

REVISION HISTORY			
<u>REV</u>	<u>DATE</u>	<u>ORIGIN</u>	<u>REASON FOR CHANGE(S)</u>
A	07 Nov 18	Paul Gettins	New

Q-CODE Q38A QUALITY REQUIREMENTS

Re-termination and Re-balling

With acceptance of/or receipt of product against this order the supplier agrees to allow Plexus, their customer and regulatory authorities the right of access to their facility and all applicable records. The following are the quality requirements for product purchased under Q-code Q38A. Unless a written waiver is received from Plexus, the supplier agrees to abide by the quality requirements listed below. Plexus will only give a written waiver after notifying and obtaining approval from the customer authorized person and Certified Body.

Re-termination

The re-terminated finished solder thickness on each face shall be no less than 1.5 microns for round leads, no less than 3.8 microns for flat leads with 0.635mm or less lead pitch and no less than 5.08 microns for flat leads with greater than 0.635mm lead pitch. It is noted that the corners of the re-terminated pad may be less than the minimum figures for the faces be fully recoated across the surface.

Pre-1st Shipment (Part Number or Revision change) - Before a product will be released for production the supplier will be required to meet the documentation and quality requirements as follows:

- A. **First/Last Article Inspection Report** - Re-terminated/Re-balled devices shall be free from flux residue. A minimum sample of 5 devices shall be inspected as a first article from the specific re-termination device batch. A further sample of 5 devices shall be inspected as a last article from the specific Re-terminated/Re-balled batch. These devices will be deemed scrap after the tests. The results shall be supplied in supplier format with the Re-terminated/Re-balled stock together with as part of the First/Last Article Report.
- B. **Test Report** - Must be titled as such and include the following:
The testing report shall not substitute for any additional final Customer specifications or standard practices used by a supplier. The tests themselves do not need to be duplicated if the minimum requirements are met. Sample testing must be completed on each lot/date code in the shipment. The sample shall be taken from multiple places on the reel or packaging.

At a minimum the Test Report will also include the following elements:

- i. **Header Information**
 - Name of Company
 - Company Part Number when required
 - The Company Lot and/or Date Code, (both are preferred, lot code at a minimum and Each shipment, COC and packing slip must contain each lot and/or date code which match the parts and all included documentation)
 - Location or place of processing
 - Plexus part number ordered on the PO
 - Any additional final Customer Specifications Handling
- ii. **Visual Inspection of Packaging** - Visual inspection shall be completed on 100% all levels of inner and outer packaging and labels and include statement on report this visual was performed.

- iii. Visual Inspection of Component - Visual inspection shall be completed on the selected components and include statement on report this visual was performed.
 - iv. XRF Test- Leaded - XRF testing of the component lead finish to verify the lead finish material and the thickness is in compliance with the product label, specification sheet and manufacturer's tolerances. A Certification or proof of the test and plating measurements shall be included for a minimum of 5 random samples pieces (active or passive).
 - v. XRF Test - BGA - XRF testing of BGA component lead finish to verify RoHS (non-leaded)/Non RoHS (leaded content > 3%) or in compliance with the product label and specification sheet. Certification or proof of the test and measurements (presence of lead in the solder balls) shall be included for a minimum of 1 random sample.
- B. Proof of Solderability -A solderability test must be completed as per J-STD-002/ANSI. Certification of the solderability test can be included separately or within other specified documentation as a clear statement.
- C. Ionic Contamination Test Report must be provided using the ROSE or Modified (ROSE) extraction method. (Ref. IPC-TM-650 2.3.25.0/1)
- D. Certificate of Conformance (COC) must also include the following:
- Name of Name of Company
 - Company Part Number when required
 - Plexus part number
 - Revision or EC level if applicable
 - Quantity
 - Purchase order number
 - Lot # and Date Code ¹ or Serial numbers for each shipment
 - A statement of Compliance specifying compliance to the following:
 - The drawings and specifications provided by Plexus
 - The requirements of the specific PO
 - specify that all components have been re-terminated with tin lead solder
 - If solder used to re-terminate is EAR or not.
 - Signed and dated by an authorised representative
- ¹ The minimum-required date code format shall identify the 2-digit workweek, 2-digit year (WWYY). If the component marking contains a lot and date code, then those markings must be traceable to the COC.

