HP INDIGO CERTIFIED SUBSTRATE

Substrate Evaluation Report

Specialty Media for the HP Indigo 7000

Customer Name: Holmberg Company, Inc.

Customer Address: 4155 Berkshire Lane
Plymouth, MN 55446

Substrate Name: Mazina 80# Felt Cover with FlexBind® Technology

Substrate Type: Uncoated Felt Paper

Weight: 80# Cover / 216 gsm Grain: Long

I.D. Number: RI7000-10-1899

Date of Evaluation: 10/27/10

Caliper: 0.0119" / 302.3 Microns

Evaluation Site: RIT

Evaluation Process: Specialty Media

Evaluation	Measure	Result	Grade (# Stars)	Notes
Runability			**	†Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

Fixing			**	Pass
Peeling	100% K in 4 color mode, % ink remaining	100%		Pass
	100% K in Monochrome mode, % ink remaining	N/A		N/A
	400% YMCK 100% each color, Visual Damage	Damage		Pass
Flaking	<1 mm, % Coverage	400		Pass

Blanket Compatibility			***	Pass
Evaluation Result	Pass/Fail	Pass		Pass

Note Detail:

†No jams were recorded however, the substrate does not stack evenly in the stacker while running in monochrome mode

HP INDIGO CERTIFIED SUBSTRATE

The substrate certification procedure incorporates several processes. An initial screening evaluation is followed by a more comprehensive evaluation looking at the performance of the particular substrate within the press. This checks for:

Runability: **The ability of the substrate to run smoothly through the press.**

Fixing: **Ink-substrate interaction as reflected in: The degree of ink fixing to the substrate for standard and photo-related applications the adhesion as measured in a tape peel test of the image. The degree of flaking of the ink layer. The fixing properties are measured through a range of blanket temperatures and pressures.**

Blanket Compatibility: **Ink-transferability the quality of ink transfer from the blanket to the substrate as reflected in highlight dots, thin lines, heavy images and image edge integrity. Blanket-substrate compatibility the interaction between the substrate and the blanket is checked for 'Blanket Memory' effect, reflected in gloss or density differences between solids and background areas of the previously printed image. Cleaner pages Blankets are routinely maintained by running "cleaner pages", a self cleaning method used to refresh the blanket's release layer.**

Star Rating

***	3 stars: best performing papers; fewer print cleaners needed; no blanket memories at least up to 1.2 K impressions.
**	2 stars: recommended papers; some print cleaners may be needed; slight memories may be seen at 1.2 K impressions.
*	1 star: good papers; print cleaners generally required; some memories may be seen at 1.2 K impressions. Approved tape test, after one hour.

		***	**	*
	Measure	Best-performing paper	Recommended paper	Good papers
Transport	Runability	1 jam or other issues	2 jams or minor issues	3 jams or minor issues
Fixing	Peeling: 100% K, at 10 minutes	>97% or visually NO damage(ignoring gloss changes)	>90%	>80% at one hour
	Peeling: monochrome K, at 10 minutes	>97% or visually NO damage(ignoring gloss changes)	>80%	>70% at one hour
	Peeling: 400% YMCK, 100% of each color at 10 minutes	visually NO damage(ignoring gloss changes)	Any damage(visually)	Any damage(visually)
	Flaking: guillotine at 5 minutes	<1 mm at 400% K	<1 mm at 300% K	<1 mm at 200% K
Blanket compatibility	Cleaner pages OK after 1.2 K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean

R·I·T Printing Applications Laboratory
Solutions for the Printing and Imaging Industries

hp invent

ver. jdm091108