



# Substrate Evaluation Report

## For the HP Indigo 5500

Customer Name: Millmar Paper

Customer Address: 175 Fairfield Avenue, Suite 5B  
West Caldwell, NJ 07006

Substrate Name: Xtreme Coated Cover (Gloss side)

Substrate Type: C1S

Weight: 179gsm/66#

I.D. Number: RI5500-09-1628

Date of Evaluation: 07/23/09

Caliper: 0.008"

Evaluation Site: RIT

Evaluation Process: Full

Evaluation	Measure	Result	Grade (# Stars)	Notes
<b>Runability</b>			<b>* * *</b>	Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

<b>Fixing</b>			<b>* *</b>	Pass
Peeling	100% K in 4 color mode, % ink remaining	83%		Pass
Flaking	<1 mm, % Coverage	400%		Pass
Photo Peeling	290% K for photo app., % ink remaining	49.7%		*Fail
Photo Flaking	<1 mm, % Coverage	400%		Pass

<b>Blanket Compatibility</b>			<b>* * *</b>	Pass
<b>Evaluation Result</b>	Pass/Fail	Pass		

### Note Detail:

\* Substrate may not be suitable for Photo Applications because it did not meet the minimum requirements to pass. However, this will not negatively impact the Fixing rating.



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.
- Photo App.:** Use of robust media products are strongly recommended when printing photo-related applications and/or Light Cyan and Light Magenta due to additional ink coverage demands of these applications. This media has been tested and approved to perform well with higher levels of ink coverage, and are therefore recommended for photo-related type applications. However, it is strongly recommended that user acceptance ultimately be evaluated per individual application and finishing requirement (s), etc. This test result information is provided as a guide; assess actual performance further to determine appropriateness for individual use.
- 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 12K impressions.
- \*\* 2 stars: recommended papers; some print cleaners may be needed; slight memories may be seen at 12K impressions.
- \* 1 star: good papers; print cleaners generally required; some memories may be seen at 12K impressions. Approved tape test, after one hour.

		***	**	*
Measure		Best-performing paper	Recommended paper	Good papers
Transport	Runability	No jams or other issues	1 jam or minor issues	1 jam or minor issues
Fixing	Peeling: 100% K, 10 minutes	>90%	>80%	>80% at one hour
	Flaking: guillotine, 5 minutes	<1 mm at 200% K	<1 mm at 200% K	<1 mm at 200% K
	Photo peeling: 290% K, 10 or 60 minutes	>80% after 10 or 60 min	>80% after 10 or 60 min	Not applicable
	Photo Flaking: guillotine, 5 minutes	<1mm at 350% K	<1 mm at 350% K	Not applicable
Blanket compatibility	Cleaner pages OK after 12K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean



# Substrate Evaluation Report

## For the HP Indigo 5500

Customer Name: Millmar Paper

Customer Address: 175 Fairfield Avenue, Suite 5B  
West Caldwell, NJ 07006

Substrate Name: Xtreme Coated Cover (Silk side)

Substrate Type: C1S

Weight: 179gsm/66#

I.D. Number: RI5500-09-1629

Date of Evaluation: 07/23/09

Caliper: 0.008"

Evaluation Site: RIT

Evaluation Process: Full

Evaluation	Measure	Result	Grade (# Stars)	Notes
<b>Runability</b>			<b>* * *</b>	Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

<b>Fixing</b>			<b>* *</b>	Pass
Peeling	100% K in 4 color mode, % ink remaining	99%		Pass
Flaking	<1 mm, % Coverage	400%		Pass
Photo Peeling	290% K for photo app., % ink remaining	69%		*Fail
Photo Flaking	<1 mm, % Coverage	400%		Pass

<b>Blanket Compatibility</b>			<b>* * *</b>	Pass
<b>Evaluation Result</b>	Pass/Fail	Pass		

### Note Detail:

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- Photo App.:** Use of robust media products are strongly recommended when printing photo-related applications and/or Light Cyan and Light Magenta due to additional ink coverage demands of these applications. This media has been tested and approved to perform well with higher levels of ink coverage, and are therefore recommended for photo-related type applications. However, it is strongly recommended that user acceptance ultimately be evaluated per individual application and finishing requirement (s), etc. This test result information is provided as a guide; assess actual performance further to determine appropriateness for individual use.
- 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 12K impressions.
- \*\* 2 stars: recommended papers; some print cleaners may be needed; slight memories may be seen at 12K impressions.
- \* 1 star: good papers; print cleaners generally required; some memories may be seen at 12K impressions. Approved tape test, after one hour.

		***	**	*
Measure		Best-performing paper	Recommended paper	Good papers
Transport	Runability	No jams or other issues	1 jam or minor issues	1 jam or minor issues
Fixing	Peeling: 100% K, 10 minutes	>90%	>80%	>80% at one hour
	Flaking: guillotine, 5 minutes	<1 mm at 200% K	<1 mm at 200% K	<1 mm at 200% K
	Photo peeling: 290% K, 10 or 60 minutes	>80% after 10 or 60 min	>80% after 10 or 60 min	Not applicable
	Photo Flaking: guillotine, 5 minutes	<1mm at 350% K	<1 mm at 350% K	Not applicable
Blanket compatibility	Cleaner pages OK after 12K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean

HP INDIGO



CERTIFIED  
SUBSTRATE

# Substrate Evaluation Report

## For the HP Indigo 5500

Customer Name: Millmar Paper

Customer Address: 175 Fairfield Avenue, Suite 5B

West Caldwell, NJ 07006

Substrate Name: Xtreme Coated Cover (Gloss side)

Substrate Type: CIS

Weight: 231gsm/85#

I.D. Number: RI5500-09-1630

Date of Evaluation: 07/23/09

Caliper: 0.012"

Evaluation Site: RIT

Evaluation Process: Screen

Evaluation	Measure	Result	Grade (# Stars)	Notes
<b>Runability</b>			<b>* * *</b>	Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

<b>Fixing</b>			<b>* *</b>	Pass
Peeling	100% K in 4 color mode, % ink remaining	82%		Pass
Flaking	<1 mm, % Coverage	400%		Pass
Photo Peeling	290% K for photo app., % ink remaining	50.8%		*Fail
Photo Flaking	<1 mm, % Coverage	400%		Pass

<b>Blanket Compatibility</b>			<b>N/A</b>	N/A
<b>Evaluation Result</b>	Pass/Fail	N/A		N/A

Note Detail:

\* Substrate may not be suitable for Photo Applications because it did not meet the minimum requirements to pass. However, this will not negatively impact the Fixing rating.



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.
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- 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 12K impressions.
- \*\*** 2 stars: recommended papers; some print cleaners may be needed; slight memories may be seen at 12K impressions.
- \*** 1 star: good papers; print cleaners generally required; some memories may be seen at 12K impressions. Approved tape test, after one hour.

		***	**	*
Measure		Best-performing paper	Recommended paper	Good papers
Transport	Runability	No jams or other issues	1 jam or minor issues	1 jam or minor issues
Fixing	Peeling: 100% K, 10 minutes	>90%	>80%	>80% at one hour
	Flaking: guillotine, 5 minutes	<1 mm at 200% K	<1 mm at 200% K	<1 mm at 200% K
	Photo peeling: 290% K, 10 or 60 minutes	>80% after 10 or 60 min	>80% after 10 or 60 min	Not applicable
	Photo Flaking: guillotine, 5 minutes	<1mm at 350% K	<1 mm at 350% K	Not applicable
Blanket compatibility	Cleaner pages OK after 12K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean

HP INDIGO



CERTIFIED  
SUBSTRATE

# Substrate Evaluation Report

## For the HP Indigo 5500

Customer Name: Millmar Paper

Customer Address: 175 Fairfield Avenue, Suite 5B

West Caldwell, NJ 07006

Substrate Name: Xtreme Coated Cover (Silk side)

Substrate Type: CIS

Weight: 231gsm/85#

I.D. Number: RI5500-09-1631

Date of Evaluation: 07/22/09

Caliper: 0.012"

Evaluation Site: RIT

Evaluation Process: Screen

Evaluation	Measure	Result	Grade (# Stars)	Notes
<b>Runability</b>			<b>* * *</b>	Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

<b>Fixing</b>			<b>* * *</b>	Pass
Peeling	100% K in 4 color mode, % ink remaining	100%		Pass
Flaking	<1 mm, % Coverage	400%		Pass
Photo Peeling	290% K for photo app., % ink remaining	85.8%		Pass
Photo Flaking	<1 mm, % Coverage	400%		Pass

<b>Blanket Compatibility</b>			<b>N/A</b>	N/A
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<b>Evaluation Result</b>	Pass/Fail	N/A		N/A
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Note Detail:





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**Star Rating**

- \*\*\*** 3 stars: best performing papers; fewer print cleaners needed; no blanket memories at least up to 12K impressions.
- \*\*** 2 stars: recommended papers; some print cleaners may be needed; slight memories may be seen at 12K impressions.
- \*** 1 star: good papers; print cleaners generally required; some memories may be seen at 12K impressions. Approved tape test, after one hour.

