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AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Practice for the Comparative Evaluation of the Imaging Properties of Liquid Electrostatic Toners¹

This standard is issued under the fixed designation F 505; 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.

INTRODUCTION

This practice is a pragmatic test for the consumer who may or may not have access to sophisticated laboratory equipment.

1. Scope

1.1 This practice guides the consumer toward preparing a test for liquid toners used in copiers, which has significance to their specific copying needs, and suggests ways in which test prints may be made and used for each evaluation.

1.2 This practice does not include those procedures necessary for the evaluation of nonimpact printing toners, those toners used in the preparation of offset masters, or other specialty toners.

1.3 *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.* See Section 7 for specific hazards statements.

2. Referenced Documents

2.1 ASTM Standards:

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

3. Terminology

3.1 **Definitions**—For definitions of terms relating to electrostatic copying, see Terminology F 335.

4. Summary of Practice

4.1 This practice involves the comparative evaluation of one or more toner supplies by rating subjectively a number of

significant characteristics of imaged copies made under controlled conditions on a liquid toner electrostatic copier.

5. Significance of Use

5.1 Subjective comparative evaluation of copies made from the same test originals can be used to determine the usefulness of a given toner supply in a specific user application.

6. Interferences

6.1 Many copy systems are subject to variation due to fluctuation of line voltage. It is conceivable that such fluctuations may cause a normally useful system to give poor results. The manufacturer of the equipment should be consulted regarding the need for voltage-stabilizing devices which can usually be installed easily.

6.2 Results from a copy system can vary depending upon the length of time the system has been operating. The first print after a system has been shut down for a prolonged time period can be of different quality than subsequent prints made after some time of operation.

6.3 Variations in copy system performance after continuous copying over relatively long periods can occur (that is, several hours or more). It is recommended that the procedure be repeated if significant variation in copy system performance occurs.

6.4 Variations in copy system performance can occur as a result of copier adjustments (for example, before and after service calls).

6.5 Excessively high or low relative humidity can also cause variation in performance not encountered under normal conditions.

6.6 All tests should be conducted in the same copier, during the same relative time period and environmental conditions.

6.7 Toner supplies (including both toner and diluents) are often purchasable from several sources and can affect results of the given copy system.

6.8 Paper supplies can be purchased from several sources and also can affect results of a given copy system. The user should use only the grade and weight of paper recommended

¹ This practice is under the jurisdiction of ASTM Committee F-5 on Business Copy Products and is the direct responsibility of Subcommittee F05.04 on Electrostatic Copy Products.

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² Annual Book of ASTM Standards, Vol 15.09.