Cleaning and Handling of Sensors with Optical Elements

Cleaning of with Isopropyl Alcohol or Acetone

This is the method most universally used for cleaning optical elements with or without coatings. Filters or lenses mounted in our sensors may be cleaned rubbing the surfaces lightly with a clean, soft, all-cotton cloth or cotton swab during immersion in solvent or simply moistened with the solvent. The parts are then immediately wiped dry with another clean, soft, all-cotton cloth or cotton swab.

Cleaning with Detergent and Water

A very mild, non-abrasive detergent (one which does not contain additives) and water may also be used for cleaning optical elements. In general, a detergent and water mixture is an excellent method for removing fingerprints and other smudges. The liquid detergent is first mixed with deionized water (proportions recommended by the manufacturer should be followed). The element is then washed, rinsed, and immediately wiped dry. Use a clean, soft cloth when cleaning and drying. If the part is allowed to dry in air, a permanent stain may result.

Please note:

- Do not use isopropyl alcohol or acetone or detergent if the elements will be mounted in an assembly with a finish which may be soluble by these solvents.
- Please avoid glass isolation being moistened by solvent.
- If the part is allowed to dry in air, a permanent stain may result.

Handling Advises

Sensors with optical elements deserve special consideration in their handling and care. Ordinarily, filters or lenses are cleaned and inspected prior to shipment. If proper care is exercised during handling cleaning should not be necessary prior to use.

- Wear gloves when handling a sensor or optical element. Lightweight nylon or cotton gloves which are relatively lint-free are recommended.
- Avoid touching the surface of filters and lenses.
- Protect devices from static discharge and static fields.
- Thermopile sensors are electrostatic sensitive devices. Sensors should be handled over a electrostatic protected work area.
- Precautions should be taken to avoid reverse polarity of power supply for sensors with integrated signal processing. Reversed polarity of power supply results in a destroyed unit.
- Sensors should rest preferably in a partitioned container where the mounted filters or lenses will be not coming into contact with other material.
- During storage optical surfaces should be covered to avoid contamination from the surrounding environment.
- A covered container can eliminate damage during transportation and storage.
- Sensors or optical elements should be stored in a restricted access area to eliminate handling by untrained personnel.
- Do not expose the sensors to aggressive detergents such as freon, trichlorethylen, etc.

Soldering Recommendations

Manual Iron Soldering and Automatic Point-to-Point Iron Soldering

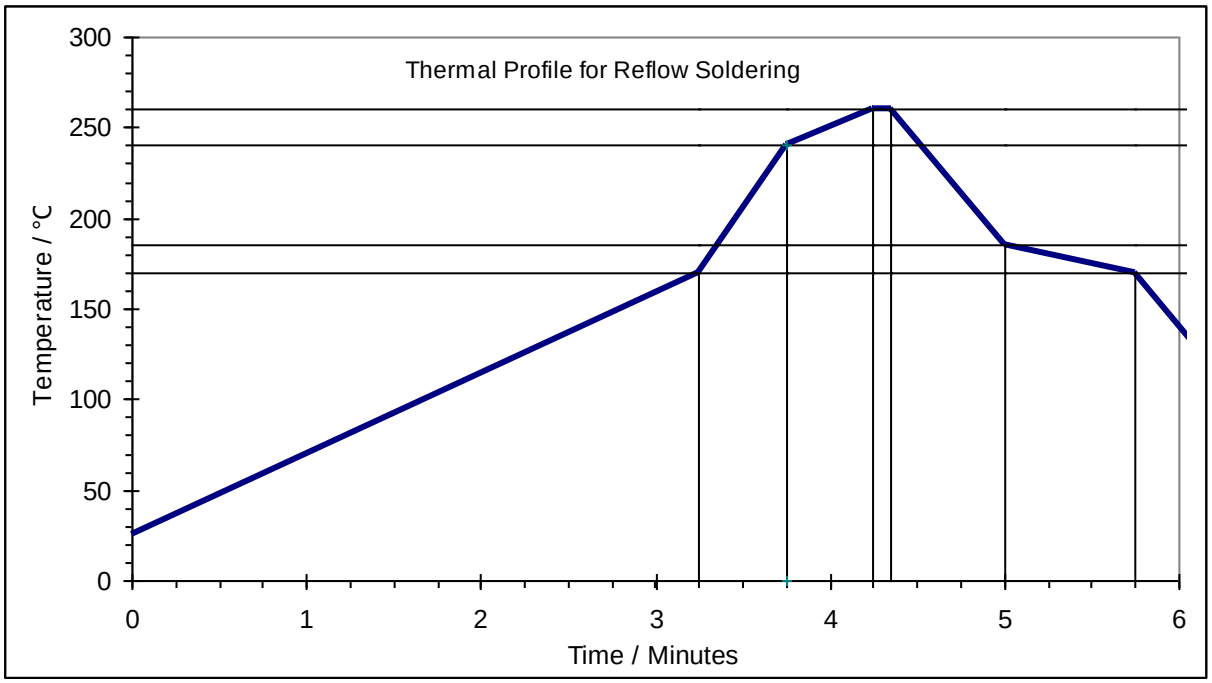
Manual Iron Soldering and Automatic Point-to-Point Iron Soldering methods are allowed for TO packages. It is recommended for through hole applications to shield the package body from soldering heat by PCB or similar.
The soldering iron temperature should be set as low as possible (maximum 350C) and should not exceed recommended soldering time (maximum 5 seconds).

Wave Soldering

Wave soldering is not recommended for Surface Mounted Device packages.
Wave soldering is allowed for through hole application. A pre-heating step is required and should be performed in accordance with international standard recommendations. For TO packaged products, during the pre-heat and soldering phase, the temperature of the body shall not exceed 170C.

Reflow Soldering

Reflow techniques can be used to solder Surface Mounted Device packages. Temperature profile should conform to those described in Jedec-020 standard (recommended reflow furnace profile below).
Reflow soldering creates a risk for exposing the sensor body to excessive temperatures around and above the TG of used epoxies. Process validation has been carried out by samples exposed to maximum temperature of below furnace profile.



Disclaimer

Although these Recommendations are presented in good faith and believed to be correct, Heimann Sensor makes no representations or warranties as to the completeness or accuracy of these recommendations. The recommendations therefore are supplied upon the express condition that the persons and/or companies receiving them will make their own determination as to the suitability of these recommendations for the intended purposes prior to use.
In no event will Heimann Sensor be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the recommendations.
No representations or warranties, either express or implied, of fitness for a particular purpose or of any other nature are made hereunder with respect to these recommendations.
Notwithstanding any other provision in these recommendations, the customer will remain solely responsible for its soldering process.