



Precise Time and Frequency Solutions

Q01 Approval of Supplier Changes

When Specified on Individual Purchase Orders Brandywine Communications requires mandatory written approval for any change to suppliers product or service

Q02 Source Inspection

Brandywine Communications reserves the right to inspect any and/or all work on this Purchase Order at the supplier's facility. The supplier will be notified in advance of shipping date if Brandywine Communications source inspection is required

Q03 Quality Program Requirements

The Seller shall have developed and maintain a quality program in accordance with ISO9001 requirements

Q04 Customer/Government Source Inspection

Brandywine Communications Customer reserves the right to inspect any and/or all work on this Purchase Order at the supplier's facility. The supplier will be notified of shipping date if Customer source is required.

Q05 Product Assurance Inspection

The supplier shall have in place and utilize adequately documented processes, controls and an inspection system to consistently deliver product conforming to this Contract/Purchase Order.

Minimum requirements include

1. Safety
2. Training/Certification
3. Record Retention
4. Traceability
5. Procurement Control
6. Manufacturing, fabrication, process control
7. Metrology Control
8. Stamp Control
9. Non-conforming product control.

The supplier's system may be subject to an initial survey and approval by Brandywine Communications. Subsequent surveys or audits may be conducted before or after issuance of a Purchase Order. The supplier shall be notified of deficiencies and shall follow-up and ensure that deficiencies are promptly corrected. Corrective action shall be subject to review and approval by Brandywine Communications' Quality Assurance.



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Q06 Quality/Inspection System Requirements

The seller shall have developed and maintain an inspection system in accordance with ISO 9001 requirements.

Q07 Non-Conforming Documentation

Any deviation to Brandywine Communications' requirements set forth in this Purchase Order shall be documented and submitted to Brandywine Communications for disposition prior to product shipment from supplier's facility.

Q08 Metrology/Accuracy

All test and measurement equipment used in the performance of this Purchase Order shall be certified against a standard having greater accuracy. Random and systematic error in any article or material measurement process shall not exceed 10% of the tolerance of the parameter being measured.

Q09 Raw Material Certification

Three legible copies of the material certification as furnished by the raw material supplier shall accompany each shipment.

Q10 Chemical Test Reports

Materials furnished in fulfillment of this order must be accompanied by copies of certified test reports of the chemical properties of the material.

Q11 Physical Test Reports

Materials furnished in fulfillment of this order must be accompanied by copies of certified test reports of the physical properties of the material.

Q12 Certification of Compliance

The seller shall include with each shipment copies of a certifying statement that attests to the seller's compliance with all the requirements of the Purchase Order. The certificate shall be signed by an authorized representative of the supplier.

Q13 Process/Processor

Manufacturing and inspection processes and procedures used in the performance of this Purchase Order must be accomplished by process sources and procedures approved by Brandywine Communications and Brandywine Communications' Customers.

Q14 Special Process Approval

Special process suppliers are responsible for compliance to the applicable specifications, including customer special process approval, whether the operation is performed within their facility or by subcontractors.



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Q15 Right of Entry/Customer Access

Access to your facility (documents, personnel, equipment, material and facilities) shall be made available to Brandywine Communications, its customers and regulatory agencies, to determine and verify the quality of the work, records, and material.

Q16 Subcontracting Work & Flowdown

Seller is prohibited from subcontracting any portion of the work to be performed as specified in this Purchase Order, unless authorized by the buyer in writing.

Q17 Information Retention (Records)

Seller shall maintain records of manufacturing and traceability of materials used in the fabrication of the product produced in fulfillment of this Purchase Order. The records shall be maintained for a period of 10 years after completion of the Purchase Order and be made available for review to the buyer upon request. After 10 year period, Brandywine Communications shall have first opportunity to determine course of action in regards to the records (Discard records, ship records to Brandywine Communications, or retention by supplier for an additional period).

For those distributors who systems mandate 7 year record retention, Brandywine Communications shall first opportunity to determine course of action in regards to the records (As indicated in paragraph above).

Q18 Serialization

Each item furnished on this Purchase Order will be identified with a non-recurring serial number. Where the size of the item prohibits identification, the serial number will be marked on an identification tag or label and be securely attached to each item.

Q19 Packaging

1. Packaging shall be in accordance with ASTM D3951-98(2004)
2. All equipment supplied under this purchase order must be supplied in new packaging material
3. Loose fill packaging may not be used

Q20 ESD/MSD Sensitive Devices

All unit packs shall be marked with the ESD sensitive devices attention label prescribed by ASTM D 5445. The label shall include the ESD sensitive device symbol (triangle and reaching hand), the words "ATTENTION STATIC SENSITIVE DEVICES," and the statement "HANDLE ONLY AT STATIC SAFE WORK STATIONS." The symbol and lettering on the label shall be marked in black on a yellow background. Units shall also be packed as to prevent moisture deterioration.



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Q21 Specialty Metals

Pursuant to DFARS 252.225-7014, specialty metals incorporated in articles delivered to Brandywine Communications must be: (1) melted in the United States, its possessions or Puerto Rico; (2) melted in a "qualifying country" as defined in DFARS 225.872-1; or, (3) incorporated in an article manufactured in a "qualifying country."

Q22 Calibration

The supplier shall provide and maintain a calibration system that meets at least one of the following requirements, as currently amended, in the performance of this contract.

