

The Newhaven Display Warranty

Every Newhaven Display product undergoes multiple Quality Assurance inspections to ensure your product meets our highest standards. Among those inspections are:

- ✓ 100% testing in our factories
- ✓ Factory OQA sampling per Mil-Std 1916
- ✓ Newhaven Display IQA sampling per Mil-Std-1916
- ✓ 100% testing of any Value-Add assembly occurring in USA
- ✓ Newhaven Display OQA sampling again per Mil-Std-1916

Our Quality Statement:

“Newhaven Display is committed to providing the highest quality display products and design services to our customers in a timely manner that meets their needs and promotes growth and increases customer satisfaction. To do this, we implement and improve quality processes beyond industry standards to satisfy the needs of every customer.”

Practical Guidance to Our Customers

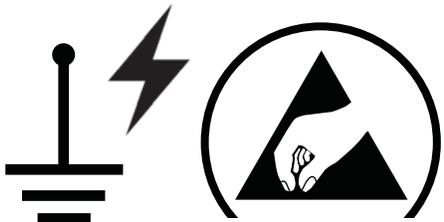
Damage Discovered During Shipping



If damage is thought to have occurred during shipping, then carefully open cartons and inspect for broken glass or damaged goods.

1. 100% customer INCOMING inspections recommendation if damage is suspected.
2. Photograph the process to provide the documentation that will likely be needed.
3. If your shipment was insured, then FILE A CLAIM with your freight forwarder.
4. Our shipping team is highly trained to ensure your products are carefully handled & packaged.
5. If packaging is a concern for your product, then contact our Customer Service department to ask for insurance to be included on your shipment(s).
6. Claims for “BROKEN GLASS” are not covered by the warranty.
7. Claims related to mis-shipments (incorrectly shipped material) need to be claimed within 90 days after receipt of such shipments.

ESD Damage

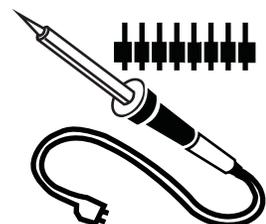


Newhaven Display’s products are electronic devices, commonly including sensitive electronic IC’s and circuitry. Proper ESD handling is required to protect your devices from electrostatic discharge (common static “saps”).

Newhaven Display offers the following guidance:

1. ESD safety typically involves grounding users, test equipment, and tools (like soldering irons). When possible make sure these are all grounded to the same ground point.
2. If soldering onto the PCB, make sure to use a grounded 3-prong (grounded) soldering iron. Solder slowly with sufficient solder to fill any required vias. This technique is also best to avoid solder splashes, shorts, and solder balls.
3. Never carry unprotected materials without proper ESD safe bags or trays and covers. Always use ESD-SAFE bags and trays.
4. Make sure that all inspection, handling, and assembly personnel also demonstrate ESD-SAFE handling as well. This may require anti-static straps and anti-static mats for work surface best protection. Lab employees often wear ESD-SAFE protective clothing to dissipate any charges that may accumulate.
5. Throughout the manufacturing and inspection process Newhaven Display ensures that your products are handled using ESD-SAFE techniques. We cannot be responsible for customer damage due to unsafe ESD conditions.
6. Claims for “ESD-damaged” devices due to improper handling are not covered by the warranty.

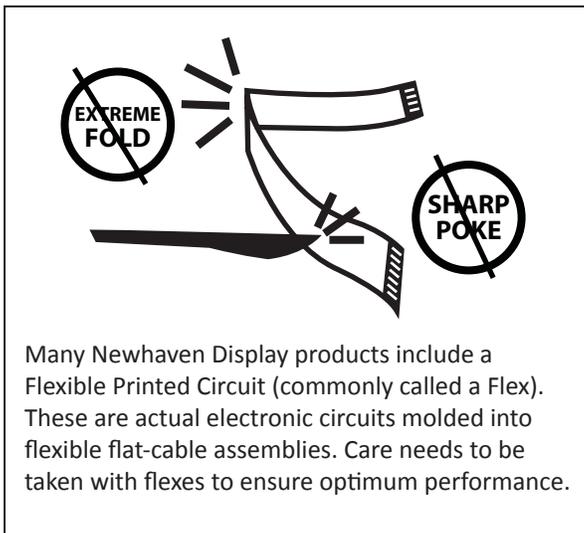
Customer Modifications



Newhaven Display cannot be held liable for customer-made modifications.

