

## PURCHASE ORDER QUALITY CLAUSES

**INSTRUCTIONS:** Review your Purchase Order for any “Q” clauses listed below. Failure to comply with the imposed clauses could result in rejection by ‘Thunderbolt Mfg, Inc.’

**RECEIVING INSPECTION:** If you have any questions regarding these clauses, please contact our Quality Assurance Department at 714-632-0397 or fax 714-632-0398

- Q1      CERTIFICATIONS REQUIRED:** A certification is required for all Special Processes with applicable specification and revisions. A Certification of Conformance (C of C) is required, stating that all products or services as applicable meet or exceeds all requirements of the Purchase Order or contract. The certificate must list the following at a minimum: Title and specification number including the revision of the process, name and address of the certifying facility, buyer’s and processor’s assigned processor number (if applicable), unique “process codes” for each controlled process (if applicable), date the “C of C” was issued, Purchase Order, Part Number, quantity of parts that are being certified, including parts that are rejected, signature and title of authorized quality representative of seller, and fracture durability classification or serialization when required. List all of the drawings and/or specifications that formed the Purchase Order, as well as the amendment revision level of each document named.
- Q2      CHEMICAL AND PHYSICAL TEST REPORTS:** Are required with each shipment, which states the specific results of the Material Tests, Showing that the material meets all specifications.
- Q3      FIRST ARTICLE INSPECTION (FAI):** A First Article, complete with an inspection report (AS9102 or compatible) must conform to the tolerance limits of engineering drawings and specifications stated on this purchase order, is required prior to commencing production. A copy of this inspection record is required with the shipment of product. Any parts produced prior to approval of your FAI are produced at your own risk.
- Q4      FAI:** Verification optional prior to production run. However, a documented dimensional verification is required with shipment.
- Q5      GOVERNMENT SOURCE INSPECTION:** GSI is required at your facility. Contact the Government representative that normally services your plant immediately upon receipt of this Purchase Order or contract. Notify Thunderbolt Manufacturing Inc. purchasing / Quality Assurance when inspection has been coordinated. Letter of delegation to be sent by customer who is requesting Government Source Inspection.
- Q6      CUSTOMER SOURCE INSPECTION:** CSI is required at your facility. Thunderbolt Mfg ,Inc Quality Assurance Department will coordinate the required inspection within a min of 72 hours prior to production.
- Q7      SPECIAL PROCESSING SUPPLIER / NDT SUPPLIER REQUIREMENTS:** Qualified Products, Qualified Personnel, Process Control, Control of Records, Indication of Inspection Status and adequate Work Instructions. Any change of approvals, Nadcap, Boeing, etc...must contact Thunderbolt Mfg, Inc Quality Assurance either by e-mail or fax within 72 hours. See P.O. for fax or e-mail address.
- Q8      AGE-SENSITIVE MATERIAL:** Certifications to include specification number, date of manufacture, and batch / lot number and recommended shelf life. The product ordered shall have no less than 65% of the shelf life remaining when the product is received at Thunderbolt Mfg, Inc.

- Q9**      **MATERIAL SAFETY DATA SHEET:** (MSDS) are required with shipment of all applicable controlled materials.
- Q10**      **100% INSPECTION:** Inspection is required with actual recorded results, for all characteristics on all parts to ensure conformance to drawing and specification requirements. A copy of this inspection record is required with the shipment of product. Sampling inspection is acceptable with an approved sampling plan for surface treatment.
- Q11**      **INSPECTION REPORT REQUIRED:** Showing documented evidence of inspection and verification of all dimensions with actual results by your quality department (Inspection report should show variance of dimensions measured or results of measurements from an acceptable sampling plan). This shall be included with shipment of product.
- Q12**      **CONTRACT / DRAWING DIRECTED SOURCE / QUALIFIED PRODUCT LIST:** This item / service shall be procured from a listed source.
- Q13**      **ROCKWELL HARDNESS / ELECTRICAL CONDUCTIVITY TEST:** Verification as applicable and certify with results per heat treat or other specifications.
- Q14**      **SERIALIZATION:** Requirements are imposed. All parts have unique serial numbers assigned. Maintain S/N Traceability at all stages of manufacturing or processing. Indicate S/N's on all certifications, shipping reports and/or documents.
- Q15**      **Thunderbolt Mfg, Inc furnished documents:** All Drawings, Specifications, Mylar's, or related data is to be returned upon completion of the Purchase Order or contract.
- Q16**      **TECHNICAL OR PROPRIETARY DATA:** All data provided to support manufacturing or processing of this order is proprietary and shall not be reproduced in whole or part, and shall be returned upon completion of the Purchase Order or contract.
- Q17**      **CUSTOMER-FURNISHED PROPERTY:** All customer furnished property utilized in this order is Customer-Furnished and shall be returned with final shipment of parts or product.
- Q18**      **SUBCONTRACTING:** All or part of the work procured on this Purchase Order without written approval of thunderbolt Mfg, Inc., Inc. is prohibited. All approved subcontracted operations must meet all provisions of the Purchase Order and be certified to by the subcontractor.
- Q19**      **RIGHT OF ENTRY:** Thunderbolt Mfg ,Inc., our customers, Government and Regulatory Agencies, shall have Right of Entry to verify the quality of work, records and or materials at any time as deemed necessary.
- Q20**      **FLOW DOWN:** Boeing's D6-82479 Quality Systems Requirements are hereby imposed.
- Q21**      **FLOW DOWN:** Northrop's (SQR) Quality System Requirements are hereby imposed.
- Q22**      **FLOW DOWN:** Lockheed's Attachment "Y" Quality System Requirements are hereby imposed. In addition, the Supplier must file and maintain a copy of all purchase orders containing the following statement: "WORK TO BE ACCOMPLISHED IN PERFORMANCE OF THIS PURCHASE ORDER IS DIRECTLY RELATED TO A LOCKHEED MARTIN AERONAUTICS COMPANY PURCHASE ORDER AND MUST BE ACCOMPLISHED IN ACCORDANCE WITH PROCESS SPECIFICATION ON PURCHASE ORDER AND LOCKHEED MARTIN AERONAUTICS COMPANY APPENDIX "QJ"and make these available for review by buyer upon request.

