



Designation: F 935 – 00

Standard Test Method for Comparing Cover-Up Correction Media¹

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1. Scope

1.1 This test method covers information and procedures for evaluating several performance qualities of typewriter cover-up correction tapes and tabs on a comparative basis for general office use.

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 and 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 497 Practice for Use of the Electric and Electronic Typewriter as a Test Instrument²

2.2 ANSI Standard:

PH2.17 Density Measurements—Geometric Conditions for Reflection Density³

PH2.18 Density Measurements—Spectral Conditions³

3. Terminology

3.1 For definitions of terms used in this test method, refer to Terminology F 221.

4. Summary of Test Method

4.1 This test method consists of testing typewriter cover-up correction tapes and tabs under actual and simulated use conditions, using several techniques generally accepted in the

inked ribbon industry. All tests should be performed under the same conditions so that comparative results may be obtained.

5. Significance and Use

5.1 This test method may be used to evaluate several performance characteristics of typewriter cover-up correction media on a comparative basis.

5.2 This test method is suitable for manufacturing control on a limited basis, due to the length of time required for some tests.

6. Apparatus and Materials

6.1 *Electric or Electronic Typewriter*—Calibrate and adjust in accordance with the manufacturer's suggestions and Practice F 497.

6.2 *Reflectometer*—Meeting the geometric conditions of PH2.17 and the spectral conditions of PH2.18.

6.3 *Environmental Chamber*—Capable of maintaining 120 ± 2°F (49 ± 1°C) at 40 % ± 5 % relative humidity for 48 h.

6.4 *Magnifier*—3× to 5×.

6.5 *Paper*—Grade 4, Type I (20 lb – 17 × 22-500; SI equivalent 75 g/m²) in accordance with Specification D 3460. The felt side of the paper shall be used for the test. All tests shall be made along the machine direction of the paper.

6.6 *Control Ribbon*—A single strike film, multistrike film, or fabric ribbon of known quality and performance.

6.7 *Cover-up Tape or Tab*—Since this test procedure is comparative, two or more specimens of tape or tab should be selected for evaluation.

7. Test Specimens

7.1 The test specimens shall be a cover-up tape or tab or portion thereof not previously used or marred by handling.

8. Calibration

8.1 Calibrate the electric typewriter or printer in accordance with manufacturer's instructions and Practice F 497.

8.2 Calibrate and standardize the reflectometer in accordance with PH2.17 and PH2.18.

9. Conditioning

9.1 Testing should be conducted in an environment with stable conditions of temperature and humidity. Papers, control ribbon, and test samples should be conditioned for 24 h in the

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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.

area in which the test will be conducted. If possible, standard conditions meeting Method D 685 should be used. These are $73 \pm 1.8^\circ\text{F}$ ($23 \pm 1^\circ\text{C}$) and $50 \pm 2\%$ relative humidity.

10. Procedure

10.1 Creating Test Patterns:

NOTE 1—Great care should be taken to produce accurate test patterns. The results of calculations and observations depend upon carefully made test patterns that avoid slippage of paper, mistypings, and misalignments of character strikes. If possible, the test typewriter should be programmed to produce the test pattern thus reducing human error.

10.1.1 *Standard Test Pattern*—Each test pattern consists of a box 15 characters long and 15 lines deep. The advancement between lines should be $\frac{1}{2}$ line ($\frac{1}{12}$ in.). The preferred character for producing the standard test pattern is an OCR-B 10 pitch type font using an asterisk “*” character. Other commonly used characters which may be selected are “M”, “#”, or “W”.

10.1.2 *Producing Six Test Patterns*—The following paragraphs explain how to produce A, B, C, D, E, and F test patterns as illustrated in Fig. 1.

10.1.2.1 Place the paper as described in 6.5 in the typewriter.

10.1.2.2 Produce the first line of the four patterns by typing the chosen character as follows: Type 15 characters, follow with three spaces, next, a second row of 15 characters, three spaces, and so forth until a series of four rows have been produced.

10.1.2.3 Perform the following typing pattern for lines 2 through 14. Type 15 characters, space three spaces, type a second set of 15 characters, space three spaces and continue

until four new rows have been created as above. *Do not advance line.* Backspace to the second pattern (B). Place typewriter in correction mode, and cover-up characters 2 through 14 (13 characters) with the same character chosen to produce the test pattern. Repeat this cover-up procedure for patterns (C) and (D). Next backspace to row three (C). Overtyping with the chosen character producing a row of characters similar to pattern A (overtyping characters 2 through 14). Overtyping pattern (D) with a different character—a slash is suggested (/). Test pattern D thus become a retyped pattern with a different over typed character. Continue typing lines following the above procedure until reaching line 15.

