



Q-CODE Q1C QUALITY REQUIREMENTS

The following are the quality requirements for product purchased under Q-code Q1C. Please reference the Plexus Supplier Quality Manual [DCS 10503](#) for additional details and purchasing requirements. Unless a written waiver is received from Plexus, the supplier agrees to abide by the quality requirements listed below.

PRE-1ST SHIPMENT - BEFORE A PRODUCT CAN BE RELEASED FOR PRODUCTION THE SUPPLIER WILL BE REQUIRED TO PERFORM A PREPRODUCTION RUN IN ORDER TO DEMONSTRATE THEIR ABILITY TO PRODUCE A 4 SIGMA PART. THE FOLLOWING STEPS WILL BE TAKEN AND DOCUMENTATION COMPLETED BY THE SUPPLIER:

- A. Manufacturing Process Flow - The supplier must submit a process routing or flowchart which describes the manufacturing process.
- B. Quality Control Plan - The supplier must submit a detailed Quality Control Plan describing how quality will be monitored throughout the process.
- C. Process F.M.E.A. - a Process Failure Modes and Effects Analysis will be submitted which addresses potential failure modes of each process step.
- D. 200 piece Pre-Production Run - The supplier will manufacture and submit a minimum of 200 pieces off of production tooling and processes representative of a repeatable process. During production of 200 pieces the supplier will sample 10 subgroups of 3. From these pieces the supplier will perform a capability study on the in-process control dimensions.
- E. Capability Study - During production of the 200 pieces the supplier will sample 30 pieces. From these pieces the supplier will perform a capability study on all customer designated CTQ dimensions; calculating X-bar, Sigma, Cp and Cpk values and submitting all associated data to customer.
- F. First Article Inspection Report - From this lot of 200 pieces the supplier will perform a first article inspection report and will submit a report on 1 piece.
- G. Material Certification.
- H. Certificate of Compliance.
- I. Tooling Approval documentation as required by C13004 tooling development workbook.

Upon receipt of these items, Plexus will verify the documentation package for compliance and the following criteria prior to issuing a Tool approval:

- I. Supplier's in-process control dimensions have Cp values greater than 1.67 and Cpk values greater than 1.33.
- II. Customer designated CTQ dimensions will have Cp values greater than 1.67 and Cpk values greater than 1.33.

All cartons, required documentation, labels, packaging and packing slips must have the Plexus part number, EC level or revision (if applicable), date code(s), quantity, and P.O. number listed on them.

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1ST / 2ND SHIPMENT - THE DOCUMENTATION AND QUALITY REQUIREMENTS FOR THE 1ST AND 2ND SHIPMENT OF PARTS ARE AS FOLLOWS:

- A. Capability Study - The supplier will sample 30 pieces prior to shipment. From these pieces the supplier will perform a capability study on all customer designated CTQ dimensions; calculating Xbar, Sigma, Cp and Cpk values and submitting all associated data to customer. Any Cp value less than 1.67 and any Cpk value less than 1.33 must be approved by Plexus in writing before product can be shipped.
- B. Material Certification.
- C. Certificate of Compliance.
- D. X-bar and R Charts - The supplier will monitor in-process control parameters via X-bar and R Charts. Out of control points should have process corrections indicated on the chart. Any chart that has had process corrections and does not show control regained must be approved by Plexus in writing before product can be shipped.

All cartons, required documentation, labels, packaging and packing slips must have the Plexus part number, EC level or revision (if applicable), date code(s), quantity, and P.O. number listed on them.

SUBSEQUENT SHIPMENTS - IF THE 1ST AND 2ND SHIPMENTS WERE DEFECT FREE, THE DOCUMENTATION AND QUALITY REQUIREMENTS FOR ALL SUBSEQUENT SHIPMENTS WILL BE AS FOLLOWS:

- A. Material Certification.
- B. Certificate of Compliance.
- C. X-bar and R Charts - The supplier will monitor in-process control parameters via X-bar and R Charts. Out of control points should have process corrections indicated on the chart. Any chart that has had process corrections and does not show control regained must be approved by Plexus in writing before product can be shipped

All cartons, required documentation, labels, packaging and packing slips must have the Plexus part number, EC level or revision (if applicable), date code(s), quantity, and P.O. number listed on them.

The above listed required documentation must be submitted with each shipment. Shipments received without the completion and proper execution of these Quality Requirements is considered non-conforming and Plexus reserves the right to return to the supplier at the supplier's expense.

PRODUCT CHANGE NOTIFICATION

Product or Process change notification requests (PCNs) shall be submitted to pcns@plexus.com, please reference the details of our PCN policy and requirements in the Plexus Supplier Quality Manual DCS 10503.

REVISION HISTORY

REV	RELEASE DATE	ORIGINATOR	DESCRIPTION OF CHANGE(S)	REASON FOR CHANGE(S)
A	01Jun2020	David Mcilwraith/ Scott Ubl	New	Specify specific Cp and Cpk values for 5 and 4 Sigma respectively