



Standard Test Method for Determining the Yield of Wide Inked Computer Ribbons¹

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1. Scope

1.1 This test method covers the determination of the yield of a wide (7 to 17 in. in width) inked computer ribbon.

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

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

F 909 Terminology Relating to Printers²

F 1174 Practice for the Use of the Personal Computer Printer as a Test Instrument²

F 1232 Practice for Determination of Character Yield for Single-Pass Film Ribbons²

2.2 ANSI Standards:

PH 2.17 Density Measurements—Geometric Conditions for Reflection Density³

PH 2.18 Density Measurements—Spectral Conditions³

3. Terminology

3.1 Definitions:

3.1.1 *end-of-life point, n*—the point at which the image quality produced from an inked computer ribbon is determined to be incomprehensible, expressed in terms of optical density. Prior to testing, the concerned parties mutually determine an end-of-life-point.

3.1.2 *yield, n*—the end-of-life point of an inked computer ribbon, expressed as the number of printed lines.

4. Summary of Test Method

4.1 This test method consists of testing a computer ribbon under actual use conditions by employing a high-speed printer to use the ribbon to an end-of-life point. All tests are to be made consecutively on the same printer, using the same type font, program, impact, alignment, forms, forms-thickness setting, and manufacturer's lot, grade, and basis weight of paper.

5. Significance and Use

5.1 This test method is used to determine the yield (expressed in the number of printed lines) obtainable under actual use conditions on a given computer ribbon of a definite length.

5.2 This test method is suitable for service evaluation and research and development.

6. Interferences

6.1 Many printers are subject to imaging system variations due to fluctuation of line voltage. Voltage stabilizing devices may be used. If a stabilizing device is not used, tests should be run where the line load is low or stabilized.

6.2 The densitometer reading may also vary with voltage fluctuations. Use the same instructions as in 6.1.

6.3 Fluctuations in temperature and humidity can affect the paper used for image reception. Tests run on different days could show variation in results. All tests should be dated, with temperature and relative humidity recorded.

6.4 The printing element of the printer gradually wears under use, which may cause variation in the results. During the course of a test, it is recommended that the printing element be periodically inspected, cleaned, calibrated, or replaced, and any of these actions recorded.

6.5 The optical density of the paper may cause variations in the results. Ensure that the paper is optically uniform (within 0.01 optical density units), without background print.

6.6 The type of paper used may cause variation in the results. Ensure that paper from the same manufacturer, lot, basis weight, and grade is used.

7. Apparatus and Materials

7.1 *Printer*, using the ribbons to conduct yield test.

7.2 *Reflection Densitometer*—A reflection densitometer meeting the geometric condition of ANSI PH 2.17 and the spectral conditions of ANSI PH 2.18.

¹ This test method is under the jurisdiction of ASTM Committee F05 on Business Copy Products and is the direct responsibility of Subcommittee F05.02 on Inked Transfer Imaging Products.

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

³ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.