

Introduction:

For colour matching inks with several colours are mixed. With the help of an IGT printability tester a solid print is made under standard conditions and the print is compared to an original print or design visually or with a spectrophotometer. When the original print is printed in a screening it is difficult to compare a solid print of the printability tester to this screened original. For that reason there is a printing form with a photopolymer of 40 l/cm (100 l/inch) with printed areas of about 15, 35, 65 and 85 % to print on a smooth substrate. This method is used for paste inks.

Principle:

The screened printing disc is inked on an IGT inking unit with the ink to be tested. A print is made on a substrate (most of the times paper) under standard conditions with an IGT printability tester of the type Global Standard Tester. The colour of the screened print is compared to the original print or design.

Method of operation:

- It is recommended to execute the test in the standard atmosphere; to most standards it is 23.0 ± 1.0 °C (73.4 ± 1.8 °F) and 50 ± 2% rh.
- For the operation of the AIC2-5T2000, Global Standard Tester, High Speed Inking Unit 4 and ink pipette follow the instructions of the manuals, IGT information leaflet W100 and the displays accurately.
- Handle the samples carefully.

Preparation

1. Condition the papers, the ink and equipment during > 6 hours in the standard atmosphere.
2. Cut the paper strips (preferable 55 x 340 mm, 2 strips per sample) and mark them with top and/or bottom side, machine and/or cross direction and a code for the type of material.
3. For AIC2-5T2000 only:
 - 3.1. Mount the packing on the sector. See W100.
 - 3.2. Adjust the printing speed to 0.2 m/s in the constant speed mode (□).
 - 3.3. Adjust the printing force of the (top) printing disc shaft to 625 N or another value and pay attention for the right backlash. See W100.
4. For GST2/3/3H only:
 - 4.1. If not present on the Global Standard Tester, mount the sector with clamps.
 - 4.2. Mount the packing on the sector. See W100.
 - 4.3. Select the menu "Screen print" in the display.
5. NOTE: Sometimes it is difficult to have all parts printed in the best quality with only one printing force. In this case it is advised to use a printing force, dependent to the printed area of the photopolymer: 500 N for 85%, 400 N for 65%, 200 N for 35% and 100 N for 15%.
6. Check the functioning of the tester following the instructions in the chapter "Execution".
7. Fill the ink pipette with the ink to be tested.
8. Adjust the High Speed Inking Unit with the following settings:
 - Water bath: 23.0° C (73.4° F)
 - Top roller: 4-segmented, rubber for conventional inks
 - Mode: 2

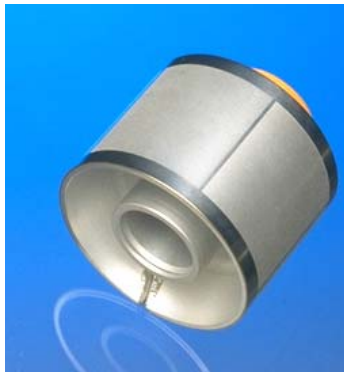


Fig. 1: screened printing disc

IGT Information leaflet W45 SCREENED PRINTING (OFFSET/LETTERPRESS) IGT AIC2-5T2000, Global Standard Tester 2/3/3H

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Materials / testing conditions

| | | |
|-----------------------------|---|--|
| 1 | IGT AIC2-5T2000 or IGT Global Standard Tester 2 or IGT Global Standard Tester 3 or IGT Global Standard Tester 3H | 710.000.000 412.000.000 416.000.000 467.000.000 |
| 2 | IGT High Speed Inking Unit 4 | 466.000.710 |
| 3 | (Top roller with 4 segments for conventional inks) | (466.003.003) |
| 4 | IGT ink pipette | 408.000.200 |
| 5 | Printing disc with screened photopolymer strip of 40 l/cm (100 l/inch) | 402.123 |
| 6 | Packing, rubber, 55 mm | 404.001.006 |
| 7 | Sector with clamps (for GST 2/3) | 361.000.000 |
| 8 | Strips of paper to be tested, preferable 55 x 340 mm, 2 strips per sample | |
| 9 | Ink to be tested | |
| 10 | Lint free rags | |
| 11 | Cleaning naphtha | |
| Printing force | | 625 N or 100-500N |
| Printing speed | | Constant, 0.2 m/s |
| Ink film thickness (volume) | | 2.4 µm (0.10 cm³) |

- The numbers 1 thru 7 are available at IGT Testing Systems.
- The numbers 5 and 6 can be obtained as Screened Printing Set for IGT AIC2-5T2000 and GST 2/ 3/3H, article number 482.000.710.
- This leaflet contains article numbers per January 1st, 2006 ◀.

- Starting time: 5 s
- Distribution time: 10 s
- Distribution speed: 1.2 m/s
- Inking time printing discs: 5 s

10. Check the functioning of the High Speed Inking Unit.

Execution

1. Apply 0.10 cm³ of the mixed ink (for rough papers this volume can be more) to the inking unit and distribute the ink.
2. Place the printing disc on the printing disc shaft of the inking unit and ink the disc during the preset time.
3. Mount a test strip on the sector of the printability tester.
4. Remove the disc from the inking unit and place it on the (top) shaft of the printability tester.
5. Turn the disc so that the seam of the disc is just below the contact area between the disc and the sector.
6. Make a print. See W100.
7. Take off the printed strip from the sector.
8. Check the test result as pointed out in the chapter "Assessment".
9. Remove the printing disc from the tester and clean it with the rags and naphtha.
10. Clean the rollers of the inking unit or use the next segment for the following test.
11. Repeat the points 1 thru 10 for the next test. It is recommended to perform the test at least two times
12. After finishing the tests clean and store all parts as described in the manuals.
13. Make an accurate record of the conditions and the results of the test.



Fig. 2: print result

Assessment

1. Examine the printed strip visually and compare it to the original print.

Notes:

1. The test results of the AIC2-5T2000, AIC2-5 and Global Standard Testers 2/3/3H compare well with one another on the condition that the tests have been carried out under the same testing conditions.

► *In comparison to older IGT leaflets, this leaflet is valid for the AIC2-5T2000 and Global Standard Testers as mentioned*

This information leaflet has been compiled with the utmost care. However, may you find any inadequacies or if there are any comments, we kindly request you to send these to IGT Testing Systems, Sales Department.