10.1.2.4 Type line 15 the same as the first line. (See 10.1.2.2.) The result of typing in accordance with 10.1.2.2, 10.1.2.3, and 10.1.2.4 will be a series of four boxes as shown in Fig. 1 and now defined as:

Test Pattern A—Original image of ribbon.

Test Pattern B—Covered-up image of ribbon—no correction.

Test Pattern C—Retyped image—standard character.

Test Pattern D—Retyped image—nonstandard character.

10.1.2.5 Test pattern for cover-up brightness measurement and overtype reference. Advance the paper and type beneath the series of four test patterns a fifth and sixth test pattern E and F as follows:

10.1.2.6 Place the typewriter in the correction, cover-up mode. Type a series of 15 characters using only the cover-up. Advance three spaces and type a row of 15 asterisk (*) characters.

NOTE 2—If cover-up tabs are being evaluated, produce patterns E and F by typing with cover-up tab inserted between ribbon and paper. Be sure to move tab after each strike to avoid restriking same position.

10.1.2.7 Perform the following typing pattern for lines 2 through 14. Type 15 characters (*) with correction cover-up mode engaged. Advance three spaces. Type one asterisk (*) and then 13 characters as used to overtype in pattern D, without the correction function engaged. Type one asterisk (*) as the 15th character. Advance $\frac{1}{2}$ line and repeat the above until two blocks of impressions 15 by 14 are produced.

10.1.2.8 Type line 15 the same as line 1—see 10.1.2.6. The results of typing according to 10.1.2.5, 10.1.2.6, 10.1.2.7, and 10.1.2.8 will be two additional boxes as shown in Fig. 1, defined as:

Test Pattern E—Cover-up image only.

Test Pattern F—Original image nonstandard/character.

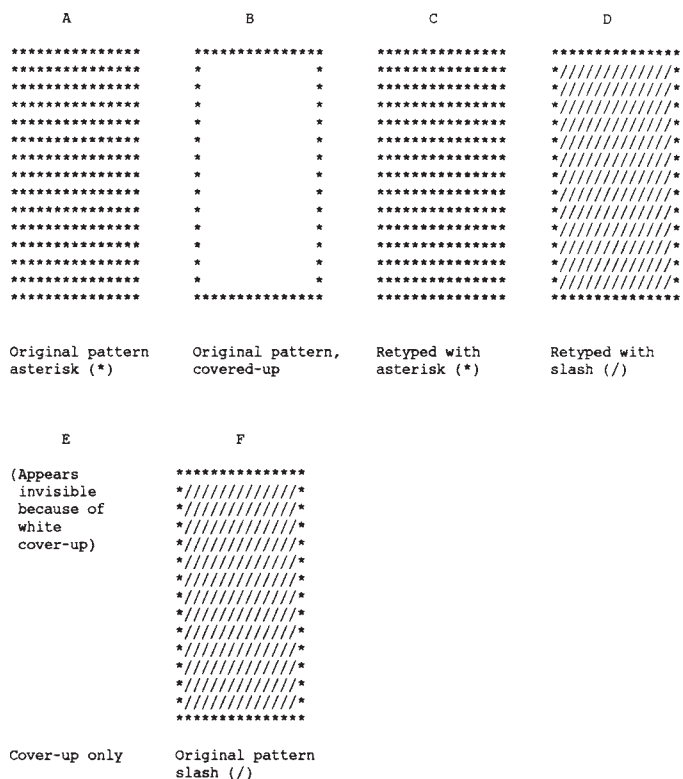


FIG. 1 Test Pattern for Measuring Cover-Up Media

10.2 Measurements and Evaluation:

10.2.1 Measure the reflectance of the base paper and boxes A, B, C, D, E, and F according to Test Method E 97, and record results. Record the average reflectance of the base paper as *R* and the other measurements A through F. Take a minimum of four readings per box.

10.2.2 Visually examine boxes B, C, and D with and without aid of a $3\times$ to $5\times$ magnifier, for evidence of incomplete cover-up transfer, incomplete rewrite transfer, voids, extraneous particles, bleed-through, practical color match of cover-up to paper, and consistency of rewrite intensity.

10.3 Cover-Up Tape Flake Test: