

Optics Handling Note

Care and Use of UV Laser Mirrors



Figure 1. Flushing the optic with Vertrel XF or Asahiklin AK-225.



Figure 2. Blotting the lower edge of device without contacting the coated surface.



Figure 3. An alcohol-saturated cotton ball can be used to gently pat the surface.

Note: Vertrel XF is a registered trademark of Dupont, Inc., and is available from Miller-Stephenson Chemical Company, Inc., Fairfield County, CT, tel. 800-992-2424. Asahiklin AK-225 is a product of Asahi Glass Co. Ltd., and is available from Tech-Spray Corp., Amarillo, TX, tel. 806-372-8523.

Dielectric laser coatings can be handled, cleaned, and stored with care according to the following procedures. Care should be taken to avoid any stains and fingerprints on the coated area of the optic. The original covers supplied with the optic are designed for shipment and storage and should be saved.

Unless the mirror is stained, it is rarely necessary to touch the coating. For general removal of light dust, a small clean air syringe is recommended. A stream of filtered pre-purified dry nitrogen can also be used.

If dust particles have a static charge, they can be difficult to remove with air. A clean polyethylene squeeze bottle containing high-purity Vertrel XF[®] (see note at bottom of page) or Asahiklin AK-225 (see note at bottom of page) can be used (Figure 1).

Starting at the top of the surface to be cleaned, squirt the above mentioned cleaning liquid onto the optical surface in a back-and-forth horizontal sweeping motion. Work slowly to the bottom of the surface. Any droplets remaining at the lower edge of the device after rinsing may contain contaminants and should be gently blotted with absorbent tissue without touching the coated surface (Figure 2). NEVER brush or wipe the coated surface.

If the surface becomes stained, first attempt the above steps. If this is not successful, careful washing of the coated surface can be done with a soft cotton ball soaked in pure alcohol (electronic-grade isopropanol). The procedure is to first flush the entire coated surface with alcohol, then gently pat with an alcohol-saturated cotton ball (Figure 3). Without allowing the alcohol to evaporate, immediately rinse with alcohol and Vertrel XF or Asahiklin AK-225 as described above. Any droplets remaining at the lower edge of the device after rinsing should be gently blotted with absorbent tissue without touching the coated surface (Figure 2).

If the coated optic is removed from the apparatus for storage, the original covers should be used. For best results, store in a clean dry atmosphere.

