Introduction
In intaglio printing the pressure between the engraved cylinder and the paper is very high. From this the printed paper can have a certain deformation: the paper has been embossed. There can be a difference in embossing between types of paper and types of plastic film. This information leaflet describes a method to make a standard embossing.

Principle
A printing disc with a certain groove is rolled off against the substrate under standard conditions. The embossing is measured with a profile measurement system.

Method of operation
- It is recommended to execute the test in the standard atmosphere; to most standards it is 23,0 ± 1,0 °C and 50 ± 2% rh.
- For the operation of the AIC2-5T2000 and Global Standard Tester follow the instructions of the manuals, IGT information leaflet W100 and the displays accurately.
- Handle the samples carefully.

Preparation
1. Condition the papers and equipment during > 6 hours in the standard atmosphere.
2. Cut the paper strips and mark them with top and/or bottom side, machine and/or cross direction and a code for the type of paper.
3. For AIC2-5T2000 only:
   3.1. Mount the packing on the sector. See W100.
   3.2. Adjust the printing force of the top printing disc shaft to the desired value and pay attention for the right backlash. See W100.
   3.3. Adjust the printing speed to 0,2 m/s in the constant speed mode (▭).
4. For GST 2/3H only:
   4.1. Mount the packing on the sector. See W100.
   4.2. Switch "Fixed menus" in the menu "Options" to OFF.
   4.3. Select the menu "Color/density" in the display.
   4.4. Adjust the printing force to the desired value.
   4.5. Adjust the printing speed to 0.2 m/s.
5. Degrease the printing disc with rags with ethanol.

Execution
1. Adjust the printing force to 100 N.
2. Mount a test strip on the sector by attaching the beginning of the test strip into the front clamp and fixing the end of the test strip on the sector with a piece of tape.
3. Place the printing disc on the top printing disc shaft of the tester.
4. Make a "print". See W100.
5. Take off the "printed" strip from the sector and store it carefully.
6. Repeat the points 2 thru 5 for every test strip with the same printing force. The test has to be carried out at least three times.
7. Repeat the points 1 thru 6 for 300 N, 600 N and 1000 N.
8. Measure the results of embossing as described in the chapter "Assessment".
9. After finishing the tests clean the disc with rags and ethanol and grease it with acid free Vaseline.
10. Store all parts as described in the manuals.
11. Make an accurate record of the conditions and the results of the test and refer to W63.

Assessment
1. Measure the height of the embossing with the profile measurement system at least four times on every strip.
2. Calculate the average and if desired, the standard deviation. Sometimes it can be useful to mention the highest and lowest values as well.

Materials / Testing conditions		
1	IGT AIC2-5T2000 or IGT Global Standard Tester 2 or IGT Global Standard Tester 3H	710.000.000 412.000.000 467.000.000
2	Printing disc, grooved, 24 mm wide, groove depth 120 µm and groove width 2 mm	402.324
3	Packing, paper, width 55 mm	404.001.005
Strips of paper or plastic to be tested, preferable 55*340 mm², 12 strips per sample Lint free rags and ethanol Acid free Vaseline Optical or mechanical profile measurement system		
Printing force Printing speed	100, 300, 600 1000 N Constant, 0,2 m/s	
► The numbers 1 thru 4 are available at IGT Testing Systems.		

► *2006: In comparison to older IGT leaflets this leaflet is valid for the AIC2-5T2000 and Global Standard Testers.*
► *2012: This leaflet is valid for the AMSTERDAM and contains some small text corrections.*
► *2017: This leaflet is valid for the AIC2-5T2000 and GST 2/3H only and contains some small text corrections.*