

Statement regarding: Moisture Sensitivity Level (MSL); Sensitivity to Electrostatic Discharge (ESD); Shelf Life for Harwin products

Moisture Sensitivity Level (MSL) for Harwin products.

Harwin is aware that certain housing materials used in the manufacturing of connectors are hygroscopic (tending to absorb moisture from the air). These materials may be more sensitive to the elevated temperatures common to reflow soldering environments. Harwin use Industry Standard materials that have been carefully considered to minimise this sensitivity.

Electronic assembly industry standards committees IPC and JEDEC have addressed the concern over this vaporizing and outgassing from these hygroscopic-sensitive materials during PCB assembly in the two specifications listed below:

- IPC/JEDEC J-STD-020 – Moisture/Reflow Sensitivity Classification for Non-hermetic Surface Mount Devices.
- IPC/JEDEC J-STD-033 – Handling, Packing, Shipping, and Use of Moisture/Reflow Sensitive Surface Mount Devices.

When IPC/JDEC J-STD-020 revision E was published, the MSL classification scope was widened from “Solid State Surface Mount Devices” to “Surface Mount Devices”, bringing Harwin Surface Mount products into scope.

Clause 6.2.5 States “Non-IC Packages - Currently J-STD-020 does not provide failure criteria for non-IC package styles. Any party choosing to use the procedure within this standard to determine the MSL rating for a non-IC package is responsible for defining the appropriate failure criteria to ensure the long term reliability of the device.”

As there is no Industry Standard for non-IC package failure, Harwin have not been able to test for MSL level. Without determining this level, Harwin cannot package or label our products as required by J-STD-020 and J-STD-033.

Harwin makes the following recommendations with regards to all their products – but especially those with plastic housings, in case of hygroscopic-sensitive materials:

- All parts shall be stored, packaged, and handled according to any special instructions outlined in a product specification if applicable – or according to the Shelf Life recommendations below.
- All parts shall be stored in their original packaging; or, if opened, they should be repackaged in the same way they were originally packaged.

Sensitivity to Electrostatic Discharge (ESD) for Harwin products

No Harwin products are sensitive to Electrostatic Discharge (ESD).

Shelf Life for Harwin products

Harwin operate an internal Shelf-Life policy for all connector products containing gold, tin and silver plated components. This policy states:

- Tin + Silver plated components: 48 months
- Gold plated components: 60 months.

During this period the connectors are:

- Stored in accordance with IEC 60721-3-1:2018 (Classification of groups of environmental parameters and their severities – Storage) Class 1K21 for the following categories:
 - Low Air Temperature: +5°C to / High Air Temperature: +40°C
 - Low Relative Humidity: 5% / High Relative Humidity: 85%
- Kept in the original sealed Harwin Packaging at all times, complete with batch traceability numbers.

For connector products stored at Harwin, at the end of their respective shelf-life duration, any components that have not been sold are destroyed and responsibly recycled.

Product held by our customers will continue to remain unaffected beyond the above dates for a further 24 months, for all the respective plating finishes, but only if stored under the same conditions.

Harwin, therefore, recommend that any components stored beyond these periods, are tested for solderability prior to production processing.

If you have any questions regarding this statement, please do not hesitate to contact the Technical Team at technical@harwin.com