



Standard Test Method for Image Stability of Chemical Carbonless Paper to Light¹

This standard is issued under the fixed designation F767; 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.

1. Scope

1.1 This test method covers the determination of the image stability of chemical carbonless paper by exposure to fluorescent light for a controlled time period. Stability to light is determined by visual comparison between exposed and unexposed samples.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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.*

2. Referenced Documents

2.1 ASTM Standards:²

D585 Practice for Sampling and Accepting a Single Lot of Paper, Paperboard, Fiberboard, and Related Product (Withdrawn 2010)³

F221 Terminology Relating to Carbon Paper and Inked Ribbon Products and Images Made Therefrom

F497 Practice for Use of the Electric and Electronic Typewriter as a Test Instrument

F549 Terminology Relating to Carbonless Copy Products

3. Summary of Test Method

3.1 Carbonless paper to be tested and previously tested control paper are selected and prepared for imaging. The test samples and control shall be imaged during the same time period with the same imaging device and pressure settings.

¹ This test method is under the jurisdiction of ASTM Committee F05 on Business Imaging Products and is the direct responsibility of Subcommittee F05.06 on Carbonless and Thermal Imaging Products.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

Images are produced either on the coated front (CF) surface of CF paper or on the CF surface of the coated front and back (CFB) paper. A portion of the image area for each test sample and control is exposed to fluorescent light for a controlled period of time. Image stability to light is determined by visual comparison of exposed and unexposed imaged areas of the same sample to exposed and unexposed imaged areas of a control paper. Comparisons are made by establishing an image-stability ranking order.

4. Significance and Use

4.1 This test method is a comparative test for determining the relative image stability of chemical carbonless paper samples.

4.2 The light source used simulates that of an office environment, while accelerating image fade.

5. Interferences

5.1 Test results will depend upon image intensity and the imaging method. The greater the pressure of the imaging device, the greater the amount of reactive material transferred, and the greater the intensity of the image. Fade resistance is generally increased when the intensity is high. Also, all carbonless papers do not exhibit the same reactive material transfer efficiency with different imaging devices. Therefore, the imaging device used should ideally be the same as that on which the paper that is used in the final application. If this is not possible, a commercial office electric typewriter set in accordance with Practice F497 (maximum impact pressure without embossing) should be used.

5.2 The image produced on carbonless paper is a result of the interaction of the coated back (CB) and coated front (CF) surfaces. The light stability of the image is thus a function of both coatings. Although the images on the CF surface are exposed to light with this method, what is actually being tested is the light stability of the CB-CF combination. Therefore a CB paper is tested in combination with a CF paper, and vice versa; a coated front and back (CFB) paper is tested separately with a CB paper and a CF paper to evaluate both surfaces.

5.3 Only the images from the same combinations of coated papers should be compared (CB-CF; CB-CFB; CFB-CF; CFB-CFB) since one side of most chemical carbonless papers is affected by light more than the other.