

## Wide/Grand Format Inkjet Performance Benchmarking Program

### Level 1 – Vendor testing, and Idealliance evaluated printed sheets

#### 1. Color Accuracy –

- Use the IT8.7/4 target and follow the G7 Master Press Color space pass/fail criteria
- There are eleven Reference data sets are in use; GRACoL 2006c1, SWOP2006c3, SWOP2006c5, SWOP2013c5, CRPC1, CRPC2, CRPC3, CRPC4, CRPC5, CRPC6, and CRPC7

Sheetfed Offset	Tolerance $\Delta E_{00}$
Substrate	$\Delta E_{00} \leq 3$
CMY Solids	$\Delta E_{00} \leq 3.5$
K Solid	$\Delta E_{00} \leq 5$
Solids of RGB	Max $\Delta E_{00} \leq 4.2$
All patches of IT8.7/4	Average $\Delta E_{00} \leq 3.5$ 95th percentile $\Delta E_{00} \leq 5$

#### 2. Uniformity within sheet –

- Follow the Digital Press Certification pass/fail criteria: M-Score  $\geq 60$  =PASS
- Use the three levels of gray uniformity test pages of the Digital Press Certification program
- The highest M-Score of the three targets is used for reporting.

#### 3. Repeatability –

- Print 4 sheets at hour 0, hour 3, and hour 6 with date/time stamp for a total of 12 printed sheets for Dye Sublimation and inkjet printers
- Use the Idealliance 2013 Control Strip
- Pass/fail criteria: Mid-tones (40%) Maximum  $\Delta E_{00} \leq 2.5$  = PASS, Solids (100%) Maximum  $\Delta E_{00} \leq 2$

#### 4. Color-to-Color Registration –

- Follow the Digital Press Certification pass/fail criteria; Deviation  $< 0.1$  mm = PASS
- Registration targets are printed in the corners of the 18 x 24 inch sheet and measured
- Report the highest cyan, magenta, yellow measurement value.

#### 5. Printer Speed –

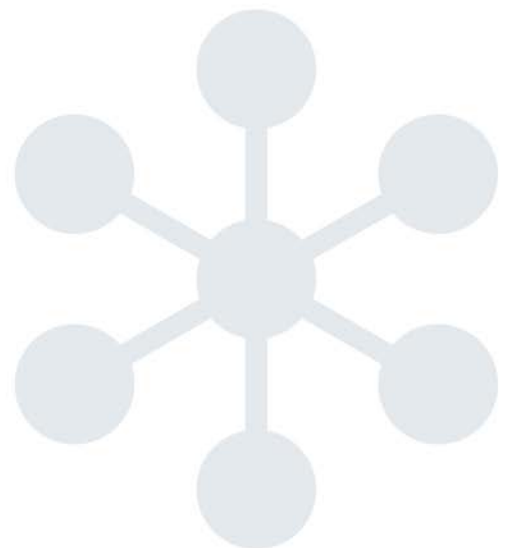
- Video the actual printing of sheets with timer and the printer setup screen
- This must be performed and reported with the highest quality settings, this additionally may be performed and reported at other device quality and speed settings at the vendors discretion.

## 6. Ink Consumption –

- OEM to specify their individual capacity including printer speed and specific conditions
- OEM to specify RIP reported ink consumption, including all applicable reference information. (Such as identification of the RIP used, RIP software version, printer settings, resolution, and other printing parameters.)

## 7. Testing Parameters –

- Paper used should be Glossy Coated media with a thickness no less than 9.0 pts/mils or 230  $\mu$  (microns).
- Device settings should be configured to deliver the highest quality reproduction based upon the machine vendors specification, all settings including those for the printer speed evaluation, shall be based on this configuration.
- Print samples from the color accuracy, uniformity, repeatability, and color to color registration will be provided to Idealliance for evaluation, along with the data collected for printer speed and ink consumption tests.
- All Print forms to be supplied will be sized to 18x24 inches.



## Wide/Grand Format Inkjet Performance Benchmarking Program

### Level 2 – Independent Idealliance Partner Testing

#### 1. Color Accuracy –

- Use the IT8.7/4 target and follow the G7 Master Press Color space pass/fail criteria
- There are eleven Reference data sets in use; GRACoL 2006c1, SWOP2006c3, SWOP2006c5, SWOP2013c5, CRPC1, CRPC2, CRPC3, CRPC4, CRPC5, CRPC6, and CRPC7

Sheetfed Offset	Tolerance $\Delta E_{00}$
Substrate	$\Delta E_{00} \leq 3$
CMY Solids	$\Delta E_{00} \leq 3.5$
K Solid	$\Delta E_{00} \leq 5$
Solids of RGB	Max $\Delta E_{00} \leq 4.2$
All patches of IT8.7/4	Average $\Delta E_{00} \leq 3.5$ 95th percentile $\Delta E_{00} \leq 5$

#### 2. Uniformity within sheet –

- Follow the Digital Press Certification pass/fail criteria: M-Score  $\geq 60$  =PASS
- Use the three levels of gray uniformity test pages of the Digital Press Certification program
- The highest M-Score of the three targets is used for reporting.

#### 3. Repeatability –

- Print 4 sheets at hour 0, hour 3, and hour 6 with date/time stamp for a total of 12 printed sheets for Dye Sublimation and inkjet printers
- Use the Idealliance 2013 Control Strip
- Pass/fail criteria: Mid-tones (40%) Maximum  $\Delta E_{00} \leq 2.5$  = PASS, Solids (100%) Maximum  $\Delta E_{00} \leq 2$

#### 4. Color-to-Color Registration –

- Follow the Digital Press Certification pass/fail criteria; Deviation  $< 0.1$  mm = PASS
- Registration targets are printed across the full width of the machine, and measured
- Report the highest cyan, magenta, yellow measurement value.

#### 5. Printer Speed –

- Total printing time (Document print command issued, to device rest) and imaging time (Initial head movement to imaging complete) for each production mode of the device will be tested and reported.
- Speed modes may be independent of approved G7 condition

## 6. Ink Consumption –

- Testing of ink consumption will be completed in the highest quality production mode of the device (In G7 conformance)
- Brand new (full-set) cartridges will be weighed before installing in an established device(used for previous device tests), and will be re-measured upon completion of a standard set of printing images. The standard image set is defined as 100 prints of 2 pages, the 18x24 G7 form will be used. Pages will be arranged to maximize utilization of the media. Differential weight will be reported for the total ink usage over all cartridges (Sum).
- All device conditions and settings will be captured and documented as part of the testing

## 7. Testing Parameters –

- Device will be supplied to RIT with 4 full sets of Ink cartridges
- Device supplier will be responsible for shipment of the device and materials and return shipment when desired.
- Device will be established to G7 colorspace conformance referencing CRPC6 (Highest Print Quality Mode, with Relative rendering intent)
- Testing will be completed with a consistent paper grade amongst all devices
  - i. Standard paper grade is defined as
    1. 80lb Cover or equivalent thickness (9pt/mill 230 $\mu$ )
    2. CIELab values in agreement with CRPC 5 or 6
    3. Substrate gloss will be a semi-gloss sheet with 60 Degree gloss between 15-30
    4. Sized to match the maximum dimension of the device
    5. Will be compatible with and have good performance with the device/ink set
- All measurements will be completed with M1 measurement mode

