

Handling and Cleaning Microstructured Optical Components

Guidelines to follow when handling film-based microstructures

1. Use latex, or similar, gloves when handling parts.
2. Handle parts by their edges only.
3. Place film, structured side down, on a clean, flat surface. Ideally this surface would be in an air shower using ionized air.
4. Remove the protective mask from the non-structured side of the film.
 - a. Apply a small piece of tape near the corner of the protective mask to aid in the removal.
 - b. Peel the protective mask at approximately 180°.
 - c. Discard the protective mask.
 - d. Blow off surface with dried, 5 micron filtered air to remove large debris. It is recommended to use Ionized air to aid in both static and debris elimination.
5. Place film into module.
6. Remove the protective mask from the structured side of the film.
 - a. Apply a small piece of tape near the corner of the protective mask to aid in the removal.
 - b. Peel the protective mask at approximately 180°.
 - c. Discard the protective mask.
 - d. Blow off surface with dried, 5 micron filtered air to remove large debris. It is recommended to use Ionized air to aid in both static and debris elimination.

Guidelines to follow when handling component-based microstructures

1. Use latex, or similar, gloves when handling parts.
2. Handle parts by their edges only.
3. Do not ever rub parts together (even when they are separated by foam or paper)
4. Never rub anything dry on the plastic component – no dry brushes, cloths or cotton.
5. Always keep parts away from heat sources and high humidity areas.
6. When setting a part down, always set it down straight on a soft surface. Never place it on a desk or table without sufficient protection.

Procedure for cleaning microstructures

1. Blow off surfaces with dried, 5 micron filtered air to remove large debris. It is recommended to use Ionized air to aid in both static and debris elimination.
2. Dip part in clean isopropyl alcohol / water mixture (roughly 10% alcohol).
3. Using an air gun, dry the smooth side.
4. Using an air gun, dry the groove side by moving the liquid away from you. Remove as much liquid as possible.
5. Inspect the lens for dirt.
6. Repeat the entire process if necessary.