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HID

Cleaning and disinfecting fingerprint platens

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Introduction

- HID recommends the use of Silicone Pads for 10-print and palm devices. They provide distinct advantages (see the white paper: “Higher quality fingerprint collection with silicone membranes”)
- This presentation describes how to clean, disinfect and maintain scanners with or without silicone pads.

Disinfectant Testing Summary

During the Ebola Outbreak from 2014 to 2016, HID (then Crossmatch) was asked for the best way to disinfect and clean fingerprint scanners to prevent the spread of Ebola and other diseases. The same best practices can be applied to the Coronavirus outbreak in 2020.

HID contacted the Centers for Disease Control and Prevention (CDC) which recommended we follow the guidelines of this website

<https://www.cdc.gov/vhf/ebola/clinicians/cleaning/hospitals.html>

HID tested a variety of chemical based disinfectants based on the recommendations of this website and the following were selected and tested:

1. ZEP Commercial Quick Clean Disinfectant
 - 2 minute set time
2. ZEP Professional R153 Concentrated Disinfectant
 - 10 minute set time

Cleaning Process

Step 1:

Generously spray the Guardian, Patrol or L SCAN Palm scanner product and attached silicone pads (if present) with HID approved disinfectant and let stand on device for manufactures recommended time.
(The Guardian USB device is shown in the example, but the same applies to any livescan device.)



Step 2:

After recommended wait time, wipe dry the scanner and fingerprint capture area, including replaceable silicone pad, with paper towels.

Note: the cleaner does not degrade the silicone pad.



Cleaning Process

Step 3:

Use standard silicone pad cleaning procedure to remove any debris for fingerprint capture area.

1. Remove a new cleaning tape sheet from the pad of cleaner sheets
2. Press the adhesive side of the sheet to the silicone membrane fingerprint capture surface
3. Lift the cleaner tape from the silicone membrane
4. Check the membrane for cleanliness
5. Repeat steps 2-4 until membrane surface is clean



Disinfectant Testing/Pad Performance Testing

-Cycle Testing – Crossmatch devices were cycle tested with the cleaning process outlined and found to withstand 100 cleaning cycles with no pad degradation (surface marring or delamination).

-Housing Degradation – Housing was soaked in the ZEP Quick Clean for 100 hours (equivalent of 2400 cleaning cycles) with no embrittlement of the plastic.

-Pad Performance Testing - A test was developed (11 Guardian scanners with 10 associates and 100 captures with and w/o pads on a 4/4/2 capture) and the results were as follows:

	average NFIQ Score	average time (seconds)
Guardian USB no PAD	2.13	3.97
Guardian USB with PAD	2.04	2.76

- 4% improvement in the average NIST score with the pad.
- 31% improvement in the average capture time (dry finger image capture)

Recommendations

- Use the silicone pad on the device and disinfect it with the Quick Clean product
- Replace the silicone pad every 7,500 captures
- Use Crossmatch provided cleaning tape to lift oil and dirt off the silicone pad every 100 captures (or as needed). Apply the tape to the pad and push the top of the tape down to best capture oil and dirt, then lift. Repeat this action several times until the surface of the pad looks uniformly clean.
 - Failure to do this step will eventually cause performance of the scanner to degrade (it will take longer for fingerprint collection and some people may have a harder time getting prints captured.)
 - The SDK includes a 'cleanliness check' as well that can alert the software that the platen is dirty. (See 'LSE Cleanliness Check' for more information.)
- Possible replacement cycle:
 - -Disinfect once/shift or 3X/day
 - -Replace the pad every 30 days

How to replace the pad:

Remove the silicone membrane

- To remove and replace a silicone membrane get the following materials.
 - An Alcohol Prep Pad package
 - The microfiber cloth
 - The new silicone membrane
- Use the following procedure to remove the old silicone membrane.
 1. Use the edge of a finger nail or an object made of wood, to lift a corner of the old silicone membrane.
 2. Remove and discard the old membrane
 3. Clean the platen.