- Q23**     **ISO-9001 OR BETTER:** Quality System Compliance is required.
- Q24**     **QUALITY SYSTEM FLOW DOWN:** Quality System Requirements are flowed down to ensure that characteristics not verifiable upon receipt are adequately controlled by the subcontractor.
- Q25**     **SPC DATA REQUIRED WITH SHIPMENT:**    \_\_\_ Control Plans    \_\_\_ Control Charts    \_\_\_ Histograms.
- Q26**     **CALIBRATION:** Seller's equipment shall be calibrated in accordance with ANSI/NCSL Z540-1 and ISO 10012-1 latest revisions.
- The temperature controlling device shall be calibrated at a minimum of three points within its range of use.
  - The temperature indicator shall be calibrated at a minimum of three points within its range of use.
  - The calibration of the black light meter shall be performed at a minimum of three points to establish linearity.
  - The calibration of the white light meter shall be performed at a minimum of three points to establish linearity.
  - All other NDT equipment shall be calibrated at a minimum of three points within its range of use unless otherwise specified in the applicable method standard or not applicable per the gage / instrument.
- Q27**     **MATERIAL CERTIFICATION/RECORDS OF INSPECTION:** Supplier shall provide original or photocopy of Certified Material Test Report (CMTR) from the mill. The CMTR shall provide mill identity and mill tests and analysis of material.
- Q27A**     Supplier shall provide the original or photocopy of Certified Chemical and/or Physical Test Report(s) from an independent test lab, per applicable specifications. The report shall reflect the mill source of material. A1) Chemical, A2) Physical.
- Q27B**     For Steel and Titanium purchases, the supplier shall provide certification as to the country of origin of the material provided. *No foreign-poured materials shall be submitted for use on the United States Military Aircraft. (Bell Helicopter: The starting raw material has been melted in the United States, its possession, Puerto Rico, or a country listed on the DFARS 225.872-1 attachment. NOTE: Applies to steel and titanium only).*
- Q28**     **MATERIAL IDENTIFICATION:** All materials supplied under this purchase order must be identified with: A) Heat/lot number, B) Specification, C) Grade, D) Alloy and Temper, E) Mill marking including material type.
- Q29**     **PACKAGING / PROTECTION:** Sheet stock shall be protected by appropriate material interleaved between individual sheets and on top and bottom surfaces of material. Supplier shall individually wrap or box items to prevent damage in transit. Supplier shall package items for shipment so as to prevent metal-to-metal contact of formed surfaces. Protective devices accompany materials or items when shipped to supplier; supplier shall maintain protection during processing, apply rust or corrosion protection as required and return all such items with return shipment.
- Q30**     **NONCONFORMANCE / CORRECTIVE ACTION:** The supplier shall have a system for investigating and implementing nonconformance, corrective action and preventive action. A written request for corrective action will be issued from Thunderbolt Mfg, Inc. to the supplier when the root cause is the responsibility of the subcontractor. The response to Thunderbolt mfg, Inc. includes: Restatement of finding, immediate corrective action, root cause analysis, root cause correction, corrective action verification and follow-up.

- Q31     NONCONFORMANCE NOTIFICATION REQUIREMENTS:** The supplier shall notify Thunderbolt Mfg, Inc. **immediately** when nonconformity is discovered in the supplier's processes or products that may affect product already delivered.
- Q32     SUPPLIER RESOURCES:**Supplier resources, equipment, and number of trained personnel are adequate to perform verification activities that support the complexity of hardware or services provided.
- Q33     WRITE-IN REQUIREMENTS:** Any requirements not specified above shall be explained in detail here or in an accompanying document.
- Q34     NADCAP:** National Aerospace and Defense Contract Accreditation Program. Accreditation System Requirements are hereby imposed.
- Phase one for heat treat and Non-Destructive Testing Process by August 31, 2003.
  - Phase two for chemical processing process by March 31, 2004.
  - Phase three for welding, material testing, and shot peening by January 31, 2006.
- Q35** Quality Records pertaining to this contract shall be retained for a minimum of ten (10) years from end of contract, unless specified otherwise by contract. Records will be readily available for review by Thunderbolt Mfg, Inc. customers or regulatory agencies.
- Q36     Counterfeit: Raw Material** Suppliers, the following are the minimum requirements & counterfeit must comply To AS5553
- Q37     Requirement for supplier personnel awareness:** 1-Their contribution to product or service conformity 2-Their contribution to product safety 3-The Importance of ethical behavior.