

# Printing Recommendations



The Application Specific Synthetic Papers

## I. Prepress

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- A) Each Hop-Syn grade has slight variations and processing different grades under the exact same conditions can produce different results.
- B) Before going to press it is strongly recommend that Hop-Syn be tested in advance using the exact ink, design, and finishing techniques that you plan to use for your application. Additionally, do not use substitute materials during make-ready.
- C) Discuss the proper inks with your preferred ink supplier. Keep the following in mind:
  - a. Ink draw downs and testing are recommended.
  - b. Hop-Syn is polypropylene based. Inks formulated for polypropylene, as opposed to generic plastics, will yield better results.
  - c. Oxidizing inks with oil resin content should be used.
  - d. Certain pigments should be avoided on synthetic stocks, especially when applying an aqueous coating, as they may burn-out. Burn-out pigments include, but are not limited to, purple, violet, rhodamines, reflex blue, and warm red.
  - e. Florescent and metallic inks are not recommended.
- D) Allow Hop-Syn at least 24 hours to acclimate to the following optimal press room conditions:
  - a. Temperature between 70 - 75 ° F.
  - b. Relative humidity between 50 - 55%. High humidity is a primary cause of drying problems and low humidity is a primary cause of static.Longer acclimation periods may be required due to severe weather conditions such as bitter cold temperatures, extreme heat, and high humidity.
- E) Discuss the proper fountain solution with your preferred fountain solution supplier. Keep the following in mind:
  - a. Fountain solution pH level should be between 4.3 and 4.7.
  - b. Do not use alcohol substitutes in the fountain solution. Etches that contain high percentages of glycerin in alcohol substitutes can prolong drying times.
  - c. Water conductivity should be between 1,200 and 1,800.
  - d. Always use a freshly mixed alcohol based fountain solution.
- F) Discuss with your suppliers to make sure the substrate, inks, fountain solution, and coating or varnish will all be compatible with each other. Provide as much information as possible about your project goals to receive the best suggestions from your suppliers.

## II. Printing

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- A) Run speeds should not exceed 7,000 sheets per hour. On heavier gauge materials slower press speeds are recommended.
- B) On two side print jobs, print the side with the lower amount of ink coverage run first.
- C) To avoid damage to the surface of Hop-Syn, set suckers and feeder board wheels for minimal pressure.
- D) Multi-color work is only recommended on a single pass through a press with multiple color stations.
- E) Blankets may need to be washed during the run to avoid dust build up. If your ink density begins to decrease in your shadow tones this is a sign your blankets need to be cleaned.
- F) Make sure material is completely dry before backing up the job.
- G) Hop-Syn does not have exactly the same finish on both sides of the sheet. By increasing your ink density by 5% - 7% on the rougher side a matching image can be achieved.

## III. Improve Drying Times

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- A) Relative humidity should be maintained at 50 to 55%. Higher humidity can cause drying problems.
- B) Consult with your preferred ink supplier about adding drying agents to ink.

### III. Improve Drying Times (continued)

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- C) Use as little water as possible to print your job. Use metal plates, not paper or polyester, to avoid carrying excess water.
- D) Use the thinnest ink, coating, and varnish thickness possible. Solid ink density targets are Black: 1.50 - 1.60; Cyan: 1.20 - 1.30; Magenta: 1.20 - 1.30; and Yellow: 0.95 - 1.05.
- E) Use a small granule (20 - 25 micron) anti-setoff spray powder to promote oxygen transmission. Tinsel or a static bar at the end of your press will help to spread drying powders evenly.
- F) Lifts should not exceed 3". Rack lifts on one piece boards rather than with wedges to maximize airflow to the entire sheet.
- G) The use of IR dryers and blowing equipment will increase dry speeds but should not be used in excess as this may raise the pile temperature causing inks to rewet.
- H) Pile temperature should never exceed 95° F.
- I) Winding the sheets is not required but can be done at the customers discretion.

### IV. Reducing Static

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- A) Relative humidity should be maintained at 50 to 55%. Lower humidity can cause static problems.
- B) Use tinsel, static bars, and/or ionizing air units at the front and back of the press.

### V. Aqueous Coatings

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- A) Use aqueous coatings that allow oxygen to pass through in order for ink underneath to dry.
- B) If applying an aqueous coating in a short delivery unit, a second pass is recommended.
- C) Presses equipped with an extended delivery unit should be able to aqueous coat in-line. However, testing is recommended before attempting such a process on your full run.
- D) If applying an aqueous coating to both sides of the sheet, the first side must be completely cool and dry before coating the reverse.
- E) Only aqueous coatings specifically designed for non-porous substrates and that are compatible with both your ink and polypropylene substrates.
- F) Decrease press speeds and the amount of coating that is being applied when applying an aqueous coating to the reverse side.

### VI. UV Litho Printing

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- A) Consult with your preferred ink supplier about the recommended UV inks and varnishes for printing on Hop-Syn. We recommend test samples be sent to your ink supplier to test the compatibility of ink and varnish.
- B) Control the temperature of the lamps to avoid over curing the ink and distortion.

### VII. Postpress

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- A) Store printed loads in a clean, climate controlled environment.
- B) Be careful when moving printed loads to avoid set-off.
- C) Before shipping make sure all inks and coatings are completely dry to avoid blocking and rewetting during transit.
- D) *Guillotining*: Sharp and nick-free blades must be used. Keep stack heights to 2" or less to avoid melding of sheets.
- E) *Die-cutting*: Sharp and nick-free dies must be used. For all die cuts we recommend the use of hard steel rule double bevel dies.
- F) *Drilling*: Drill bits must be kept sharp and nick-free to avoid friction heat. Keep stack heights to 1" or less to avoid melding of the sheets.
- G) *Scoring*: Score parallel to grain direction for best folding results
- H) *Lamination*: Consult your manufacturer for information on this subject.
- I) Hop-Syn is not compatible with copiers or laser printers.

Questions? Call 1-800-524-0757.