Z4379G-01

S E R V I C E N O T E

Supersedes:
None

Agilent Laser Optics Products

Serial Numbers: All

TOUCH-UP CLEANING PROCEDURE

Parts Required:

P/N	Description	Qty.
None		

Tools Required

- De-ionized Nitrogen Source, 40 psi
- Nitrilon Nitrile Class 10 Gloves or equivalent
- TexWipe Clean Room Clean-Tip Swabs #TX 761 (with long handle) or equivalent
- TexWipe Wipers (Synthetic) 9” x 9” #TX 1010 or equivalent
- Acetone (Reagent Grade)

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

AUTHOR: DGC PRODUCT LINE: 45

ADDITIONAL INFORMATION:

PRINTED IN U.S.A.

Agilent Technologies

May 2, 2003

Situation:

Although Agilent laser optics are carefully cleaned and sealed against external contamination when shipped from the factory there is always potential for dirt or oils to be deposited on the optics during un-packaging and installation into systems. In order for these precision optics to perform to their maximum capability it is very important that they be as clean as possible before being placed into operation.

Solution/Action:

As indicated above performance of Agilent laser optics can be adversely affected by the presence of any dirt or oils. Therefore Agilent requests that these products be cleaned using this procedure and re-tested in a system before considering any claim for failureProcedure

Caution

The touch-up cleaning should only be performed in a class 1000 or better environment. Technicians must wear Nitrile Class 10 Gloves or equivalent to prevent any finger oils and/or contaminants from being deposited on any glass portions of the optic.

Dust Particle Removal from Optical components

Use a de-ionized nitrogen gun with the pressure set at no higher than 40 psi

Hold the optic in one hand and the de-ionized nitrogen gun in the other hand.

Tilt the optic and the de-ionized nitrogen gun such that the flow of nitrogen hits the surface to be cleaned at an angle between 30 to 40 degrees. Keep the distance of the nozzle of the de-ionized gun between 2 to 4 inches (~ 50 to 100 mm) away from the optical surface.

Start the flow of nitrogen and slowly sweep the gun from side to side, sweep the gun until the flow of nitrogen is no longer on the optical component on either side.

As you are sweeping the nitrogen gun from side to side also slowly, move the gun forward until the flow of nitrogen is no longer on the optical component. This left-to-right, top-to-bottom motion assures that all surfaces of the optic are cleaned by the flow of nitrogen.

Repeat the above instructions until you are satisfied that you have removed all the lose particles from all glass and metal surfaces.

Other Contaminants and Soils on Optical components

This process requires the use of a clean room tip-swab and electronic grade Acetone.

Hold the optic at an angle in front of a light source to see the contaminant that you are trying to remove.

Moisten the clean room tip-swab with acetone. Be careful not to apply too much acetone. When you touch the clean room tip-swab to any optical surface, you should not be able to see a puddle of acetone on the optic. A good way to ensure the correct saturation of the swab is to touch it to a clean cloth to absorb any excess acetone.

With a gentle back and forth motion of the clean room tip-swab work on the area that you are trying to clean. Change the clean room tip-swab often with fresh acetone until you have removed the contaminants.

Stubborn spots may need to be cleaned with de-ionized water if acetone does not work. Follow any water application with acetone, as discussed above.

See Figure 1 for an example.

Cleaning mechanical parts of the optic.

When cleaning large areas of metal use a TexWipe wiper with acetone. Smaller areas can also be cleaned with a clean room tip-swab and acetone.

Be careful when moistening either the TexWipe wiper or the clean room tip-swab with acetone as not to cause a puddle of acetone on the surface that you are trying to clean. A good way to ensure the correct saturation of the swab is to touch it to a clean cloth to absorb any excess acetone.

Once you have moistened the TexWipe wiper or clean room tip-swab with acetone, follow with a gentle back and forth motion to clean the metal surface.

Change the TexWipe wiper or clean room tip-swab often with fresh acetone until you have removed the contaminants.

Stubborn spots may need to be cleaned with de-ionized water if acetone does not work. Follow any water application with acetone, as discussed above.

See Figure 2 for an example.

Figure 1. Clean optical components with clean-room swab moistened with acetone

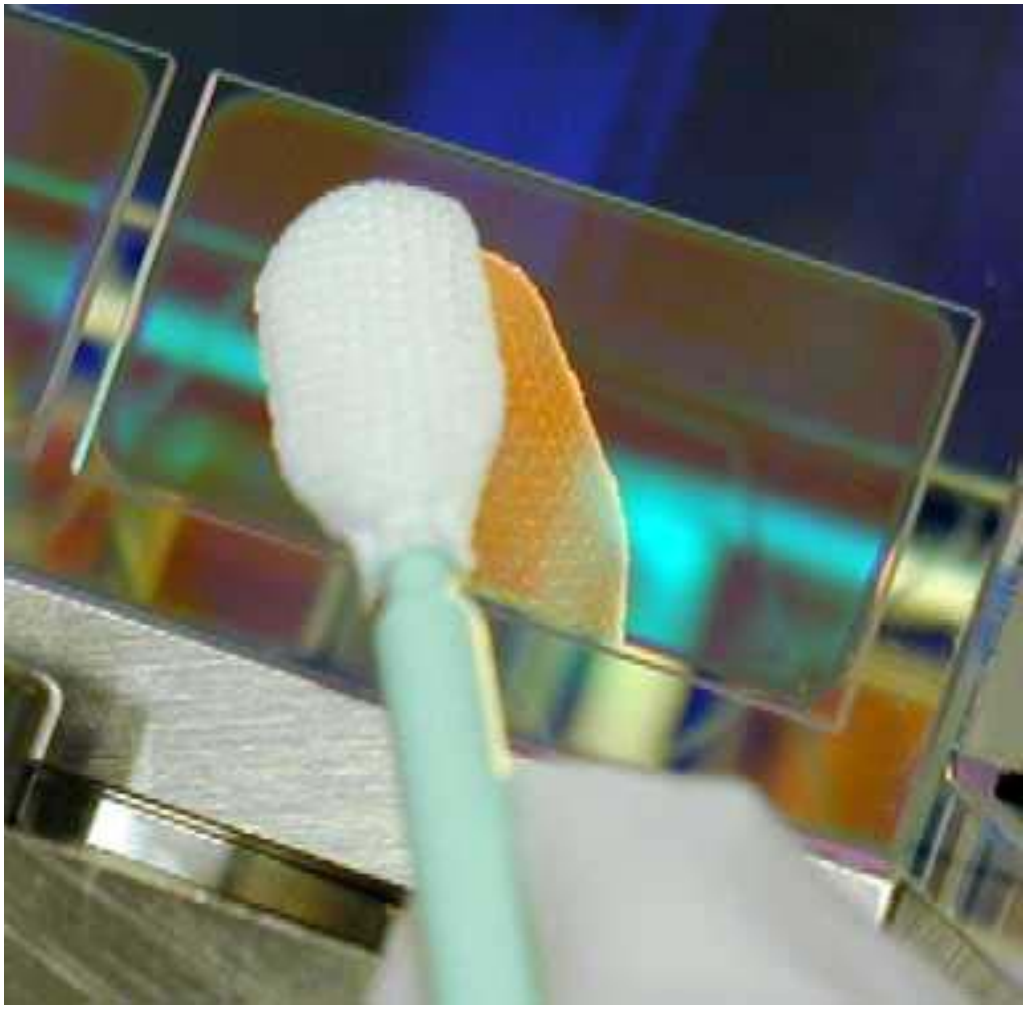

Figure 2. Clean metal surfaces with clean-room swab moistened with acetone.