



Designation: E 2287 – 03

Standard Guide for Examination of Fracture Patterns and Paper Fiber Impressions on Single-Strike Film Ribbons and Typed Text¹

This standard is issued under the fixed designation E 2287; 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 guide provides procedures that should be used by forensic document examiners (E 444) for examinations and comparisons involving single-strike film ribbons with typed text and related procedures.

1.2 These procedures are applicable whether the examination and comparison is of questioned and known items or of exclusively questioned items.

1.3 These procedures include evaluation of the sufficiency of the material submitted for examination.

1.4 These procedures are also generally applicable to examinations of lift-off and cover-up correction tapes and sheets.

1.5 These procedures may also be applicable (in whole or in part) to examinations of carbon paper and carbon copies or of documents produced with certain non-impact printing devices (for example, printing devices using a thermal imaging transfer ribbon).

1.6 The particular methods employed in a given case will depend upon the nature of the material available for examination.

1.7 This guide may not cover all aspects of unusual or uncommon examinations.

1.8 *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 requirements prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

E 444 Descriptions of Scope of Work Relating to Forensic Document Examiners²

E 1732 Terminology Relating to Forensic Science²

E 2195 Terminology Relating to the Examination of Questioned Documents²

F 221 Terminology Relating to Carbon Paper and Inked

Ribbon Products and Images Made Therefrom³

F 909 Terminology Relating to Printers³

F 1623 Terminology Relating to Thermal Imaging Products³

3. Terminology

3.1 *Definitions*—For definitions of terms in this guide, refer to Terminology E 1732 and Terminology E 2195.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *cover-up correction, n*—see **overprint correction**.

3.2.2 *fracture pattern, n*—the spatial arrangement of each complementary edge formation created when a single object is separated into two or more fragments.

3.2.3 *impact printer, n*—a printer in which printing is the result of mechanical impacts. **F 909**

3.2.4 *impression, n*—an image formed by pressure.

3.2.5 *lift-off correction, n*—the removal of a typed character by restriking with the same character while interposing an adhesive coated tape or sheet, thereby causing the imprinted character to adhere to the coating and be stripped from the record-medium. **F 221**

3.2.6 *multi-strike film ribbon, n*—a ribbon wherein the substrate film such as polyester is coated or impregnated with an ink which allows several different imprints to be made from multiple overstrikes on the same location on the ribbon, and still result in full characters being printed. **F 221**

3.2.7 *original typed text, n*—typed text imprinted onto the surface of a record-medium as the result of the impact of a type-face striking directly or through a ribbon.

3.2.8 *overprint correction, n*—the removal of a typed character from the text by restriking with the same character while interposing a tape or sheet coated with an opaque coating material, thereby causing the imprinted character to be covered by the coating.

3.2.9 *paper fiber impression, n*—the imprint of a paper fiber in the ribbon substrate.

3.2.10 *record medium, n*—a piece of material, usually paper, on which an image is recorded.

3.2.11 *single-strike film ribbon, n*—an inked ribbon wherein the substrate is a plastic film material such as polyethylene,

¹ This guide is under the jurisdiction of ASTM Committee E30 on Forensic Sciences and is the direct responsibility of Subcommittee E30.02 on Questioned Documents.

Current edition approved March 10, 2003. Published April 2003.

² *Annual Book of ASTM Standards*, Vol 14.02.

³ *Annual Book of ASTM Standards*, Vol 15.09.