

Barefoot Morphology Comparison

**What to Collect
&
How to Collect It.**



Shelly L. Massey, Sgt.

RCMP Forensic Identification Services

What Is a Foot Morphology Comparison?

- **Comparison of the impression left by the weight bearing area of the foot to an impression at a scene, or in a shoe.**
- **Could be:**
 - **Bare foot.**
 - **Sock foot.**
 - **Insole impression.**
 - **3D impression.**



Persistence – Impressions 12 years apart



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1
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OF
L.M.

NAN
RAC



REMARKS	
Index 9 heel	
angle R angle	
68 272	
272 273	
258 260	
242 240	
221 224	
	5
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1 2 3	
227 230 208	
196 176	

KENNEDY
45

Persistence

2000



1985



Uniqueness Distinguishing Between Individuals



A

Which are from the same person ?

Uniqueness Distinguishing Between Individuals

**Identical
Twins**



Crime Scene Examination

- **Overall photographs**
- **Midrange photos**
- **Close up photos - collect all available impressions.**
 - **Fill the frame with the foot**
 - **Flash placement**
 - **Proper scale**
 - **Collect ALL available impressions.**
- **Chemical enhancement if necessary**
- **Consider Seizure of Exhibit**
- **3D crime scene impressions should be photographed and cast.**

Known Standards

(from Subject of Inquiry)

- **Photographs of the subject's feet.**
- **Biofoam/ Foam Art Impressions of bottoms of feet**
- **Silicone Casts of tops of toes**
- **Inked bare foot walking impressions**
- **Inked bare foot static impressions**
- **Inked sock foot walking impressions**
- **Inked sock foot walking impressions**
- **Suspect shoes KNOWN to be suspect's**
 - **(If possible and it is shoes that are going to be compared**

Some of the Supplies you will need:



Zetalabor or
Ruthinium
Labour Mass



- Photograph both feet tops, sides, soles and heels with scale at same plane as the area being photographed





FOAMART®
FOOT IMPRESSION SYSTEM™

FOAMART®
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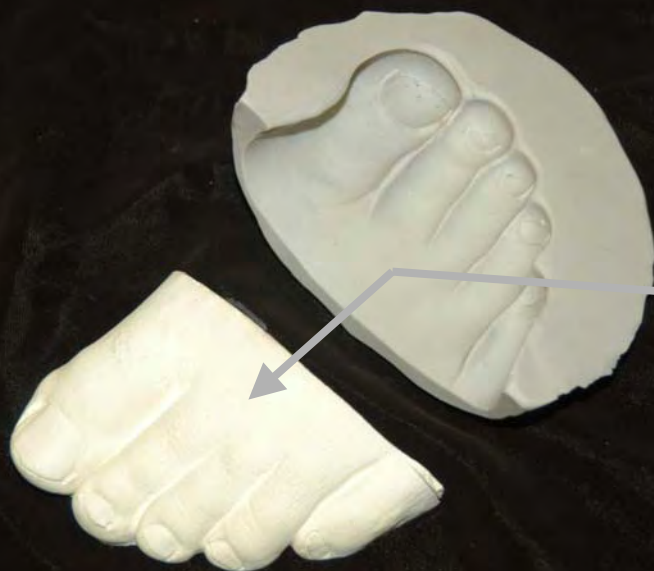
Zetalabor or Ruthinium Labour Mass Silicone Casting Material

- Take soft ball sized amount and work in sufficient unexpired activator
- Separate into two and place over tops of toes of each foot, while in sitting position.
- Watch subject does not move feet/ wiggle toes
- Remove when hardened. (5-10 minutes if enough hardener used)

Casts Will Be Made From the Molds Taken From the Top of the Toes



=



**Barefoot and
socked foot
walking
impressions**



Watch what they are doing....before you start the procedure and during.

Take as many standards are as needed.



Inked Static Barefoot and Socked Foot Impressions




- **Have subject re-ink their bare feet, sit in chair, and while feet are raised place legal size paper beneath feet.**
- **Have them stand up, then sit back down, lifting feet straight up.**
- **Take several sets of static impressions this way.**
- **Repeat with socked feet**

Inked Static Sock Foot Impressions

- Have subject re-ink their socked feet, sit in chair, and while feet are raised place legal size paper beneath feet.
- Have them stand up, then sit back down, lifting feet straight up, and take several sets of static impressions this way.



Comparison Process

- **Analysis** of the Unknown – includes tracing what is visible and bench notes .
- **Comparison** using side by side and superimposition of what you see in the unknown over the known.
- **Evaluation** of similarities and dissimilarities  **Reporting of Opinion**
- **Verification** by another qualified examiner.

ANALYSIS

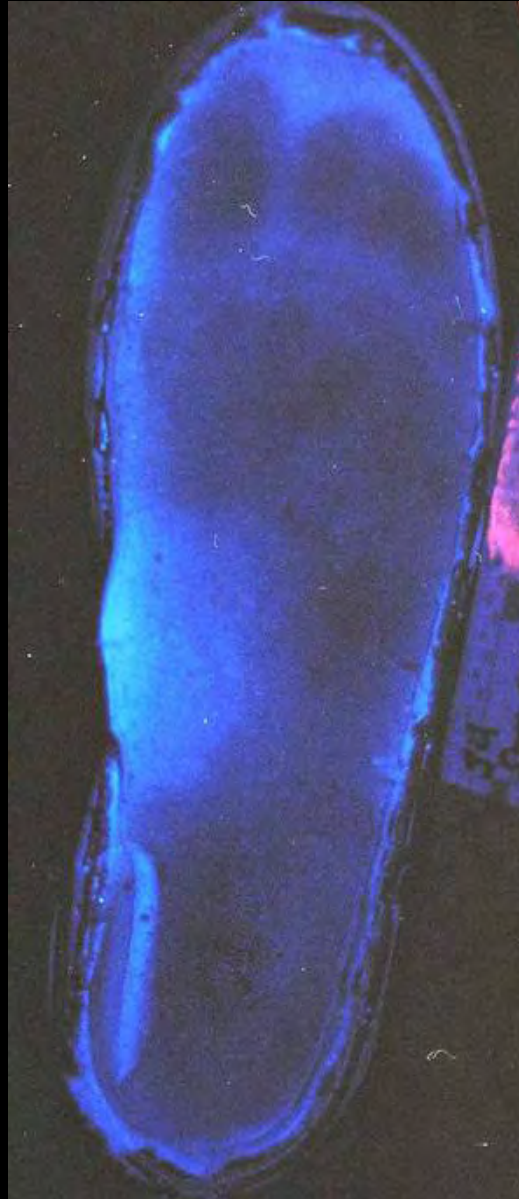
- Recording the observable factors:
 - Substrate
 - Medium
 - Development method
 - Distortion present
 - Visible detail recorded in impression through photography, tracings, notes.



Shoes Are Cut Apart . Possible Damage to Uppers



Insoles are photographed. Various lighting techniques used, determined by visibility of weight bearing impressions.



Comparison Best Conducted Like to Like (If Possible)



Evaluation of Differences and Similarities

Questioned

Suspect 1

Suspect 2



Case Example: R26

Developed With Finger Print Powder on Bathroom Floor



Known Right Barefoot Walking Impression



known right walking bare-foot impression

R26 Tracing Over Right Known Barefoot Walking Impression .

