



Standard Practice for Determining the Compatibility of One-Time Carbon Paper with Carbonless Copy Papers When Interleaved into the Same Manifold Set¹

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1. Scope

1.1 This practice covers a procedure for determining the compatibility of one-time carbon paper with carbonless copy papers, interleaved into the same manifold set by forced aging.

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 585 Practice for Sampling and Accepting a Single Lot of Paper, Paperboard, Fiberboard, and Related Product²

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 549 Terminology Relating to Carbonless Copy Products²

3. Terminology Definitions

3.1 Refer to Terminology F 221 and F 549.

4. Summary of Practice

4.1 An evaluation is made by comparing the quality of carbonless copy images obtained with and without carbon interleaved and force-aged at elevated temperature and pressure conditions. One-time carbon paper samples are interleaved into the upper half of a business forms set. The set is force-aged at elevated conditions of temperature and pressure for three days on both the upper and lower halves. After aging, the carbon samples are removed and the manifold set is imaged at the top where carbon was interleaved and at the bottom where there was no carbon paper. The aged images are compared for intensity, clarity, and cleanliness.

5. Significance and Use

5.1 This practice is used primarily to determine the compatibility of carbon paper samples with carbonless copy paper in the same manifold set. That is, to observe if the carbon paper has or has not had an adverse effect on the carbonless paper image quality.

5.2 This practice can be used as an aid in predicting the field performance of a specific carbon paper grade in an actual carbonless form of designated composition.

5.3 This practice can be used for research and development, production, and quality control purposes.

6. Interferences

6.1 Different typewriters can affect the carbonless image quality.

6.2 Different pressures and settings on the same typewriter can affect the image quality.

6.3 Platens of varying durometer in the same typewriter can affect the image quality.

6.4 Pressure, temperature, and time during forced-aging can affect image quality.

6.5 Different carbon coatings can affect image quality and compatibility.

7. Apparatus

7.1 *Commercial Electric Typewriter* (see Practice F 497).

7.2 *Paper Cutter* (bench model), any size suitable for cutting carbonless copy paper and carbon samples.

7.3 *Paper Knife*, suitable for sampling roll carbon paper.

7.4 *Parallel Weight Fixtures* (see Fig. 1), used to apply uniform pressure to the manifold set at the interleaved and noninterleaved areas.

7.5 *Template* (see Fig. 2), used for drawing squares to aid in positioning the parallel weight fixtures.

7.6 *Drying Oven* (constant temperature), equipped with means for ensuring adequate temperature and air circulation.

7.7 *Weights*, two 16-lb (7.26-kg), used to apply pressure to the parallel weight fixtures. They shall be compact enough to fit into the drying oven.

¹ This practice is under the jurisdiction of ASTM Committee F05 on Business Copy Products and is the direct responsibility of Subcommittee F05.06 on Carbonless Copy Paper.

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