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A method to proof a flexo printing ink

Scope

This Technical Information Paper is limited to flexographic printing ink and the use of a hand-held anilox roll proofer. Letterpress inks and the use of mechanical proofers are not included.

Introduction

This Technical Information Paper provides an operating procedure to create an ink proof which can be done within a box plant. An ink proof is a small-scale test print used to “predict” the results of a production print job. It is intended to provide the box plant with a simple tool to evaluate the printability of an ink.

There are several applications for an ink proofing test in a boxplant.

1. To create a print “Quality Standard” for a given job.
2. As a diagnostic tool when investigating a print quality problem.
3. To compare how a given ink will print on different liners.
4. To compare the printability of several inks for a given job.
5. To collect trend information to evaluate incoming ink consistency.

Safety precautions

The use of personal protective equipment, including eye and skin protection is recommended.

Procedure

As mentioned before, an ink proof is a test print which represents the result of a printing job. The proof is a way to evaluate ink printability under controlled conditions on a given linerboard. When proofing conditions are specified (e.g., screen size, cell volume, roll durometer, etc.), the combined effect of pigment strength, shade and transfer results can be evaluated.

Provided below is the procedure to obtain the ink proofs.

A. Apparatus

1. Hand proofer (adjustable type with screw handle) with 165 line Anilox roll (9.4 cubic billion microns in volume) with durometer of the rubber roll between 40-45(Shore A).

NOTE 1: Hand proofers can be purchased with various combinations of screen size, cell volume and durometer so individual press conditions can be simulated.

2. Desired linerboard (kraft, bleached, etc.) cut to approx. 5 in. x 8in.

NOTE 2: An ink proof can be done on several different linerboards simultaneously. See photograph on next page.

3. Ink spatula.

B. Operating procedure

1. Line up anilox roll near top of desired linerboard.
2. Place sufficient ink (3 or 4 drops) with spatula in the nip of the hand proofer.
3. With uniform pressure of the rubber roll against the linerboard(s), pull the proofer roll against the entire length of linerboard to obtain the proof. Pull with as consistent a speed as possible. An ink proof will result. When completed, clean proofer with water.

Some limitations are worthwhile to note:

1. The ink proofing procedure is operator dependent. Changes in proofing speed and pressure due to individual techniques may produce excessive print variation.
2. The ink proof is limited to visual assessment. It is not recommended for numerical color requirements. A more precise proofing procedure (using a mechanical proofer) should be used for color measurement application.



Fig. 1. Flexographic ink proof (courtesy of J.M. Huber Corp.).

Recommendation

This Technical Information Paper outlines a procedure for proofing a flexographic printing ink. It is strongly recommended that you consult your ink supplier who can provide training, additional information and interpretation for a given application.