

NEENAH® Box Wrap HYFLEX® Papers – Production Considerations

NOTE: All HYFLEX® Papers are warranted for sheet fed offset printing only.

OFFSET LITHOGRAPHIC PRINTING GUIDELINES

All HYFLEX® graphic white cover stocks have acrylic-coated surfaces specifically designed with high ink holdout to produce exceptional print fidelity via offset lithography.

Ease of printing is incorporated into these products; however, proper ink and press chemistry is needed to obtain optimum results.

Appropriate inks are those that dry primarily by oxidation rather than through penetration. The ink should be formulated with balanced dryers to provide rapid drying while maintaining adequate “open time” on the press. The fountain solution pH should be 5.0 + 0.5. Inks having less than 3% volatile solvent content are suggested to facilitate ink setting and drying.

As in all wet offset printing, the fountain solution flow should be as low as will keep the plates clean. Anti-offset spray powder is recommended, if feasible, for the end use.

We recommend starting each job with very small printed lifts and increasing them only when experience indicates that it can be done safely.

Most printed images will not, by themselves, be durable. Various methods of image protection are available. Only the final customer can decide the proper balance between cost and image durability. We recommend top coating to protect the printed image. Top coating may be an aqueous or UV liquid coating, or film lamination.

HYFLEX® graphic whites are essentially cellulose fiber base products. All converting and packaging operations in our plant take place in humidity and temperature controlled conditions to ensure that the products will be in equilibrium with their environment. Each shipment is securely wrapped in a moisture barrier wrapping.

HYFLEX® PRINTING GUIDELINES

Inks:

Inks that would normally be used to print on any high quality coated sheet are acceptable for printing on HYFLEX®. A low V.O.C. (volatile organic compound) ink is recommended. This low V.O.C. ink is especially important when coating on-press because the ink film is sealed by the topcoat - thereby reducing the ability to dry by evaporation.

Coatings:

Clear top coatings for use on HYFLEX® need to be chosen for the requirements of the specific product being produced, and the specific equipment being used. These coatings are available in a wide variety of gloss levels, abrasion/rub resistance, and softness/hardness. Other requirements of a product that need to be considered when choosing a coating are whether or not the coating needs to accept foil stamping, the heat to be used in subsequent operations, and the amount of water or moisture introduced in subsequent operations. The softness/hardness is normally balanced against the anticipated folding requirements. A softer coating normally has lower abrasion resistance but higher resistance to fold cracking.

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“If paper is unwrapped while cold and allowed to stand in the pressroom it will very quickly develop a bad case of waviness because its low temperature chills the air immediately surrounding the pile and raises the relative humidity to approximately the saturation point, or 100 percent. Under these conditions, the edges of the sheets may pick up 10 or 12 percent of moisture before the pile warms up. As the temperature of the pile rises this excess of moisture will be partially given off, but in the process the moisture content of the paper at the edges will follow the desorption curve and will not return to the same moisture content as the rest of the sheet. While the waviness may be reduced somewhat, it will not disappear.”

- Completely cover the top and sides of the stock with moisture proof wrappings after your processing is complete and during any delays to prevent development of problems.
- Rewrap any unused portions of the stock to protect its moisture content.
- If you subcontract any processing insist that your subcontractor follow these guidelines.

Days Required for Temperature Equalization

Temperature Difference								
Volume in cubic Feet	10° F	15° F	20° F	25° F	30° F	40° F	50° F	60° F
6	½	½	½	1	1	1	1 ½	2 ½
12	½	½	1	1	1	1 ½	2	3 ½
24	½	½	1	1	1 ½	2	3	4
48	½	1	1	1 ½	1 ½	2 ½	3	4 ½
95	½	1	1	1 ½	1 ½	2 ½	3 ½	5
	6° C	8° C	11° C	14° C	17° C	22° C	28° C	33° C

$$\text{Volume in Cubic Feet} = \frac{\text{Length in Inches X Width in Inches X Height in Inches}}{1728}$$