

REVISION HISTORY			
<u>REV</u>	<u>DATE</u>	<u>ORIGIN</u>	<u>REASON FOR CHANGE(S)</u>
A	07/17/09	Scott Ubl	New
B	13Aug14	Scott Ubl	Update Q22 to Q22A
C	29Sep16	Eric Steif	Added clarification language to COC requirements
D	09Dec16	Steve Tijerina	Added explanation for PCB cross section requirements
E	08Aug17	Steve Tijerina	Added explanation for Impedance coupon requirements
F	5/04/18	Daniel Crouse	Added PCN language
G	05Mar2019	Scott Ubl	Removed incorrect reference to Q22A section B, updated font

Q-CODE Q25C QUALITY REQUIREMENTS

The following are the quality requirements for product purchased under Q-code Q25C. With the acceptance of or the receipt of product at Plexus against this order, the supplier agrees to the record retention requirements and to allow Plexus, their customer and regulatory authorities the right of access to their facility and all applicable records. Unless a written waiver is received from Plexus, the supplier agrees to abide by all the quality requirements listed.

First production run/Pre 1st Shipment - Before a product can be released for production the supplier will be required to meet the documentation and quality requirements as follows:

- A. **First Article Inspection Requirement** - Supplier will execute a First Article Inspection and provide the results to Plexus with each shipment in which the requirement is to be executed. All dimensions must be within print tolerance. Any dimension which is not within print specification must be approved by Plexus in writing before product can be shipped.
- B. **Additional First Article Inspection Requirements**
 - Only one part or assembly will be selected and inspected as part of the First Article Inspection Requirement.
 - Only one part or assembly should accompany the FAIR unless otherwise requested.
 - Raw materials must have direct traceability with the chemical and physical properties submitted to Plexus.
 - Special processes utilized by the supplier will require a certificate of compliance at a minimum.
- C. **Material Certificate** - The material certification must include an independent review, verification and a statement of declaration for all materials used certifying that the materials used to manufacture this item meet the specifications.

As an example, when the original prepreg manufacturer must supply a material/certificate of conformance (of the materials) from an independent laboratory or they can self certify the material. If the prepreg manufacturer supplied an independent analysis, it must be reviewed for compliance to specification and signed off. If the prepreg manufacturer supplies their own analysis, then the prepreg materials must independently verified (in-house or contracted out) that it meets all specifications.

- D. **Certificate of Compliance.** - Must include a statement of compliance to all applicable specifications (drawing, PO, customer specifications, Plexus G9000-3, IPC specifications, UL, etc...). It also must include the following information for traceability:
 - Name of Supplier (if different than the actual OEM)
 - Name of Manufacturer
 - Manufacturer's Part Number
 - The manufacturer Lot # or Date Code, (Each shipment, COC and packing slip must contain only

- one lot or date code)
 - Location or place of Manufacture
 - If the product has a shelf life, the shelf life and expiration date must be included (note: the remaining shelf life must be greater than 50% of the stated shelf life)
 - Plexus part number ordered on the PO
 - EC level or Revision level as specified on the PO for the Plexus part number ordered
 - PO number
 - Compliance to Q25C record retention requirements, Bullet E
- E. Record Retention Requirement- Supplier must maintain and retain all the Quality Records used for the manufacturer of this item until notification is received from Trimble. Ultimately, they can not be discarded and will need to be provided to Trimble in printed format. Some examples of Quality Records are:
- Inspection records
 - Delivery Records
 - Purchase Orders
 - Certificates of Conformance
 - Independent Laboratory test results
 - ESD records
 - Employee Training Records
 - Materials transfer records that show where the product went / was used at
 - Environmental records that show that the material was stored and used under proper conditions
 - Set up records that demonstrate the product was built in accordance with specification
 - Manufacturing process instructions
 - Inspection instructions
 - First article inspection reports
 - AOI and X-ray programs
 - Rework instructions
 - MRB/NCM logs
 - Scrap logs
 - Temperature profiles
 - Engineering notes relative to production problems for FAA approved product
 - E-mail communications with Trimble, Plexus and Suppliers relative to FAA product
 - Shipment paperwork and bills of lading as applicable for delivery of FAA product
 - On-line data tracking systems that show quality inspection results and yield information for FAA product.
 - Drawings, Blueprints, AVL lists, Bills of Materials
- F. Quality Code 21 Requirements - For all shipments of Programmed parts also complete the requirements of Q21.
- G. Quality Code 22A Requirements - For all shipments of PCBs also complete the requirements of Q22A.
- A cross section must be supplied from every manufacturing panel regardless of layer count
 - An impedance and test coupon must be supplied from every manufacturing panel.
- H. All cartons, packing slips and certificates must have part number, EC level or revision, quantity and P.O. number listed on them.

-----See Page 3 for **Subsequent Shipment** requirements -----

Subsequent Shipments- The documentation and quality requirements for all subsequent shipments will be as follows:

- A. First Article Inspection Requirement - Supplier will execute First Production Run requirements and provide the results to Plexus with each shipment for a new design revision change or following any subsequent change that invalidates the previous first article inspection or a new design revision change.
- B. Material Certification - same requirements as C above.
- C. Certificate of Compliance - same requirements as D above.
- D. Record Retention Requirements - same requirements as E above.
- E. Quality Code 21 Requirements - For all shipments of Programmed parts also complete the requirements of Q21.
- F. Quality Code 22A Requirements - For all shipments of PCBs also complete the requirements of Q22A.
 - A cross section must be supplied from every manufacturing panel regardless of layer count
 - An impedance and test coupon must be supplied from every manufacturing panel.
- G. All cartons, packing slips and certificates must have part number, EC level or revision, quantity and P.O. number listed on them.

The above listed documentation must be submitted with each shipment. Material received without the completion and proper execution of the Quality Requirement allows Plexus the right to return the material.

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.