IGT F1 Printability tester
for flexo and gravure inks

IGT Testing Systems has developed the advanced computerised F1 for flexo and gravure inks.

- The F1 makes colour strips with flexo and gravure inks, which can be used for many purposes.
- The F1 has specially been designed to aid computerised colour measuring and colour matching systems.
- The F1 saves on costs because colour testing on the printing presses is no longer necessary.

APPLICATIONS

The F1 printability testers produce colour strips which are suitable for many purposes, such as:

- Measuring colour using colour measuring systems/spectrophotometers
- Use in colour matching systems
- Visual appraisal
- Density measurements, including establishing colour and density tolerances and determination of coverage, wear resistance, scratch resistance, flexibility, adhesion and gloss, ink transfer, light fastness and resistance to chemicals
- Testing printing quality.

The F1 tester prints all kinds of coated and uncoated materials:

- Paper, board, plastic film, cellophane, laminate, metal foil, etc.

OPERATION

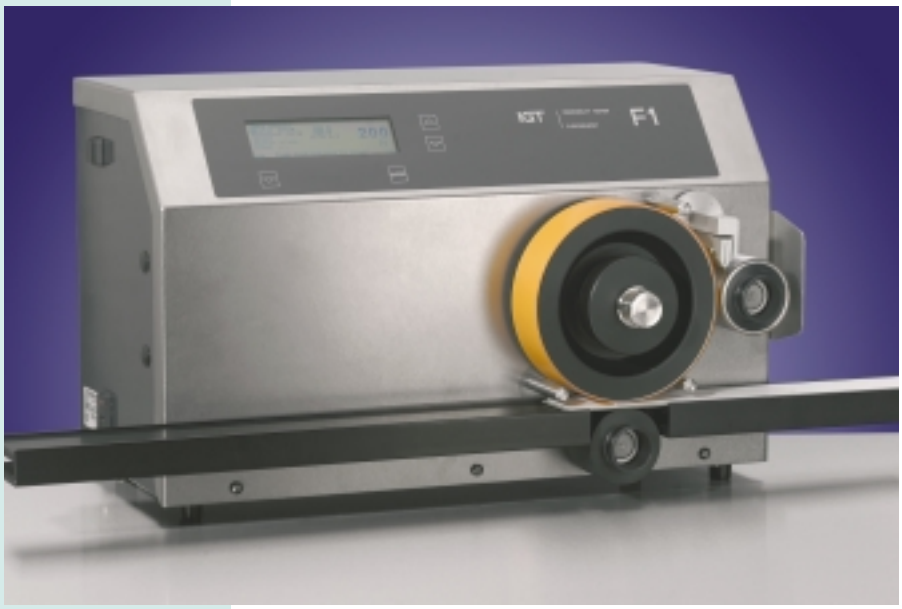
The F1 tester can be used for flexo inks in the flexo mode and for gravure inks in the gravure mode.
For flexo, the F1 tester consists of a combined inking section with engraved roller (engraved disc) and doctor blade and a printing section with printing form and impression cylinder. The substrate

The F1 tester is used in the following industries:

- **Flexo and gravure printing ink, paper and board, printers**
- **Plastics and packaging**
- **Resins, lacquers and coatings**
- **Corrugated board**
- **Raw materials**

IGT F1 Printability tester

Modern design, simple to operate



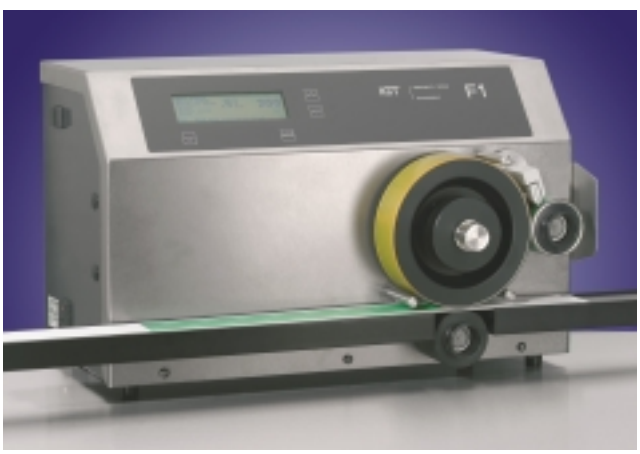
The F1, ready for use

PROPERTIES

The principal properties of the F1 tester are:

- Modern design, simple to operate and easily movable; very reliable and sturdy construction for intensive use over a long period; easy and quick to clean
- Extensive processing possibilities for various substrates and flexo inks; substrate, ink, engraved roller (available in many sorts) and printing form simple and quick to change
- Automatically makes two prints one after the other
- Excellent reproducibility; high degree of simulation of actual practice
- Electronic control printing force and speed control
- Low initial cost and low operating costs; complies with the latest EC-standards; provided with detailed instructions for use

Making a print



is attached to a substrate carrier and placed on the substrate guide, between the printing form and the impression cylinder. When the F1 is activated, the engraved disc and the substrate come into contact with the printing form and the doctor blade contacts the engraved disc. With the aid of a (disposable) pipette, a few drops of ink are applied to the nip between the doctor blade and the

