



Standard Practice for Use of the Electric and Electronic Typewriter as a Test Instrument¹

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1. Scope

1.1 This practice covers standardized procedures utilizing the electric or electronic typewriter as an imaging device for measuring the performance properties of carbonless paper, carbon paper, inked ribbon, and similar image producing products.

NOTE 1—Electric and electronic typewriters covered by this practice have a full-character type element. Examples of such elements are type bar, ball, thimble, and daisy wheel.

1.2 *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.*

2. Referenced Documents

2.1 ASTM Standards:

D 685 Practice for Conditioning Paper and Paper Products for Testing²

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

E 284 Terminology of Appearance³

F 221 Terminology Relating to Carbon Paper and Inked Ribbon Products and Images Made Therefrom²

F 549 Terminology Relating to Carbonless Copy Products²

F 909 Terminology Relating to Printers²

F 1125 Terminology of Image Quality in Impact Printing Systems²

2.2 ANSI Standard:

PH 2.36 Terms, Symbols, and Notation for Optical Transmission and Reflections Measurements⁴

PH2.17 Density Measurements—Geometric Conditions for Reflection Density⁴

¹ This practice is under the jurisdiction of ASTM Committee F-5 on Business Copy Products and is the direct responsibility of Subcommittee F05.02 on Carbon Paper and Inked Ribbons.

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² Annual Book of ASTM Standards, Vol 15.09.

³ Annual Book of ASTM Standards, Vol 06.01.

⁴ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

PH2.18 Density Measurements—Spectral Conditions⁴

3. Terminology

3.1 Definitions:

3.1.1 For definitions of terms used in this practice, refer to Terminology E 284, F 221, F 549, and F 909.

4. Summary of Practice

4.1 This practice consists of using an electric or electronic typewriter under specified conditions to produce images for the evaluation of carbon paper, carbonless paper, inked ribbon, and paper manifold sets on a comparative basis.

5. Significance and Use

5.1 This practice is intended to provide a means of rapid evaluation of comparative image quality relative to carbon paper, carbonless paper, inked ribbons, and similar image-producing products.

6. Interferences

6.1 Many electric and electronic typewriters are subject to type impact variations due to fluctuations of line voltage. Voltage stabilizing devices, recommended by the typewriter manufacturer, can be used. If a stabilizing device is not used, tests should be run at periods when the line load is low or stabilized.

6.2 The densitometer readings will also vary with voltage fluctuations. The same precautions as in 6.1 should be taken.

6.3 In densitometer readings care should be taken not to confuse width of line with intensity.

6.4 Fluctuations of temperature and humidity will affect the paper used for image reception. Tests run on different days could show variations in results. All tests should be dated and temperature and relative humidity during the tests recorded.

7. Apparatus

7.1 *Typewriters*, to be used to prepare images. An electric or electronic typewriter in normal use for the application and adjusted to the manufacturer's specifications.

7.2 *Reflection Densitometer*, meeting the geometric conditions of PH2.17 and the spectral conditions of PH2.18, and measuring reflection density as defined in ANSI PH 2.36. The aperture diameter of the instrument shall not be less than the