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Standard Guide for Examination of Dry Seal Impressions¹

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1. Scope

1.1 This guide provides procedures that should be used by forensic document examiners (Guide E 444) for examinations and comparisons involving dry seal devices and their impressions.

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

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

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

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

1.6 *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

E 444 Guide for Scope of Work of Forensic Document Examiners

E 1658 Terminology for Expressing Conclusions of Forensic Document Examiners

E 1732 Terminology Relating to Forensic Science

E 2195 Terminology Relating to the Examination of Questioned Documents

3. Terminology

3.1 *Definitions*—For definitions of terms in this guide, refer to Terminology E 1658, Terminology E 1732, and Terminology E 2195.

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.

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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.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *dry seal, n*—a non-inked mechanical device which embosses a design on paper.

3.2.2 *embossment variation, n*—non-uniformity of the dry seal impression on the paper stock. It can be caused by the manner of application or by defects in the dry seal.

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

4. Significance and Use

4.1 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 procedures, a forensic document examiner can reliably reach an opinion concerning whether two or more dry seal impressions have a common origin, or if a dry seal impression was created by a specific dry seal device.

5. Interferences

5.1 Items submitted for examination may have inherent limitations that can interfere with the procedures in this guide. Limitations should be noted and recorded.

5.2 Limitations can be due to submission of non-original documents, limited quantity or comparability, or condition of the items submitted for examination (for example, distorted impressions, partially imprinted impressions, or variations in surface texture). Such features are taken into account in this guide.

5.3 The results of prior storage, handling, testing, or chemical processing (for example, for latent prints) may interfere with the ability of the examiner to see certain characteristics. The effects can include, but are not limited to, flattening of the embossment or impression, partial destruction of the paper, and stains. Whenever possible, document examinations should be conducted prior to any chemical processing. Items should be handled appropriately to avoid compromising subsequent examinations.

5.4 Consideration should be given to the possibility that a dry seal device can be manufactured which duplicates the impressions of another dry seal.

6. Equipment and Requirements

6.1 Appropriate light source(s) of sufficient intensity to allow fine detail to be distinguished.