

ACTEGA Kelstar Technical Bulletin

Drying Issues

Sheet Fed Ink Drying

All sheet fed printers from time to time have issues with slow ink drying. Poor drying or not drying creates tremendous difficulties for printers. These fountain solutions provide maximum throughput in the bindery or converting areas.

•**Setting vs. Drying** – Ink looks like a paste in the can, but at the moment of printing, it is a liquid that contains about 15% fountain solution. Setting is the transition from a liquid state to a soft solid. The ink will still smear, but is not tacky. As ink oils and water leave the ink into the sheet and evaporate the film becomes more solid. It is easy to imaging why non porous stocks pose a challenge.

•**Drying** – The unsaturated ink oils (like linseed) react with oxygen and crosslink (polymerize) which is exactly the same process as oil based paint. The dried film is hard, chemically resistant and durable. Ink makers add metal salts as catalysts to speed up drying.

•**Drying Problems** – There are a number of factors that can slow drying. The most important are excessive water retained in the ink film and the pH being too low (<3.5). The water can be from running too wet (over-emulsified) or high humidity that slows evaporation out of the stock and ink. Again, non porous stocks are much more difficult.

Faster Drying Founts

We have fountain solutions that are proven to reduce drying and setting times on difficult jobs. These products contain ink drying additives that assist the ink and help combat the effects of over emulsification. Printers who run a mix of paper, plastic, poly or foil will find these beneficial. There is no need for other additives or changing fountain solution when switching from one stock to another.

Products to Use

•**Starfount SF-108** – This is a strong drying version of Starfount SF-94 that is run at 3 ozs. with alcohol replacement or 8% IPA. It offers the same calcium fighting and pH stability as Starfount SF-94 but speeds drying times by 50%.

•**Starfount SF-5088** – This one is for commercial, carton or label printers who switch back and forth between oil hybrid and UV inks. The replacement helps the UV and hybrid run more smoothly and with a larger window for ink/water balance. When the printer switches over to oil ink, there will be a good improvement in setting and drying time on any non porous substrate.

•**Starfount SF-5051** – This is a version of our popular Starfount SF-5023 which runs very well on large format presses. The alcohol replacement / wetting system cuts ink fast which helps delta dampening presses. There is some wiping at the lead edge of the plates which can cause toning and slow starts. Starfount SF-5051 provides the waste saving of fast starts and the faster drying for any coated or other non porous substrate.

All of these products eliminate the need to use any other additives or to switch from substitute to IPA for drying reasons.

•**Starfount HT-261** – This alcohol replacement does not speed drying directly, but helps by limiting the water pickup of sheet fed inks. It has proven helpful by reducing ink attack.

Use your conductivity meter to accurately set the dose.

•**Contact ACTEGA Kelstar** at 856 829 6300 or info.actega.kelstar@altana.com for additional information or technical assistance.