

### **Printing Tips for films and non-absorbent surfaces printed by Offset**

Non-absorbent material such as plastic films and metal foils cannot be printed with conventional Litho inks as these inks are designed to work with absorbent or porous printing substrates, which covers almost all types of printing papers.

**If conventional Litho inks are used on non-absorbent surfaces they will not dry.**

The solution to the problem is to use inks that dry mainly through oxidisation and are referred to as oxidising inks or fully oxidising inks.

### **Printing Tips**

Before printing allow the material adequate time to acclimatise to the temperature of the press shop in order to prevent condensation forming on the surface of the sheet. Ideal climatic conditions for the print shop are 20°C and 55% RH. Avoid cold and damp press shop conditions.

In addition to using oxidising inks, it is also important to have the correct fountain solution to ensure that the minimum amount of water is used as excess wetting will delay drying and may affect the properties of the ink. This is only possible with presses equipped with separate inking and damping units. A mixture of water and 10-15% isopropyl alcohol is generally recommended but please check with the ink supplier.

Drying can be accelerated by the use of siccatives but only if recommended by the ink supplier.

It is recommended that the sheets are printed in small piles of no more than 30mm high and that a small amount of fine anti set off spray powder is used.

The printed stacks should be placed into racks to dry and a good tip is to print the job at the end of the day and leave overnight or over the weekend to dry.

When using forced drying methods heat must be kept to a minimum to avoid distorting the sheet.

If the sheet is being processed face down and the process is interrupted, turn the top few sheets over (face up) to protect the backing sheet as it will tend to pick up moisture from the atmosphere, if left uncovered, which may result in the material curling.

Most of our products are top coated which will improve ink key but the above recommendations should be followed to ensure that the ink dries. We would always recommend a trial run under actual working conditions. This will enable you to check the drying and keying properties of the ink and provide your customer with a sample of the quality achievable.

**Always consult your ink supplier and follow their recommendations for printing non-absorbent materials. If you are printing films, particularly vinyl, use inks that are specially formulated for films.**

## **Guillotining and Die Cutting Films**

Ensure that the ink is completely dry before processing further and that all cutters are sharp.

Die cutting filmic material is not the same as paper. When paper is die cut the cutter penetrates through approximately 85% of the face material and the remaining material 'bursts' under the pressure from the knife. Whether cutting paper or film, it is important to ensure that the silicone coating in the backing sheet is not penetrated otherwise the labels will not dispense cleanly. Filmic materials do not contain fibres and therefore the cutting process cannot rely on the bursting action of paper to complete the cut. Instead, the knife has to penetrate the material almost 100% but still taking care to avoid penetrating the silicone coating of the backing. The blade angles are more acute on a die which is to be used for cutting film and the die manufacturer should be made aware of the material being cut so that the appropriate blade angles can be used.

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