Product will be dry or baked and properly packaged for moisture sensitivity in accordance with IPC/JEDEC J-STD-033 and labelled appropriately per EIA JEP 113.

All cartons, required documentation, labels, packaging and packing slips must have part number, EC level or revision, quantity and P.O. number listed on them.

All Shipment (Part Number or Revision change) - Before a product will be released for production the supplier will be required to meet the documentation and quality requirements as follows:

A. Test Report - Must be titled as such and include the following:

The testing report shall not substitute for any additional final Customer specifications or standard practices used by a supplier. The tests themselves do not need to be duplicated if the minimum requirements are met. Sample testing must be completed on each lot/date code in the shipment. The sample shall be taken from multiple places on the reel or packaging.

At a minimum the Test Report will also include the following elements:

- i. Header Information
 - Name of Company
 - Company Part Number when required
 - The Company Lot and/or Date Code, (both are preferred, lot code at a minimum and Each shipment, COC and packing slip must contain each lot and/or date code which match the parts and all included documentation)
 - Location or place of processing
 - Plexus part number ordered on the PO
 - Any additional final Customer Specifications Handling
 - ii. Visual Inspection of Packaging - Visual inspection shall be completed on 100% all levels of inner and outer packaging and labels and include statement on report this visual was performed.
 - iii. Visual Inspection of Component - Visual inspection shall be completed on the selected components and include statement on report this visual was performed.
 - iv. XRF Test- Leaded - XRF testing of the component lead finish to verify the lead finish material and the thickness is in compliance with the product label, specification sheet and manufacturer's tolerances. A Certification or proof of the test and plating measurements shall be included for a minimum of 5 random samples pieces (active or passive).
 - v. XRF Test - BGA - XRF testing of BGA component lead finish to verify RoHS (non-leaded)/Non RoHS (leaded) is in compliance with the product label and specification sheet. Certification or proof of the test and measurements (presence of lead in the solder balls) shall be included for a minimum of 1 random sample.
- E. Proof of Solderability** - A solderability test must be completed per J-STD-002/ANSI. Certification of the solderability test can be included separately or within other specified documentation as a clear statement.
- F. Ionic Contamination Test Report** must be provided using the ROSE or Modified (ROSE) extraction method. (Ref. IPC-TM-650 2.3.25.0/1)

G. Certificate of Conformance (COC) must also include the following:

- Name of Name of Company
- Company Part Number when required
- Plexus part number
- Revision or EC level if applicable
- Quantity
- Purchase order number
- Lot # and Date Code ₁ or Serial numbers for each shipment
- A statement of Compliance specifying compliance to the following:
 - The drawings and specifications provided by Plexus
 - The requirements of the specific PO
 - specify that all components have been re-terminated with tin lead solder
 - If solder used to re-terminate is EAR or not.
- Signed and dated by an authorised representative

₁ The minimum-required date code format shall identify the 2-digit workweek, 2-digit year (WWYY). If the component marking contains a lot and date code, then those markings must be traceable to the COC.

Product will be dry or baked and properly packaged for moisture sensitivity in accordance with IPC/JEDEC J-STD-033 and labelled appropriately per EIA JEP 113.

All cartons, required documentation, labels, packaging and packing slips must have part number, EC level or revision, quantity and P.O. number listed on them.

Material received without the completion and proper execution of the Quality Requirement allows Plexus the right to return the material as defective. For material that has been previously provided to Plexus, the requirements under subsequent shipments will be followed.

Product change notification

Upon acceptance of conforming product, documentation, and the requirements of this Q-code, the supplier's manufacturing process shall be considered "qualified". All changes require written approval from Plexus prior to implementation. Product or Process change notification requests (PCNs) shall be submitted to pcns@plexus.com.