of a gramme, so the batch weigher weighs out his raw materials on delicate balances which are sensitive to .001 of a lb.

5. This requires a steady hand and perfect concentration, for it is on the accuracy of this first weighing that the exact colour of the ink depends. Adjustments can be, and are, made during the succeeding process, but nevertheless it is better to be dead right at the outset.

(to be continued)



* *The Coates' film is available for exhibition to B.F.M.P. branches, P.M. & O.A. Centres or Society Meetings. Ask your secretary to write for details.*

Printed by Gale & Polden Ltd., Ideal House, Argyll St., London, W.1

COATES

Inklings

A BULLETIN FOR PRINTERS

AUGUST 1948 No. 2

Published in the interests of closest co-operation between printer and inkmaker by Coates Brothers Inks Limited, Easton St., Rosebery Ave., London, W.C.1. Terminus 2810. Factories at St. Mary Cray, Manchester, Leeds, Glasgow. Associated factories in India, S. Africa, New Zealand. Agents throughout the world.

EDITORIAL

THERE can be no doubt as to the success achieved by the first issue of 'Inklings' two months ago. Many hundreds of requests were received for extra copies to distribute to individual members of the staff, and the original circulation was unexpectedly increased by over 50 per cent almost overnight—so much so that our overseas factories and agents had to be strictly rationed on their requirements.

By a remarkable coincidence a contemporary printing ink house published, almost simultaneously, a house organ of the same name, which must have caused quite a deal of confusion (and amusement) for those printers who received both publications. Due to the fact that our South African Company have been running their own 'Inklings' since 1945, our friends have very sportingly offered to seek another title. We feel sure, however, that this disappointing start will not deter them.

Unique Gloss

IN the last edition of 'Inklings' we demonstrated how an application of Higloss Overprinting Varnish could lend special emphasis to any selected part of the design. In this issue we have still retained our glossy portions, but reduced our workings to two by employing a special super-gloss ink.

Unigloss, for that is its name, possesses many of the characteristics of Higloss. It is in fact a pigmented form of Higloss and is available in a wide range of colours. As with Higloss, it can be applied by either the letterpress, offset or direct litho processes and provides not only an attractive finish but a hard, scratch-proof, protective surface into the bargain.

In using Unigloss, care should be taken in the selection of stock, for if this is too absorbent there is some risk of the ink penetrating the surface and losing much of its characteristic finish. It must also be printed the last colour down, as once it dries its hard glass-like surface is normally unresponsive to overprinting.

Providing that a spray is used and piles kept to the minimum, there is little risk of sticking. In fact, Unigloss should be just as trouble-free as its Higloss brethren.

Unigloss is an ink worth earmarking for that job that needs to be different.

INK ADJUSTMENT

Ritual, or Progressive Experiment?

TWO schools of thought prevail in regard to ink adjustment. Firstly, there is the Ritualist, who performs his cherished rites with muttered incantations immediately the ink is out of the tin.

The second school is that of "Wait and See," which gives the ink a chance to prove itself as it stands, before starting to adjust it. Fortunately for their craft (and for the inkmaker !) this is the school to which most modern machine minders belong, although some survivors of the old Ritualists are still known to exist.

The advantages of the one method over the other are obvious. Surely any adjustments to an ink should be dictated by the requirements of the job in hand and in relation to the type of stock to be printed, humidity of the atmosphere, the machine to be used and the colour sequence to be adopted. Some of these factors are automatically catered for by the proper selection of an ink at the outset; a stout ink for bonds and boards, a soft ink, drying partly by penetration, for coated or absorbent stock, etc., whilst colour sequence controls tack and percentage of driers. Other factors, however, that may be governed by atmospheric conditions cannot be so accurately foretold and must be adjusted by practical tests on the machine.

A little extra patience in postponing adjustments until the machine is run up will pay ample dividends and, conversely, an indecent haste to condition ink at a too early stage will probably embark the machine minder on a succession of moves and counter-moves which can only end in loss of time and temper.