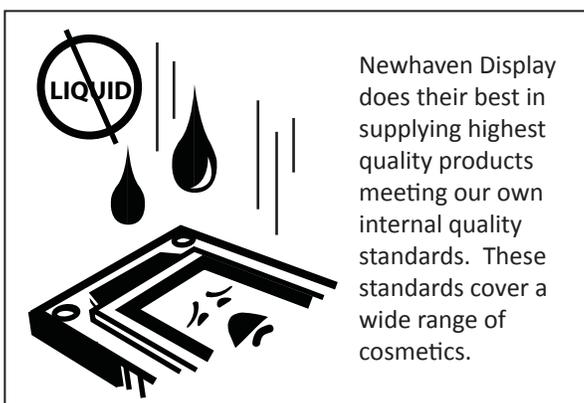
1. Customer header soldering expressly voids the warranty. Including customer removal of any headers that may have been soldered. Consider allowing Newhaven Display to pre-assemble with headers in order to preserve the warranty. Contact Customer Service for this request.
2. Removal of componentry voids the warranty.
3. The addition of componentry voids the warranty.
4. Soldering onto PCB pads is obvious by the presence of solder. Once customer-solder is applied, only a REPAIR claim will be considered. This may involve additional repair costs.
5. Claims with “CUSTOMER MODIFICATIONS” can only be considered as customer-paid REPAIR claims. The repair process may involve returning products to our factory with longer lead times.

FPC Damage



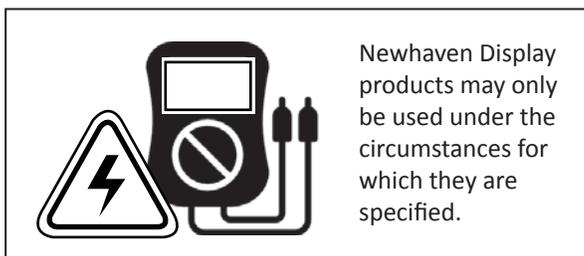
1. Never crease or induce an extreme fold into an FPC, this may damage internal circuitry.
2. Never allow pointed tools (even pen-points) to induce point damage to the FPC.
3. Keep the “golden finger” area clean, including fingerprints (oils may result in intermittent contacts) and scratches (they may cause open-circuits within the golden finger area).
4. Make sure to lock the FPC into the intended mating connector fully and squarely. This allows all fingers to make contact with the mating connector.
5. Never forcefully remove an FPC from the mating connector without first unlocking the connector mechanism. This results in visible scratches to the golden fingers and may cause electrical damage.
6. Train your assembly operators to carefully insert the FPC into mating connectors. If the fingers “buckle” during the insertion process this may cause electrical damage.
7. Train your assembly operators to carefully remove the FPC from mating connectors. Always unlock the mating connector and remove the FPC parallel to the connector pins. Any angular offset during FPC removal may cause small tears to the FCP that may cause damage.
8. Train your assembly staff to properly handle the FPC assembly. There are typically many “inside” corners to the FPC where small tears may result from improper handling.
9. Claims for “FPC-RELATED” damage due to improper handling won’t be covered by the warranty.

Cosmetic Imperfections



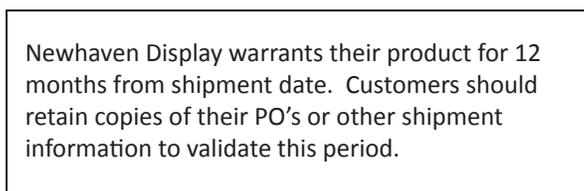
1. Liquid damage may result in “UNEVEN BACKLIGHTING.” Newhaven Display products are all manufactured using NO-CLEAN manufacturing processes, cleaning should never be required. Train your assembly staff to never apply liquids as damage may occur.
2. Display dots are typical to displays produced for commercial and industrial products. Readily available “DOT Cards” may be used for approximating the size of suspect display dots.
 - LCDs & TFT’s < 4.3” the average $(\text{LENGTH} + \text{WIDTH})/2$ dot size $\leq 0.4\text{mm}$, not exceeding QTY=2.
 - For larger displays, the average dot size will be $\leq 0.5\text{mm}$, not exceeding QTY= 3.
 - Both TFT’s and RTP/CTP structures may contribute dots. The guidelines given above include the total dots allowable when combined.
3. The PCB is inspected multiple times for manufacturing defects, scratches, and exposed copper. Newhaven Display utilizes the same exacting PCB cosmetic standards as NASA.
4. Contact Customer Service if your product requires tighter cosmetic standards than those listed.
5. Any warranty claim should exceed the sizes or quantities listed to be considered.

Customer Use Case



1. The application of excess voltage or current to the display products may result in permanent device damage. Only apply voltages and currents as specified in the specifications.
2. Pay particular attention to any timing requirements for auxiliary hardware and software. Proper timing is important and may corrupt internal device memory when not properly followed.
3. Displays constantly showing the same content may develop “burn-in” with a lasting image seen shadowing on the display. This may be avoided with screen-saver techniques involving either hardware or software. Rotating, blanking, scrolling or otherwise changing the device content periodically will prevent the degradation. Screen burn-in claims are not covered by the warranty.

Warranty Period



1. Always refer to the posted “Terms and Conditions.” These can be found on the web at: <http://www.newhavendisplay.com/terms.html>