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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Practice for Using a Copier or Printer as a Test Instrument for Evaluating Paper Performance¹

This standard is issued under the fixed designation F 1442; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers a standardized procedure for utilizing a copier or printer as an imaging device when performance properties of paper are to be determined.

1.2 Copiers and printers are limited to those using the indirect electrophotographic process.

1.3 The paper is limited to cut-sized office papers.

1.4 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* Specific precautionary statements are given in Appendix X1.1.

2. Referenced Documents

2.1 ASTM Standards:

D 3460 Specification for White, Watermarked and Unwatermarked Bond, Mimeograph, Duplicator, and Xerographic Cut-Sized Office Papers²

D 4825 Test Method for Measurement of Curl in Cut-Sized Office Paper²

D 5039 Test Methods for Identification of Wire Side of Paper²

F 335 Terminology Relating to Electrostatic Copying²

F 360 Practice for Image Evaluation of Electrostatic Business Copies²

F 807 Practice for Determining Resolution Capability of Office Copiers²

F 875 Test Method for Evaluation of Large Area Density and Background on Office Copiers²

F 909 Terminology Relating to Printers²

F 995 Practice for Estimating Toner Usage in Copiers Utilizing Dry Two-Component Developer²

F 1125 Terminology of Image Quality in Impact Printing System²

3. Terminology

3.1 For definitions used in this practice, see Terminology F 335 and F 909.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *after image curl*—the amount, direction, and axis of curl after imaging in a copier or printer, as determined by Test Method D 4825.

3.2.1.1 *Discussion*—The direction of curl is described as to whether it is toward the felt or wire side. This description as well as the relationship to the image should be recorded, that is, toward or away from the image side. In the case of duplexing, the side imaged first should be recorded.

3.2.2 *before image curl*—the amount, direction, and axis of curl before imaging as determined by Test Method D 4825.

3.2.3 *stickie*—a material, usually in the form of a small speck or spot, that because of its adhesive nature, can be transferred from the paper to the photoconductor where it attracts toner. This toner is subsequently transferred as unwanted image to the paper.

4. Summary of Practice

4.1 This practice describes the use of an electrophotographic copier or printer as a test instrument to evaluate the performance characteristics of cut sized office paper.

4.2 Several image quality characteristics may be evaluated through the use of the following applicable ASTM standards: Practice F 360, Practice F 807, Test Method F 875, and Practice F 995, Terminology F 1125, or both.

5. Significance and Use

5.1 This practice may be used to satisfy the requirements of Specification D 3460 when performance in the intended use in a printer or copier is required.

5.2 Describing physical parameters of paper alone is not sufficient to ensure performance in a copier or printer.

5.3 Curl, both before and after imaging, may effect copier or printer performance.

5.4 The presence of contaminants in the paper that are tacky or thermoplastic, or both, may be transferred to the photoconductor or fuser rolls. They may cause an unwanted image. These are referred to as “stickies.” Some papers, especially those containing recycled fiber, have exhibited this problem.

5.5 Transfer of ream sealing adhesive or ream wrapper laminant to the photoconductor or fuser rolls can cause

¹ This practice is under the jurisdiction of ASTM Committee F-5 on Business Imaging Products and is the direct responsibility of Subcommittee F05.03 on Research.

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² *Annual Book of ASTM Standards*, Vol 15.09.