



Designation: F 596 – 82 (Reapproved 1998)

AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Practice for Comparative Evaluation of the Imaging Properties of Dry Electrostatic Toners¹

This standard is issued under the fixed designation F 596; 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 user who can obtain meaningful results without the need for sophisticated instrumentation.

1. Scope

1.1 This practice covers a method of testing by which the user can prepare a test for dry electrostatic 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 Additional evaluation of image characteristics are covered in Practice F 807 and Test Method F 875.

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 8 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 470 Practice for Caking Temperature of Dry Electrostatic Toner²

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:* Refer to Terminology F 335.

4. Summary of Practice

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

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

5. Significance and Use

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

6. Interferences

6.1 Many copy systems are subject to variations due to fluctuation of line voltage. It is conceivable that such fluctuations may cause a normally useful system to give poor results. It is recommended that a stable and dedicated electrical line be used for testing purposes or 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 imaged copies made after some time of operation.

6.3 Variations in copy system performance after continuous copying over relatively long periods, for example several hours or more, can occur. It is recommended that the test procedure be repeated if significant variation in the 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 Dry toner supplies are often purchasable from several sources and can affect the results of a given copy system. If the sample of dry toner selected shows evidence of caking (see Practice F 470) which cannot be easily broken up with a soft

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.

Current edition approved Oct. 29, 1982. Published December 1982. Originally published as F 596 – 78. Last previous edition F 596 – 78.

² Annual Book of ASTM Standards, Vol 15.09.