Ingredient	*Shortens*	*Lengthens*	*Softens*	*Stiffens*	*Increases Tack*	*Decreases Tack*	*Adds to Glossiness*	*Increases Greasiness*	*Flattens Ink*	*Hastens Drying*	*Slows Drying*
Vaseline compounds	X		X			X			X		X
Wax compounds ...	X		X			X					
Paraffin	X		X			X			X		X
Kerosene	X		X			X			X		X
Alumina		X		X	X		X				
Oleic Acid								X			
Driers { Liquid ... Paste ...			X X		X		X X			X X	
Linseed Oil { Raw Boiled	X X		X X			X X			X X		
Varnishes— Thin Tint ...	X		X			X			X		
Tint		X	X								
Thin		X	X								
Mid		X			X		X				
Soft Strong ...		X			X		X				
Strong		X		X	X		X				

In adding driers it is better to start with a minimum quantity and work up, rather than add too much at the beginning and have to compensate with retarding agents. Six per cent. of driers (1 oz. to 1 lb.) is, in normal circumstances, the safe maximum.

The properties of the various conditioners available to the machine-minder are outlined in tabulated form above.

When it is necessary to make adjustments to an ink make sure they are recorded in order to facilitate repetition when an identical job or reprint crops up again.

Moisture

Printers' Unexpected Ally

HIGH humidity and damp stock have never been exactly welcomed by the printer as contributory factors to quick drying and smooth production. Science has, however, persuaded these potential foes to join forces with the printer as his allies, and very powerful allies they make.

The way in which they have been harnessed is through the new moisture setting type of inks, and here, briefly, is a description of their characteristics and a few suggestions for their employment by the letterpress printer.

In moisture-setting inks a dual purpose vehicle is employed. This comprises, firstly, a synthetic resin which quickly solidifies on contact with moisture, and secondly, a free flowing medium which not only imparts flow to the ink on the machine but protects the moisture-sensitive resin from the action of the atmosphere whilst the ink is in the tin, on the slab or on the rollers.

Immediately the ink is deposited on the paper this free flowing medium penetrates deeply into the stock, leaving the moisture sensitive resin and pigment on the surface. The resin is immediately attacked from two directions, by the humid atmosphere and by the inherent moisture-content of the paper. As a result, the resin sets to a hard elastic film in a matter of seconds in good conditions. And *good* conditions are oddly enough those of high humidity and damp stock.

DOESN'T SET ON MACHINE

Thus it will be seen that, so long as the ink remains in a reasonably thick film, on a non-absorbent surface it enjoys the protection of the free flowing medium and cannot set. This applies to rollers and the inking slab. Only when the protecting medium is removed is the sensitive resin free to react with moisture and commence its swift setting action. This is a very important point. When, however, the film is excessively thin, as in a printed impression on foils or moisture-proof cellophane, the moisture is enabled to overcome the reduced resistance of the medium and react with the resin, although the drying time involved takes rather longer than with absorbent stock.

One of the chief uses to which this new type of ink has been put is carton printing. By accelerating drying and reducing risk of set-off, piling of printed boards ceases to be a problem and in many cases the printing, scoring, cutting and folding of cartons can be combined into a continuous process, thus saving time and valuable storage space now occupied by piling printed boards. Another advantage for the carton printer is that the ink is completely odour free, a very important factor in packaging foodstuffs.

NOW IN COMMERCIAL USE

Drifast Ink, which is the name of this unique moisture-set ink introduced by Coates Brothers, will overprint successfully and offers a reasonable gloss finish. It is obtainable in a variety of colours, all well proved and tested under commercial conditions.

One important production point must be added, which is that normal glycerine compo rollers are unsuitable for these inks. The reason is, of course, that the rollers themselves, containing moisture reactive ingredients, combine with the ink and cause interference with distribution. Ideally, rubber rollers should be used, but a special covering is provided for the normal compo rollers and can be used for short runs or testing purposes.

Although Drifast Inks are most suited for carton work, because of the tremendous saving in production time involved, they are equally useful for other classes of letterpress work where quick drying is important. You may be interested to send for a sample to test these drying qualities for yourself on different stocks, employing a proofing press for the purpose. It is an interesting test and one which should well repay your making.

PRODUCTION NOTE

INKLINGS is printed in *Coates' Neoset Black 1500/3 and Coates' Unigloss Scarlet Chrome P.19899.*