How to replace the pad:

Clean the platen

- Use the **Alcohol Prep Pad** and the microfiber cloth that Crossmatch provides to clean the glass platen.
 1. Remove the silicone membrane.
 2. Open the **Alcohol Prep Pad** packet and remove the contents.
 3. Clean the platen with the prep pad. A haze can appear on the platen after the alcohol dries.
 4. Use the microfiber cloth to remove the haze from the platen.

Note

Make sure that the platen is clean. If necessary, repeat Step 3. Dirt under the membrane causes bubbles to appear



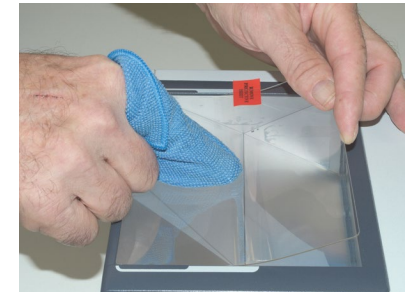
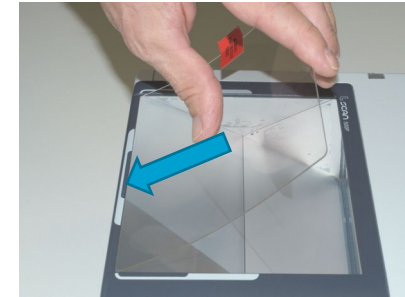
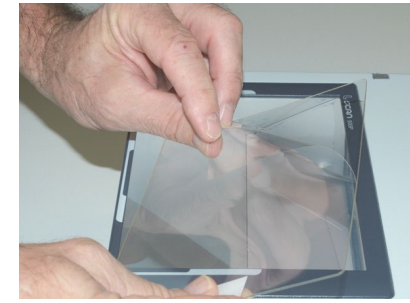
How to replace the pad:

Install a new silicone membrane

Note:

If the platen is wet, do **not** install the silicone membrane.

1. Hold the new silicone membrane by the edges. Each surface of the membrane is protected by a Mylar sheet.
2. Remove one Mylar sheet. Use the tab. Put the surface of the membrane on the platen. **Do not touch the surface of the membrane**
3. Make sure the bottom edge of the membrane touches the edge of the finger guide as shown in the illustration.
4. Start with the bottom edge and lower the membrane on the platen. Apply pressure from side to side with the microfiber cloth to remove air bubbles under the membrane.
5. After the membrane is installed, remove the other Mylar sheet. Use the tab.

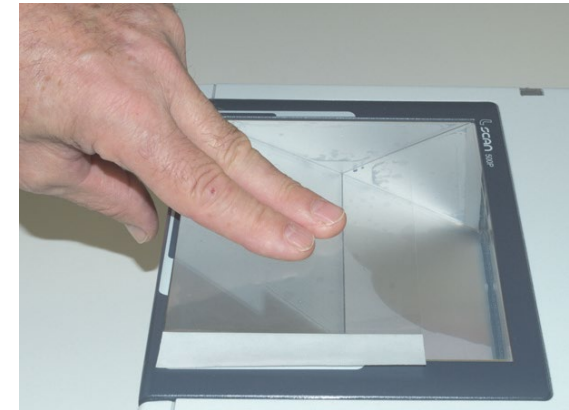


How to replace the pad:

Clean the silicone membrane

Use the adhesive cleaner sheets that Crossmatch provides to clean the silicone membrane.

1. Remove a new cleaner sheet from the pad of cleaner sheets.
2. Press the cleaner sheet to the surface of the silicone membrane. Use the tip of a finger to make sure the sheet touches the entire surface of the membrane.
3. Lift the cleaner sheet from the membrane.
4. Inspect the membrane.
5. Repeat **Steps 2-4** until the membrane surface is clean. The action is the same as the action to lift lint from fabric.
6. You can return the cleaner sheet to the pad for future use. When the sheet does not clean the membrane, use a new sheet.



Thank you

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