



CURLING OF MATERIAL

Getting to know the curling effect and how to avoid it

Anyone who works in the printing field has certainly come up against this phenomenon, which is related to the **delicate balance between support, inks and the environmental factors involved in drying the print**. Below is some information that will help you better understand the context of this problem:

- 1 Any unprinted material is designed to remain flat and not to curl, when left lying on a flat surface.** As soon as it is reached by inks, however, it undergoes a chemical and physical aggression that changes its original molecular alignment. This happens with any type of ink, be it solvent-based, water-based, UV or Latex.
- 2 Curling of a material after printing is caused by the mechanical withdrawal of the surface following the evaporation of the liquid part contained in the ink.** This loss of mass, combined with the chemical reaction of certain compounds, can cause a temporary or permanent loss of flatness.
- 3 Atmospheric pressure and humidity determine how quickly a print dries.** For example, on rainy or humid days (80-90% humidity or more) with low pressure (980-990 hPa), the drying process is difficult and slow. On the contrary, in the presence of high pressure (1000 hPa or more), with a humidity of 50-60%, the evaporation process is facilitated and the print dries sooner. It is always important to assess the environmental and atmospheric context in which you are working.
- 4 Solid colour blocks involve significant amounts of ink** that have the dual effect of impacting the material and prolonging drying times considerably. This can significantly increase the chances of curling.

2 EFFECTIVE REMEDIES:

AIDING THE DRYING PROCESS WITH HEATERS AND FANS.

Ink evaporation can take several hours, if not days, to complete. This depends on the percentage of humidity in the air, atmospheric pressure and the amount of ink used. Until all the liquids contained in the ink have evaporated, the material will continue to be affected by their chemical action.

LEAVE AN UNPRINTED MARGIN OF A FEW MILLIMETRES AROUND THE IMAGE.

Before you trim any print or make a plotter cut, it is advisable to wait until the evaporation of the ink is complete. If you really can't afford to wait, you can resort to this trick to avoid curling.



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