MIL-STD-45662A "Calibration System Requirements"
ISO 10012-1 "Quality Assurance Requirements for Measuring Equipment"
ANSI/NCSL Z540-1 "American National Standard for Calibration"

Q23 ITAR-Restricted use

The supplier shall adhere to the ITAR compliance requirements for performing work or service involving ITAR compliance. In accordance with ITAR 22 C.F.R 120-130 International Traffic in Arms Regulation, all documents identified as ITAR controlled shall be identified, maintained in Document Control and segregated from non-ITAR documents. Documents identified as ITAR controlled shall be viewed only by a U.S. PERSON. A U.S. PERSON means an entity that is: a U.S. Citizen or a Legal Resident, or a U.S. organization incorporated to do business in the United States.

Q24 First Article Inspection

Each item furnished on this purchase order shall adhere to AS9102 Aerospace First Article report requirement and deliverable report.



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Q25 Material Substitution Prohibition

A. Unauthorized Material Substitution (General)

Unauthorized material substitutions are not permitted on Buyer's goods. Unauthorized material substitution includes any deviation from the engineering definition of a raw material. Engineering definition includes Buyer design drawing and applicable specifications, product specification, form, size, shape, chemistry, melt method, origin, temper/condition, product testing or surface finish. Alternate materials specified in the engineering definition (and often described as approved material substitutions therein) DO NOT constitute unauthorized material substitution.

Contact Buyer's Authorized Procurement Representative for details regarding deviations to authorized materials. Seller agrees and understands that such deviations only apply to this purchase order, and only as indicated in the Buyer's authorized document.

B. Metallic Materials (Specific)

Temper or Condition Conversion.

Unless specifically authorized by the engineering definition, conversion of a raw material (i.e. heat treat to change the temper or condition of the material) constitutes material substitution of the condition provided by the manufacturer.

Metallic Raw Materials

Buyer's engineering drawings may refer to obsolete or superseded specifications covering several forms, thicknesses, widths etc. of the alloy or alloys. The required characteristics of these materials are defined not only by the objective test standards of the specification, but by the processes/methods by which this final form is achieved. These requirements are often captured in the definitions of the required material forms, and may not be explicitly called out in the detailed requirements. The raw material certification results from both the process used to make it and the tests to verify basic properties. Seller shall ensure that metallic materials covered by current or obsolete/superseded specifications are produced using the standard industry practices designed strictly for the production of stock to the specified thickness, diameter, width or cross sectional area, achieved by thermo-mechanical processing or casting process. Chemical, electrochemical and mechanical methods used for the removal of surface scale or contamination, or the production of the required surface finish, in accordance with the material specification are acceptable. Raw material must not be re-certified with respect to thickness, diameter, width or cross-sectional area or product form. Machining or cutting of thicker product or other product form shall not be



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supplied in lieu of specified product unless specifically authorized by the buyer. Raw material certifications for material or parts shall reflect the form and size of the raw material as originally manufactured by the raw material producer.

C. Specification Suppression

For government specifications and standards cancelled after June 1994, Seller and subcontractors at all tiers shall use the last active revision of the cancelled specification and standard until an acceptable replacement is included in the requirements of this Contract. Contact the Buyers Authorized Procurement Representative in the event of any inconsistency in applicable specification or standard.

D. Reports (Full Pedigree from melt to final product)

Raw material certifications shall show clear traceability to the manufacturer(s) of the raw material including ingot source, all thermo-mechanical processing (i.e. forging, rolling, drawing, etc.) heat treatment, chemical processing and inspections as required by applicable raw material specification requirements.

E. Chain of Custody (Disguising of intermediate ownership)

Supplier shall not disguise the pedigree of material or chain of ownership by removal of previous suppliers name, nomenclature, or identification.

F. The substance of this Quality Clause shall be flowed in all subcontracts and purchase orders at every tier.

Q26 CLEI CODE MARKING AND PACKAGING

All material shall be marked with appropriate CLEI code and packaged in individual ESD carton with part number marking on the outside of the package.



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Q27 Counterfeit Parts Prevention

The Supplier shall have a counterfeit electronic parts control program in place to prevent the delivery of counterfeit parts and materials to Brandywine. This control program will meet the requirements of DFARS 252.246-7007c; Contractor Counterfeit Electronic Part Detection and Avoidance System. The Counterfeit Parts Prevention and Control Plan shall be established using industry standards AS5553 (Electronics) and/or AS6496 and the minimum system criteria listed in DFARS 252.246-7007c. Supplier must also meet the following:

" If Brandywine or the supplier suspects that the supplier has procured counterfeit electronic parts, the supplier shall quarantine the parts and make them available for investigation by the appropriate US government authorities.

" The supplier shall notify Brandywine in writing within 5 days if counterfeit parts have been detected within Brandywine's inventory.

" Supplier shall procure electronic parts from the Original Component Manufacturer (OCM) or its authorized (or franchised) distributor. In the event that the Supplier cannot procure electronic parts from the OCM or its authorized (or franchised) distributor, the Supplier shall obtain Brandywine's written approval prior to procuring electronic parts or prior to the utilization of any parts from any party other than the OCM or its authorized (or franchised) distributors. Supplier shall obtain Brandywine's approval in writing will be provided within 5 days. With such request, the Supplier shall provide a plan for inspecting and testing such parts to ensure that they do not constitute Counterfeit parts, and provide certificates of conformance that provide one or more of the following: (i) the OEM's original certificate of conformance for the item; (ii) sufficient records providing unbroken supply chain traceability to the OEM; or (iii) test and inspection records demonstrating the item's authenticity.

" Supplier shall maintain all traceability and OCM-compliance documentation for electronic parts at its facility for seven (7) years from completion of this contract.

" