

TECHNICAL DATA SHEET

Kentucky Shine

High Gloss In-Line Aqueous Coating

PRODUCT DESCRIPTION:

Kentucky Shine was formulated as an aqueous overprint varnish for application to paper or paperboard through the inking unit of a sheet fed offset press. Typical applications would be for commercial printing. Please refer to the KENTUCKY SHINE OVERVIEW for press preparation and use. For additional information regarding specific applications, please contact your sales representative.

PERFORMANCE CHARACTERISTICS:

- Excellent gloss.
- Good rub and scuff resistance (test versus specifications prior to use).
- Not recommended for use as a UV Coating Primer.
- Not recommended for hot foil stamping, gluing or imprinting.

PHYSICAL PROPERTIES:

- Tack = 25-30 @ 1200 rpm for 30"
- pH = 8.0-8.5 @ 77°F
- Specific Gravity = 1.03

APPLICATION INFORMATION:

- Drying requirements: For best results, aqueous overprint varnishes require a sufficient volume of warm air directed onto the varnished surface. The use of IR units (short or medium wavelength) can provide drying assistance in many applications. Exercise care to avoid load temperatures in excess of 90°F.
- Application Weight: Apply about 20-25% more than oil based overprints.
- Ink Formulary: Limit wax to typical polyethylene to ensure proper inter-coat adhesion. The use of PTFE, microcrystalline wax or silicone may contribute to application problems. Avoid the use of pigments that may bleed or change color when in contact with alkaline product (refer to the KENTUCKY SHINE OVERVIEW). As a precaution, always evaluate new ink formulations/technologies with this aqueous overprint varnish.

KENTUCKY SHINE IN-LINE AQUEOUS COATING OVERVIEW

PRESSROOM INSTRUCTIONS-PREPARATION AND RUNNING:

There are several important procedures and precautions to follow when using Kentucky Shine Press Applied Overprints. Each of the following reviewed in greater detail later in this overview

- DO DISENGAGE THE DAMPENING UNIT.
- DO CLEAN THE UNIT WITH THE REGULAR PRESS AND ROLLER WASH TO REMOVE ANY RESIDUAL OIL-BASED INK OR OVERPRINT VARNISH.
- DO FOLLOW-UP BY FURTHER CLEANING THE UNIT WITH KS-702 PLATE AND BLANKET SPRAY TO CONDITION THE UNIT.
- **DO NOT** ADD KENTUCKY SHINE TO THE PRESS UNTIL THE JOB IS REGISTERED AND READY TO RUN.
- DO WIPE THE BLANKET AND PLATE WITH KS-702 PLATE AND BLANKET AND SPRAY JUST PRIOR TO USING KENTUCKY SHINE.
- **DO NOT** USE INKS THAT CONTAIN REFLEX BLUE (ALKALI BLUE), RHODAMINE, METHYL VIOLET, FLOURESCENT AND OTHER ALKALI-SENSITIVE PIGMENTS.
- **DO NOT** STOP THE PRESS FOR MORE THAN A FEW MINUTES UNLESS YOU INTEND TO CLEAN THE BLANKET AND PLATE WITH KS-702 PLATE AND BLANKET SPRAY.
- DO CLEAN THE ENTIRE UNIT IF THE PRESS IS GOING TO BE DOWN FOR AN EXTENDED PERIOD OF TIME.
- DO MONITOR THE KENTUCKY SHINE UNIT DURING RUNNING TO WATCH FOR DRYING UP ON THE ENDS OF THE ROLLERS. LIGHTLY SPRAY KS-702 PLATE AND BLANKET SPRAY ONTO THE ROLLERS AS NEEDED BUT NOT TOO MUCH.

BLANKET AND PLATE:

The blanket packing should be 3/16 inch narrower than the blanket size to avoid varnish build-up, slinging and paper curl. A normal plate can be used. KENTUCKY SHINE does not lithograph, so the dampening roller should be disengaged. Spot applications are possible using a raised plate or by underpacking the blanket.

CLEANING AND PREPARING TO USE KENTUCKY SHINE:

With a little effort, the press can be properly cleaned and conditioned.

- 1) It is very important to clean the entire unit with normal press cleaning materials. If the unit previously had color in it, extra effort will be required to ensure that it is very clean. If not, the alkaline nature of KENTUCKY SHINE Press Applied Overprints will draw pigment out of the rollers and tint the varnish.
- 2) Next, spray KS-702 PLATE AND BLANKET 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 KENTUCKY SHINE and provide additional cleaning. The alkaline nature of KS-702 will help remove any colorants that remain from the first clean-up. Remove the excess with a shop rag dampened with KS-702. Once assured that the unit is clean, proceed to step 3.
- 3) The final step would be to spray a shop rag lightly with KS-702 and wipe the blanket and plate off. Once again, this cleans and conditions.

INK SELECTION:

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 varnish.

Just like aqueous wet-litho coatings, avoid the use of inks containing pigments that may bleed or change color when coming into contact with aqueous alkaline overprint varnish. Pigments that exhibit this alkali sensitivity include Alkali Blue (Reflex), YS Rhodamine, BS Rhodamine, Red Lake C, some fluorescents, Methyl Violet, and possibly others. As a precaution, always evaluate new pigments and ink formulations with the overprint that will be used.

START-UP:

Once you are ready to print, pour KENTUCKY SHINE into the fountain. Open the keys or lengthen the sweep to apply a little more overprint than you normally would with conventional oleoresinous overprint. Lightly spray the blanket with KS-702 and start printing. Once the press is running, the coating weight can be reduced to achieve the desired results.

KENTUCKY SHINE Press Applied Overprints are more stable than other competitive products; however, it still sets and dries a lot faster than conventional overprints. During start-up, a low coating weight may exaggerate the set speed and result in a tacky blanket.

DRYING CONDITION RECOMMENDATION:

SHEETFED OFFSET-The best results on a sheetfed press can be achieved by providing a sufficient volume of warm air directed onto the varnished surface. The use of IR units (short or medium wavelength) can provide drying assistance in many applications. Exercise care to avoid load temperatures in excess of 90°F.

WEB OFFSET HEATSET- The lowest possible web temperature is desired. This is best determined by experimentation using the actual substrate and inks. If the temperature is too high, the overprint will dry and trapped ink oils will erupt through the varnish layer resulting in blisters or volcanoes. If the web temperature is too low, the overprint may not completely dry. The chill roll temperatures can be maintained at the normal running temperature.

WHILE RUNNING:

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 KS-702 Plate and Blanket Spray on the rollers as needed. Take care to avoid spraying too much on the rollers. EXCESSIVE USE OF KS-702 MAY RETARD THE DRYING OF KENTUCKY SHINE PRODUCTS.

WHY SHOULD PRINTERS CONSIDER USING KENTUCKY SHINE

Possible to print and ship 4 color work in 1 day

Possible to use cheaper stock, maintain gloss and feel of more expensive paper.

NEW PRESSROOM TRICKS

WE CAN IMPROVE STABILITY ON PRESS

Reduce the number of rollers in contact by disengaging as many rollers as possible. Only one form roller is necessary and all the other rollers are also unnecessary. Can spot varnish by using relief plates or undercutting blankets.

KENTUCKY SHINE ADVANTAGES:

- Expensive coating equipment is not required. KENTUCKY SHINE is applied using the last printing unit on a sheet-fed litho press with the dampener turned off.
- Excellent for printers which would like to take advantage of all the capabilities of aqueous coatings without having to spend the money for a coater.
- Performs well on a wide variety of sheet-fed litho presses.
- Can be applied in-line over wet inks with very fast set speed, or off-line over properly formulated dried inks.
- Available in High Gloss and Matte finishes.
- Can be cleaned up with ammonia-based detergents.
- More stable on press than most competitive products.
- Dries quickly and requires less spray powder than oil based overprint OPV.
- Non-yellowing, excellent rub resistance, and does not crack when folded.

If the press is going to be stopped for a period of time longer than very few minutes, clean the blanket and plate with KS-702. This will minimize the possibility of KENTUCKY SHINE drying on the blanket and plate; thus causing delivery and application problems. If possible, idle the press during downtime and spray KS-7020 lightly on the rollers as needed to keep drying up to a minimum. By following these precautions, the job will continue to run well when printing is resumed.

CLEANING THE PRESS:

While the overprint is wet, it can easily be cleaned with mild detergents and water. For dried areas, KS-702 can be sprayed on the surface to solubilize the overprint; then followed with the detergent/water mixture. Excessive ink film thickness must be taken into consideration as well.

HANDLING THE FINISHED SHEETS-SHEETFED

Sheets that are overprinted with KENTUCKY SHINE 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. Excessive ink film thickness must be taken into consideration as well.

ADDITIONAL INFORMATION:

KENTUCKY SHINE is a water-based material and subject to the loss of evaporative materials in the overprint. KS-702 is formulated to replenish these materials on press. Please take every precaution to keep containers covered when not in use.

FOR YOUR PROTECTION:

The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning uses or applications are only the opinion of The Printing Ink Company, and users should make their own tests to determine the suitability of this product for their own particular purposes. However, because of numerous factors affecting results, The Printing Ink Company makes no warranty of any kind, expressed or implied, including those of merchantability and fitness for particular purpose, other than that the material conforms to its applicable current Standard Specifications. Standard Specification, although current at the time of publication, are subject to change without notice. Please refer to the MSDS for additional information.