ULTRA-VIOLET COATINGS – TIPS & TRICKS

The U.V. coating of printed sheets produces a tough, high gloss finish demanded by many product applications. However, although the process is simple, the printer should be aware of numerous pitfalls that can occur, and take active steps to eliminate them.

Below are listed a number of these problems and some suggestions that will prevent them from occurring on your printed jobs:

- Make sure jobs that are required to be treated with an Ultra-violet coating do not contain wax, polyethylene, silicones or other surface active materials (Your ink supplier can provide this information)
- Make sure that the fountain solution used does not contain glycols, glycol ethers (which are often used as alcohol substitutes), silicones, etc. as these materials can promote the pickup and retention of water which can affect the adhesion of subsequent primers or inks.
- Spray powders used to prevent offset should be minimized and a minimum particle size should be selected. Wax or surface coated powders should not be used.
- Inks must be produced from pigments that resist bleeding into the acrylic monomers and polymers used in the coating formulation. Avoid the use of troublesome pigments such as Rhodamine Red, Rhodamine Purple, Reflex Blue, etc. Your ink supplier can supply similar colours made from resistant pigments if they are requested to do so, although they are generally more expensive formulations.
- Do not use fountain solutions that have low pH readings (below 4.5) as printing under these conditions will often cause the inks to dry very slowly. (The driers in the inks become deactivated under these conditions.)
- Avoid the use of metallic inks as they are a known cause of poor coating adhesion, and will often show problems with the bonding of hot stamping foils and film laminations. (The use of wax free formulations does not guarantee success with these products.)
- Always allow inks to dry completely before any finishing is attempted. This should be a minimum of 24 hours (48 hours preferred). However, printed sheets should not be left too long before coating because the inks may become crystallized which can cause crawling (reticulation) of the U.V. coating.
- Primer coatings are often used over litho inks to prevent drying back or differential absorption of the final Ultra-violet coating. These coatings prevent the fast penetration of the coating into the paper or board stock, which can cause yellowing and retained odour. If used they should be chosen carefully to ensure that they are compatible with the other inks and coatings used. (Primer and size coatings can affect intercoat adhesion and foil stamping).
- The highest quality coated finishes are obtained when the printed surface has a minimum dyne level of 38 as this will give better coating adhesion and film smoothness.
- It is recommended that testing be carried out prior to printing, thus ensuring that all of the components are compatible with each other.

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