Applying ink

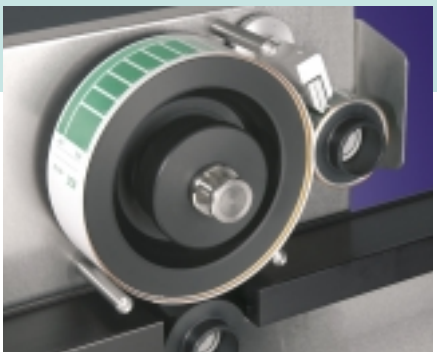
engraved disc. The ink is wiped off and transferred from the engraved disc to the printing form and from the printing form to the substrate. Doctor blade, engraved disc and impression cylinder are then lifted automatically. The substrate is removed for appraisal. The engraved disc, doctor blade and printing form are cleaned. In flexography the print quality is very much dependent upon the printing speed, which is therefore adjustable from 0.2 to 1.5 m/s. Two prints are made automatically to ensure the cells of the engraved disc are well filled with ink. The second print is the

IGT F1 Printability tester

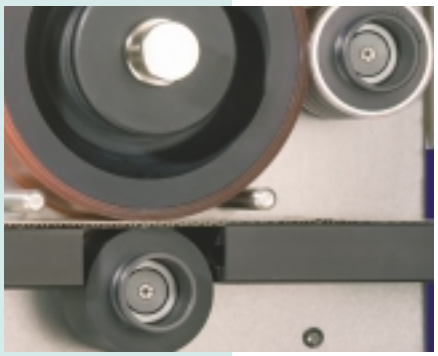
Prints coated and uncoated materials:

Paper, board, plastic film, cellophane, laminate, metal foil, etc.

Using the gravure mode



Gravure printing, detail



Printing on corrugated board

most consistent and therefore more suitable for further evaluation.
The gap between the impression cylinder and printing form is 4 mm, so that thick materials can also be printed.
The printing force between the engraved disc and the printing form and between the printing form and the substrate can be selected independently of each other between 10 and 500 N.
By choosing the right photopolymer and printing force, it is also possible to print on corrugated board.

Gravure printing

For gravure printing, the F1 is switched into the gravure mode. In this case, the impression roller on the lower shaft is not in operation. Only an engraved gravure roller, doctor blade and photopolymer cylinder are used. The photopolymer cylinder now has the function of impression cylinder. The substrate to be printed is attached on the photopolymer. When the F1 is activated, the engraved disc and the substrate come into contact with each other and the doctor blade contacts the engraved disc. With the aid of a (disposable) pipette, a few drops of ink are applied to the nip between the doctor blade and the engraved disc. The ink is wiped off and transferred from the engraved disc to the substrate. The doctor blade and engraved disc are then lifted automatically. The substrate is removed for appraisal. The engraved disc and doctor blade are cleaned. In gravure, the print quality depends very much upon the printing speed, which is therefore adjustable from 0.2 to 1.5 m/s. Two prints are automatically made to ensure the cells of the engraved disc are well filled with ink. The second print is more suitable for further evaluation.
The printing force between the engraved disc and the substrate can be selected between 10 and 500 N.

Engraved discs for flexo and gravure

For flexo, many types of engraved discs are available for the application of different quantities of ink.
In addition, a choice can be made between ceramic, laser engraved discs and in copper engraved, chromium plated discs. There are discs with a solid engraving and discs with 4 different engravings. Special engraved discs can be made on request.
For gravure several types of copper and chromium plated engraved discs are available.

Printing form for flexo

The F1 tester has several printing forms: solid and screened in photopolymer. The photopolymer is available in two standard thicknesses: 1.7 and 6.25 mm. Customer supplied printing forms can also be used.
The printing form is attached to the printing form cylinder using double-sided tape.

Substrate carrier for flexo

The substrate carrier for flexo consists of a strip of plastic. To obtain optimal printing quality, it is covered with foam and hard polyester over it.

IGT F1 Printability tester

Excellent reproducibility

TECHNICAL DATA

Inking and printing sections

- Electronic printing force and speed setting and control
- Printing speed: 0.2 – 1.5 m/s
- Printing force: 10 – 500 N
- Impression cylinder and engraved disc are automatically brought under pressure, printed and lifted
- Doctor blade is automatically placed against and lifted from engraved disc
- Impression cylinder and anilox are lifted 4 mm
- Printing width on substrate: 40 mm
- Printing length on substrate: 190 mm (2nd print)
- Engraved disc is inked twice
- Flexo and gravure modes

Engraved disc

- Flexo:
  - In copper engraved, chromium plated, solid and 4 engravings together
  - Ceramic, laser engraved, solid and 4 engravings together
  - Many different volumes
- Gravure:
  - In copper engraved, chromium plated
  - Many different volumes

Doctor blade

- Width: 52 mm
- Doctor blade angle: 60°, trailing
- Doctor blade pressure: 6 - 7 N
- Doctor blade type: MDC60

General

- Complies with EC directives
- Modern styling
- Simple operation
- Reliable
- Low initial cost
- Possible to use many substrates and inks
- Easily movable
- Detailed instructions for use

Weight:	35 kg
Height:	350 mm
Width:	600 mm
Depth:	350 mm

Electrical connection:

115 – 230 V / 50 – 60 Hz

Agent

IGT Testing Systems

Research, development and production of testing equipment for the printing and allied industries

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