

Polyethylene Film Product Examinations

Table of Contents

1 INTRODUCTION 2

2 SCOPE 2

3 EQUIPMENT 2

4 PROCEDURE 2

 4.1 Observations 2

 4.2 Comparisons..... 3

 4.3 Conclusions 4

 4.4 Records..... 5

5 LIMITATIONS 5

6 SAFETY 5

7 REVISION HISTORY 5

Polyethylene Film Product Examinations

1 INTRODUCTION

This procedure is intended to be utilized by trained personnel to ensure consistency and transparency of methods employed during the examination of polyethylene film product evidence received in the Questioned Documents Unit (QDU).

2 SCOPE

These procedures will be used by a forensic examiner who is qualified in the nondestructive examination of polyethylene film products. Polyethylene film is usually in the form of plastic bags but may also come in the form of a variety of other plastic products. Redacted

3 EQUIPMENT

- 150-watt tungsten halogen light, or comparable equipment
- Transmitted light box, or comparable equipment
- Hand magnifier (minimum magnification, 4X)
- Stereomicroscope (minimum magnification, 6.3X), or comparable equipment
- Foster and Freeman Video Spectral Comparator (VSC), or comparable equipment
- Ruler marked in a minimum of 1 millimeter and/or 1/16 inch increments
- 3M Glare-Stop polarizing filters of various sizes (usually between 6" and 18"), or equivalent

4 PROCEDURE

- The following procedures will be performed when applicable.
- The procedures need not be performed in the order given.

4.1 Observations

- A. Make a record of the physical description of the polyethylene film evidence.
 - This is usually done by freehand sketching.
- B. Visually evaluate the polyethylene film evidence, to the extent possible, to determine general class characteristics.
 - General class characteristics may include:
Redacted

- A ruler will be used to obtain measurements.
- C. Redacted

4.2 Comparisons

- A. If an evidential item does not correspond to another evidential item in general class characteristics, Redacted no side-by-side comparison is necessary.
 - Report that the items were not manufactured from a common source or did not originate from a common source.
- B. If two or more evidential items correspond in general class characteristics, compare items for common manufacturing characteristics using a ruler, transmitted light source, and appropriate filters, as necessary.
 - Manufacturing characteristics may include:
 - Die lines
 - Redacted
- C. If two or more evidential items correspond in general class characteristics but do not correspond in manufacturing characteristics, report that the items were not manufactured from a common source or the items were not at one time attached to form a continuous sheet of plastic. The items, however, correspond in general class characteristics.
- D. If two or more evidential items correspond in both general class characteristics and manufacturing characteristics, examine the items for distinguishing characteristics that continue from the edge of one item to another item.
 - Distinguishing characteristics may include:
 - Redacted
- E. Visually analyze and conduct a side-by-side comparison of the polyethylene items using a transmitted light source, polarizing filters (if necessary), alternate light sources and/or filters.

- If two or more evidential items correspond in both general class characteristics and all, or the majority of, manufacturing characteristics, but do not correspond in distinguishing characteristics, **Redacted**

However, the items correspond in general class characteristics and manufacturing characteristics.

- If two or more evidential items correspond in general class characteristics, manufacturing characteristics, and distinguishing characteristics **Redacted**
- If two or more items correspond in general class characteristics and possible manufacturing characteristics, but there are significant limiting factors, an inconclusive result is appropriate.
- If two or more evidential items correspond in both general class characteristics and manufacturing characteristics, but lack observable distinguishing characteristics, report that the items correspond in general class characteristics and manufacturing characteristics. However, an inconclusive result is necessary concerning whether the items **Redacted**

4.3 Conclusions

- Once examinations have been completed, reports may include one or more of the following types of conclusion(s), opinion(s), and other findings, as applicable:
 - **Redacted**

- Redacted

4.4 Records

- The following records, if created, will be included and maintained in the examination notes:
 - Printouts
 - Photographs
 - Overlays
 - Drawings
 - Other notations that support the conclusions derived

5 LIMITATIONS

- The following factors could affect the examination process and/or the results rendered:
 - Redacted
 - Lack of sufficiently suitable characteristics for comparison

6 SAFETY

Standard precautions should be followed for the handling of chemical and biological materials. Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within QDU space. QDU personnel may refer to the [FBI Laboratory Safety Manual](#) for additional guidance.

7 REVISION HISTORY

Revision	Issued	Changes
06	01/14/2022	Document updated to remove PRIDE and reformatted for new template.
07	01/15/2025	Updated for detail and clarity throughout document. Also updated terms and revised conclusions to provide consistency and increase clarity in section 4.3.