



TECHNICAL #215

BULLETIN

Matte Krystal Kote, S-1312 Press Applied Coating

Matte Krystal Kote, Gans product number **S-1312**, is a newly formulated product that enables the sheetfed printer to apply a matte over print through the ink fountain of any sheetfed press.

Krystal Kote is a water-based coating that is stable on press and able to withstand application through the ink roller system. When applied over wet or dry litho inks, Matte Krystal Kote maintains a set speed that practically eliminates spray powder. The most common applications for **S-1312** are cartons, labels and general commercial printing in which a matte appearance and good rub resistance are important. **S-1312** is not recommended in jobs requiring subsequent processes such as gluing, UV finishing, foil stamping or imprinting.

Common problems with oil-based overprints, such as yellowing and slow drying are eliminated. The dull matte finish and rub properties are equal to those achieved with matte aqueous coatings. Because it is water based, the dampening system is not used. If the overprint is to be flood coated, we recommend a conventional offset plate. For spot varnish, either a dry offset plate or a raised surface must be used.

Pressroom Instructions for Using Matte Krystal Kote:

1. Reduce the number of rollers in contact by disengaging as many rollers as possible because only two form rollers are necessary.
2. Thoroughly clean ink fountain and rollers. Krystal Kote is not compatible with normal litho inks and should not be mixed with them. The alkaline nature of Krystal Kote press applied overprints will draw pigment out of the rollers and tint the varnish.
3. Mist **S-1303 Blanket and Roller Spray** lightly onto the rollers and let the press idle for a few minutes. This will serve the dual function of conditioning the rollers to receive **Krystal Kote** and provide additional cleaning. The alkaline nature of **S-1303** will help remove any colorants that remain from the first clean up. Remove the excess with a shop rag dampened with **S-1303**. Once assured that the unit is clean. Spray a shop rag lightly with **S-1303** and wipe the blanket and plate off.
4. **Krystal Kote** does not have the press stability of oil based overprints, consequently it should not be put on press until make ready is complete and you are ready to print.
5. Use minimal roller pressure. The press should be started with a thick film and brought down to the desired film levels.
6. Blanket packing should be undercut 3/16" narrower than the blanket size. This will protect against paper curl, coating build-up and slinging on the outside edges.
7. Use a conventional plate. Dampening form rollers should be backed away from the plate cylinder. Krystal Kote will not litho. It can be used as a spot varnish only with a dry offset plate.
8. Inks should be chosen as if they are to be used under water based coating. Choose inks that are formulated with simple polyethylene wax. Any lubricants or slip additives like silicone, PTFE or microcrystalline wax may cause problems such as crawling, pinholing, or uncontrolled migration through the varnish.

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WARNING! Avoid the use of inks containing pigments that may bleed or change color when coming into contact with an alkaline overprint varnish. Pigments that exhibit this alkali sensitivity include **Alkali Blue (Reflex), YS Rhodamine, BS Rhodamine, Warm Red, Red Lake C, Methyl Violet, Purple and some Fluorescents**. As a precaution, always evaluate new pigments and ink formulations with the overprint to be used. When ordering inks for a job that is to be coated, you must specify “bleed resistant” colors.

Start-Up: Once you are ready to print, pour **Krystal Kote** into the fountain. Open the keys or lengthen the sweep to apply a little more overprint than you normally would with a conventional oleo-resinous overprint. Lightly spray the blanket with **S-I303** and start printing. Once the press is running, the coating weight can be reduced to achieve the desired results.

To enhance drying, providing a sufficient volume of warm air directed onto the varnished surface. In many cases IR units (short or medium wavelength) can be used to assist drying.

Keep an eye on the roller train while running. If it appears that the overprint is starting to tack-up or dry on the rollers, lightly spray some **S-I303** Blanket and Roller Spray on the rollers as needed.

If the press is going to be stopped for a more than a very few minutes, clean the blanket and plate with **S-I303**. This will minimize the possibility of **Krystal Kote** drying on the blanket and plate, causing delivery and application problems. If possible, idle the press during short periods of downtime and spray **S-I303** lightly on the rollers as needed to keep drying times to a minimum. By following these precautions, the job will continue to run well when printing is resumed.

Cleaning the Press: When the overprint is still wet it can be easily cleaned with mild detergents and water. For dried areas, **S-I303** can be sprayed on the surface to make the overprint soluble. Follow this with the detergent and water mixture. Do not allow **Krystal Kote** to dry on the press!

Handling the Finished Sheets: Sheets that are overprinted with **Krystal Kote** can dry in about 10-20 minutes after application. Some very high-holdout substrates may require more time or some spray powder to minimize blocking conditions. Proper drying is dependent on film thickness, temperature and humidity.

Evaporation: **Krystal Kote** is a water-based material and is subject to the loss of evaporative materials in the overprint. **S-I303** is formulated to replenish these materials on press. Take every precaution to keep containers covered when not in use.

For other **Krystal Kote** information, see Gans Technical Bulletins 172, 186 and 190.

Physical Properties:

Tack	pH	Specific Gravity
25–30	8.0–8.5 @ 77° F	1.01

All tack readings are @ 1200 rpm, 1 min., 90°Fahrenheit – Thwing Albert 101 Inkometer.

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