

Technical Data Sheet

Synaps[®] Digital XM Polyester Synthetic Paper

Caliper (mil)	5 mil.	8 mil.	10 mil.	14 mil.
GSM	135	230	300	450
	1.21	1.21	1.21	1.21
Density (g/cm³)				
Brightness (T452)	94	94	94	94
Opacity (T459)	94	97	99	99
Gloss	5	5	5	5
Sheffield Smoothness	34	34	34	34
Melting Point (°C)	248	248	248	248

Applications and Characteristics:

- Synaps Digital XM is a synthetic paper based on a high grade polyester substrate. It is coated 2-sided with an ink/toner receptive layer.
- Synaps Digital XM has no grain direction.
- The sheet has a melting point above 248°C (478°F) so it will not melt or deform in the fuser area of laser printers and copiers.
- Synaps Digital XM is waterproof and greaseproof. Weather resistance depends on location and type of exposure.

Compatibility and Best Practices:

- For best color reproduction on desktop printers, 5-mil Synaps Digital XM should be used, although 8-mil Synaps Digital XM has been used in some desktop machines.
- 8-mil Synaps Digital XM runs well on mid-range digital equipment such as Konica Minolta Bizhub 6500, Xerox DocuColor 6060, and Canon Image 4PRESS (C series). 10-mil Synaps Digital XM prints best on Production Color Presses and some mid-range equipment, but has run successfully in some mid-range digital equipment.

Guidelines for printing and finishing:

Synaps Digital XM is optimized for use in high heat, dry toner printers and copiers. It can be pre-printed in offset printing. It is also suitable for UV curable inkjet printing. It is not suitable for non-UV inkjet printing.

Environmental humidity

Make sure that Synaps Digital XM has had ample time to acclimate to your printer's environment before printing. A relative humidity of minimum 40-45% in the print room is recommended.

Offset pre-printing recommendations

Offset pre-printing is possible but should be limited to single color solids and/or 2-color images. In case of 2-color printing, total ink laydown should not exceed 100% (e.g. 30% cyan and 70% yellow is ok). We recommend using inks formulated for use in xerographic devices. Please note

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that oxidative inks generally will have a stronger tendency to ink set-off. Use ink densities as for uncoated paper, or lower. For black ink, do not exceed density 1.50.

Important: Do not use anti-set-off spray powder as it will contaminate the printer/copier engine. Limit printed stack height (maximum 4 inches) and air the stacks a few times after the ink has set to facilitate drying of the ink.

We recommend to not pre-print areas that afterwards need to be printed with toner, since no guarantee can be given on print quality or on possible negative effects on the printer/copier engine.

Converting and finishing:

Static adhesion

Static adhesion after printing can make sheet separation and stack alignment difficult. It helps to leave the pile of printed material on a conductive, grounded surface e.g. a metal table for some time to allow static charges to dissipate. Higher environmental humidity also helps to avoid or reduce static problems.

Guillotining

Use sharp and clean blades. Do not cut lifts higher than 2 inches (5 cm).

Die cutting

Use sharp hard steel blades with rounded inner corners. Avoid inside die-cuts less than or equal to 90 degrees. Keep retention points small and few. The best results are obtained on cylinder type presses. Platen type presses are less suitable especially for complex die cut shapes. Always do a test before deciding to use Synaps Digital XM for a specific die cut job.

Drilling

Use sharp and clean drill bits. Drills have to be free of nicks. Use short dwell times during drilling to eliminate heat generation. Don't drill too high lifts. The best results are obtained with special steel drills coated with Teflon (to prevent sticking). Intermediate spraying on the inside and the outside of the drill with 'dry silicone spray' will facilitate drilling and will extend the life and sharpness of the drill significantly.

Folding and Scoring

All versions of Synaps Digital XM can be folded on a regular folding machine. Folding can be difficult, especially with the heavier versions of Synaps Digital XM. Cross folding (superimposed or transverse fold) is not recommended. With machine folding, the ridge of the score should be on the outside of the fold. Avoid folds that cause air entrapment, since Synaps Digital XM is not permeable. It is recommended to apply pressure after folding to keep the fold tight.

Hot Foil Stamping & Embossing

Hot foil stamping is possible without modification. Embossing on a cylinder press works well with all Synaps Digital XM weights. On a platen press the pressure and evenness of pressure can be a problem especially with higher Synaps Digital XM weights and more complex embossing forms.

Binding

Synaps Digital XM is a perfect material for Wire-O[®], Unicoil-Spiral[®] and comb binding. Use round holes to avoid tearing. For perfect bound book covers, we recommend to use Synaps Digital XM 5mil. Thicker Synaps Digital XM is prone to cause cover gapping on the book spine.

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Important: Always do a test before deciding to use Synaps Digital XM for a specific job!

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