

Introduction:

The ink transfer of the rubber blanket is one of the factors that influence the final print quality. The ink transfer is influenced by the structure of the blanket. This means when there is a difference in the structure of rubber blankets, there can be a difference in the ink transfer and this can lead to a certain difference in the print quality. In this method the ink transfer is tested by printing from a rubber blanket after inking this blanket for several times. The method for the ink absorption (printing after one time of inking) has been described in IGT information leaflet W61 (for 0.7 m/s) and W79 (for 0.2 m/s).

Principle:

A strip of the rubber blanket to be tested is placed on the sector of the IGT printability tester. The blanket is inked from an inked aluminium printing form for several times and after every inking the ink is transferred from the blanket to a strip of a standard paper. The density on the printed paper strips is measured. The higher the density and the quicker the maximum density has been reached, the more ink has been transferred from the blanket.

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 $50 \pm 2\%$ 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 blankets, the paper, the ink and the equipment during >6 hours in the standard atmosphere.
2. Cut the blanket strips (preferable 55 x 340 mm in the machine direction, 3 strips per sample) and mark them with a code for the type of blanket.
3. Shorten the paper strips, IGT code Ka, to a length of 200 mm.
4. Take off the brush from the tester.
5. **For AIC2-5T2000 only:**
 - 5.1 Mount a strip of rubber blanket on the sector. See W100.
 - 5.2 Adjust the printing force of both printing disc shafts to 625 N and pay attention for the right backlash. See W100.
 - 5.3 Adjust the printing speed to 0.2 m/s in the constant speed mode (□).
5. **For GST 2 only:**
 - 5.4 If not present on the Global Standard Tester, mount the sector with clamps. See W100.
 - 5.5 Select the menu "Transfer blankets" in the display.
6. Check the functioning of the tester following the instructions in the chapter "Execution".
7. Fill the ink pipette with the density ink.
8. Adjust the High Speed Inking Unit with the following settings:



Fig. 1: Ink transfer with GST2

Materials / testing conditions

1	IGT AIC2-5T2000	710.000.000
2	or IGT Global Standard Tester 2	412.000.000
3	IGT High Speed Inking Unit 4	466.000.710
4	(Top roller with 4 segments for conventional inks)	(466.003.003)
5	Printing disc, aluminium, 50 mm, ø 65 mm (5x)	402.331
6	IGT Density ink	404.003.001
7	Strips of art paper, APCO II/II, code Ka, 55 mm	404.009.025
8	IGT ink pipette	408.000.200
9	Sector with clamps (for GST2)	361.000
10	Strips of rubber blanket to be tested, preferable 55 x 340 mm, 3 strips per sample	
11	Densitometer	
12	Lint free rags	
13	Cleaning naphtha	
14	Petroleum ether	
Printing- and set off force		625 N (preset)
Printing and set off speed		0.2 m/s (preset)
Times between printings		60 s
Ink film thickness (volume)		2.4 (0.10 cm ³) and 4.8 µm (0.20 cm ³)

- The numbers 1 thru 9 are available at IGT Testing Systems.
- The numbers 4 thru 7 can be obtained as Ink Transfer Set for rubber blankets for AIC2-5T2000 and Global Standard Tester 2, article number 477.000.710.

► This leaflet contains article numbers per January 1st, 2006 ◀.

Water bath: 23.0° C (73.4° F)

Top roller: 4-segmented, rubber for conventional inks

Mode : 2

Starting time: 5 s

Distribution time: 10 s

Distribution speed: 1.2 m/s

Inking time printing discs: 5 s

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

Execution:

1. Mount a strip of the rubber blanket to be tested on the sector. See W100.
2. Mount a strip of the paper with a piece of tape at the beginning and the end of the strip on a clean printing disc.
3. Place the disc with the paper on it on the bottom printing disc shaft of the tester and turn it in such a way that the beginning of the paper is pointing upward.
4. Apply 0.10 cm³ (for 2.4 µm) or 0.20 cm³ (for 4.8 µm) of ink to every segment of the inking unit and distribute the ink.
5. Place the four printing discs on the printing disc shafts of the inking unit and ink the discs during the preset time.
6. After the printing discs have been lifted from the toproller add 0.025 cm³ (for 2.4 µm) or 0.05 cm³ (for 4.8 µm) of ink to all segments of the inking unit to keep the right ink film thickness and distribute the ink. NOTE: it is allowed to add some ink for only one time.
7. Place the first inked printing disc on the top printing disc shaft of the tester.
8. Make a print. See W100.
9. Within the next 60 seconds:
 - 9.1. Quickly take the printing disc with ink from the top shaft, clean it with rags with naphtha and rags with petroleum ether, dry it and place it back on the printing disc shaft of the inking unit and ink it again.
 - 9.2. Quickly take the printed paper strip from the bottom printing disc and mount a new strip of paper on it.
 - 9.3. Quickly take the next inked printing disc from the inking unit and place it on the top printing disc shaft of the tester.
 - 9.4. After 60 s after making the last print make a print.
10. Repeat point 9 for the next 6 times. NOTE: After having made 4 prints, the 1st printing disc can be used and after that the 2nd, 3rd and 4th one.

11. After having made the 8 prints, clean the rubber blanket with rags with cleaning naphtha and with rags with petroleum ether.
12. Allow the blanket to dry.
13. Clean the rollers of the inking unit and the printing discs with rags with naphtha and rags with petroleum ether.
14. Repeat the points 2 thru 13 for an ink film thickness of 4.8 μm .
15. Repeat the points 1 thru 14 for every test strip of rubber blanket. It is recommended to execute the test at least three times.
16. Allow the ink of the printed paper strips to dry for 5 hours in the standard atmosphere...
17. Measure the test results as described in the chapter "Assessment".
18. After having finished the tests clean and store all parts as described in the manuals.
19. Make an accurate record of the conditions and the results of the tests.

Assessment:

1. After >5 hours after making the print measure the contrast density of the printed paper strip at least 10 times per strip.
2. Repeat point 1 for every strip.
3. For every type of blanket and every testing condition calculate the average of the measured densities.
4. If desired calculate spreading and/or standard deviation. Sometimes it may be useful to not the highest and lowest values as well.

Notes:

1. The test results of the AIC2-5T2000, AIC2-5 and Global Standard Tester 2 compare well with one another on the condition that the tests have been carried out under the same testing conditions.
2. The maximum storage life of the density ink in the original, closed packing is 3 years; in an opened packing 1 year.

► *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.