



Standard Practice for Testing Flake of Single-Strike Film Typewriter Ribbons¹

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INTRODUCTION

Flake is a term used to describe solid ink that is removed from a film-base typewriter ribbon during use, other than that required for creation of any image. It can have the cumulative effects of clogging the type face and contaminating the typewriter. Three variables can affect the flaking tendency of a ribbon: (1) ink formulation and coated weight, (2) adhesion of the ink to the base film, and (3) design and adjustments of the typewriter and cartridge. Flaking can be caused by the following mechanical forces:

(1) Impact of the type face—If the ink coating is brittle, fidelity of the edges of letters will be diminished as a result of irregular fracture by the type striking the ribbon.

(2) Abrasive forces during transport of the ribbon—These can cause coating to be removed as a result of contact of the moving ribbon with parts of the typewriter.

1. Scope

1.1 This practice covers two tests comparing the amount of flake of film typewriter ribbons.

1.2 A short test is recommended for partially used ribbons where flake is suspected.

1.3 A long test is recommended for use with unused ribbons that can be tested in their entirety.

1.4 *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, Xerographic, and Laser Printer 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

F 1125 Terminology of Image Quality in Impact Printing Systems²

3. Terminology

3.1 *Definitions:* For definitions of terms relating to carbon paper and inked ribbon products refer to Terminology F 221.

4. Summary of Practice

4.1 Both short and long tests require normal use of the ribbon on the machine for which it was designed and comparison of the results with those from a similar control ribbon, run under the same conditions on the same typewriter.

5. Significance and Use

5.1 This practice may be used for service evaluation, development, research, and specification acceptance.

5.2 The tests will produce significant results only if the control is the same product as the ribbon being tested.

5.3 This practice does not establish a standard or impose limits, but provides a means of assigning causes and comparing results.

6. Interferences

6.1 Any differences in ribbon processing, ribbon storage conditions, ribbon winding, or copy paper may cause variation in the test results.

6.2 An equal amount of flake-off from darker writing ribbons, as compared to lighter writing ribbons, would appear darker. This should be considered when making comparisons.

6.3 The same typewriter must be used for both the test ribbon and the control, due to adjustment variations between machines. Identical impact settings, platen position, and ribbon tensions must be used for both the control and the test ribbons.

6.4 Cartridge ribbons should be examined to differentiate

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.