		***	**	*
Measure		Best-performing paper	Recommended paper	Good papers
Transport	Runability	No jams or other issues	1 jam or minor issues	1 jam or minor issues
Fixing	Peeling: 100% K, 10 minutes	>90%	>80%	>80% at one hour
	Flaking: guillotine, 5 minutes	<1 mm at 200% K	<1 mm at 200% K	<1 mm at 200% K
	Photo peeling: 290% K, 10 or 60 minutes	>80% after 10 or 60 min	>80% after 10 or 60 min	Not applicable
	Photo Flaking: guillotine, 5 minutes	<1mm at 350% K	<1 mm at 350% K	Not applicable
Blanket compatibility	Cleaner pages OK after 12K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean



# Substrate Evaluation Report

## For the HP Indigo 5500

Customer Name: Millmar Paper

Customer Address: 175 Fairfield Avenue, Suite 5B  
West Caldwell, NJ 07006

Substrate Name: Xtreme Coated Cover 14pt (Gloss Side)

Substrate Type: C1S

Weight: 247gsm/91#

I.D. Number: RI5500-09-1645

Date of Evaluation: 08/10/09

Caliper: 0.014"

Evaluation Site: RIT

Evaluation Process: Full

Evaluation	Measure	Result	Grade (# Stars)	Notes
<b>Runability</b>			<b>* * *</b>	Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

<b>Fixing</b>			<b>* *</b>	Pass
Peeling	100% K in 4 color mode, % ink remaining	89.3%		Pass
Flaking	<1 mm, % Coverage	350%		Pass
Photo Peeling	290% K for photo app., % ink remaining	69%		N/A†
Photo Flaking	<1 mm, % Coverage	350%		Pass

<b>Blanket Compatibility</b>			<b>* * *</b>	Pass
<b>Evaluation Result</b>	Pass/Fail	Pass		

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		***	**	*
Measure		Best-performing paper	Recommended paper	Good papers
Transport	Runability	No jams or other issues	1 jam or minor issues	1 jam or minor issues
Fixing	Peeling: 100% K, 10 minutes	>90%	>80%	>80% at one hour
	Flaking: guillotine, 5 minutes	<1 mm at 200% K	<1 mm at 200% K	<1 mm at 200% K
	Photo peeling: 290% K, 10 or 60 minutes	>80% after 10 or 60 min	>80% after 10 or 60 min	Not applicable
	Photo Flaking: guillotine, 5 minutes	<1mm at 350% K	<1 mm at 350% K	Not applicable
Blanket compatibility	Cleaner pages OK after 12K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean



# Substrate Evaluation Report

## For the HP Indigo 5500

Customer Name: Millmar Paper

Customer Address: 175 Fairfield Avenue, Suite 5B  
West Caldwell, NJ 07006

Substrate Name: Xtreme Coated Cover (Silk side)

Substrate Type: C1S

Weight: 247gsm/91#

I.D. Number: RI5500-09-1646

Date of Evaluation: 08/07/09

Caliper: 0.014"

Evaluation Site: RIT

Evaluation Process: Full

Evaluation	Measure	Result	Grade (# Stars)	Notes
<b>Runability</b>			<b>* * *</b>	Pass
Simplex	# Jams	0		Pass
Duplex	# Jams	0		Pass

<b>Fixing</b>			<b>* * *</b>	Pass
Peeling	100% K in 4 color mode, % ink remaining	99.9%		Pass
Flaking	<1 mm, % Coverage	350%		Pass
Photo Peeling	290% K for photo app., % ink remaining	78.1%		*Fail
Photo Flaking	<1 mm, % Coverage	350%		Pass

<b>Blanket Compatibility</b>			<b>* *</b>	Pass
<b>Evaluation Result</b>	Pass/Fail	Pass		Pass

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- \* 1 star: good papers; print cleaners generally required; some memories may be seen at 12K impressions. Approved tape test, after one hour.

		***	**	*
Measure		Best-performing paper	Recommended paper	Good papers
Transport	Runability	No jams or other issues	1 jam or minor issues	1 jam or minor issues
Fixing	Peeling: 100% K, 10 minutes	>90%	>80%	>80% at one hour
	Flaking: guillotine, 5 minutes	<1 mm at 200% K	<1 mm at 200% K	<1 mm at 200% K
	Photo peeling: 290% K, 10 or 60 minutes	>80% after 10 or 60 min	>80% after 10 or 60 min	Not applicable
	Photo Flaking: guillotine, 5 minutes	<1mm at 350% K	<1 mm at 350% K	Not applicable
Blanket compatibility	Cleaner pages OK after 12K	2nd cleaner page clean	4th cleaner page clean	6th cleaner page clean