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Standard Guide for Indentation Examinations¹

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1. Scope

1.1 This guide provides procedures that should be used by forensic document examiners (Guide E444) for examinations and comparisons involving visualization and recording of indentations.

1.2 These procedures include evaluation of the sufficiency of the material available for examination.

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

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

1.5 *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:*²

E444 Guide for Scope of Work of Forensic Document Examiners

E1732 Terminology Relating to Forensic Science

E2195 Terminology Relating to the Examination of Questioned Documents

3. Terminology

3.1 *Definitions*—For definitions of terms in this guide, refer to Terminologies E1732 and E2195.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *direct contact, n*—two sheets of paper, one on top of the other, with no intervening sheets.

3.2.2 *electrostatic detection device (EDD), n*—an instrument used to visualize paper fiber disturbances (for example, indentations, erasures, typewritten material/lift off).

3.2.3 *film, n*—thin transparent plastic material that covers the item during an examination using an EDD.

3.2.4 *indentations, n*—latent or visible impressions in paper or other media.

3.2.5 *indirect contact, n*—two sheets of paper, one on top of the other, with one or more intervening sheets.

3.2.6 *lift, n*—the product of an EDD examination; a self-adhesive plastic sheet adhering to a film that preserves the results of an EDD examination.

3.2.7 *primary indentations, n*—impressions caused by the act of writing or other dynamic actions.

3.2.8 *secondary impression(s), n*—fiber disturbances caused by contact with the embossed side of indentations and not caused by the act of writing.

3.2.9 *side lighting, n*—illumination from a light source that is at a low angle of incidence, or even parallel, to the surface of the item. Syn. *oblique lighting*.

4. Significance and Use

4.1 When sheets of paper are in direct or indirect contact with one another, impressions on the top sheet can produce indentations on the sheet(s) below.

4.2 This guide establishes procedures for visualizing those indentations.

4.2.1 These procedures are essentially non-destructive; however, pencil writing and single-strike ribbon typing can be partially lifted from the document by EDD. Although this effect can be minimal, adequate documentation of such items should precede EDD.

4.3 Paper fiber disturbances caused by erasures or present in torn paper edges may be visualized using this guide.

4.4 Electrostatic detection device (EDD) examinations may be useful in developing other types of impressions on paper items (for example, typewritten material, shoeprints and latent prints).

4.5 The procedures outlined here are grounded in the generally accepted body of knowledge and experience in the field of forensic document examination. By following these

¹ This guide is under the jurisdiction of ASTM Committee E30 on Forensic Sciences and is the direct responsibility of Subcommittee E30.90 on Executive.

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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.