## Substrate Evaluation Report
For the HP Indigo 5500

<table>
<thead>
<tr>
<th>Evaluation Measure</th>
<th>Result</th>
<th>Grade (# Stars)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runability</td>
<td></td>
<td>❀ ❀ ❀</td>
<td>Pass</td>
</tr>
<tr>
<td>Simplex # Jams</td>
<td>0</td>
<td></td>
<td>Pass</td>
</tr>
<tr>
<td>Duplex # Jams</td>
<td>0</td>
<td></td>
<td>Pass</td>
</tr>
<tr>
<td>Fixing</td>
<td></td>
<td>❀ ❀ ❀</td>
<td>Pass</td>
</tr>
<tr>
<td>Peeling 100% K in 4 color mode, % ink remaining</td>
<td>100%</td>
<td></td>
<td>Pass</td>
</tr>
<tr>
<td>Flaking &lt;1 mm, % Coverage</td>
<td>400%</td>
<td></td>
<td>Pass</td>
</tr>
<tr>
<td>Photo Peeling 290% K for photo app., % ink remaining</td>
<td>99.6%</td>
<td></td>
<td>Pass</td>
</tr>
<tr>
<td>Photo Flaking &lt;1 mm, % Coverage</td>
<td>400%</td>
<td></td>
<td>Pass</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blanket Compatibility</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Result</td>
<td>Pass/Fail</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Note Detail:

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Customer Name: Hongwon Paper Mfg. Co., LTD.
Customer Address: Imgwon Bldg., 14th Floor, 267 Mrgeun-dong
Seodarmun-Gul, Seoul Korea 120 - 705, South Korea
Substrate Name: New Crown Digital Matte, 250gsm
Substrate Type: Matte
Weight: 250gsm
I.D. Number: RI5500-11-2087
Date of Evaluation: 08.15.2011
Caliper: 0.009"
Evaluation Site: RIT
Evaluation Process: Screen
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.

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