

# Aqueous Coatings

## General Rules of Thumb

1. A high volume of air is the most important factor for drying and press speed. It must be evacuated so that saturated air does not accumulate inside the delivery or the pressroom.
2. Load temperatures should be monitored to prevent offsetting. Single side jobs should be stacked at no more than 95° to 100°F maximum. The second pass of work and turn sheets should be stacked at 80-85°F maximum. The use of airflow in place of heat is most beneficial on second side work and turn applications to hold stack temperatures to a minimum. Your heater should be used with caution as too much heat will lead to offsetting and possibly ink blistering or volcaning.
3. Nip pressures should be adjusted for a kiss impression. Too much pressure can lead to build up on the ends of the sheet and ultimately offsetting.
4. Gloss is a function of many things – the quality of your stock, ink coverage, coating used and how much you can apply. You can maximize your gloss by using a high holdout sheet and putting as much coating on as you can dry in a smooth film. Higher gloss coatings will generally dry slower than workhorse or general purpose materials.
5. A very small amount of starch powder is usually used to keep the sheets separated. The smallest particle size available is best. A job with heavy ink coverage will usually require some powder unless you have invested in a high capacity drying system.
6. Rub resistance is affected by coating quality, the amount that is applied and starch powder. Your rub resistance will increase by applying as heavy a coating film as practical while using little to no powder. Starch powder and coating creates a sandpaper effect. This wears and rubs poorly. A smoothly applied coating with no powder will show much better scratch and rub resistance compared with the same sheet run with powder. The inks should also be hard setting for good rub resistance. Slow drying or soft inks will wear poorly.
7. Load sizes at delivery and storage must be controlled to prevent offsetting and/or blocking, particularly when printing on non-porous stocks or using heavy coverage or slow drying inks.
8. Interstation ink dryers or units before the coater will allow you to run faster. They help partially set the ink before the coating unit. The coating is then applied on a fairly hard surface which will have less tendency to offset.
9. A variety of blankets are available on today's market. Conventional blankets are generally used for full coverage coating. Compressible blankets are more frequently used for pattern coating. Photopolymer plates are also finding favor for extended runs and frequent repeats where cost is justified.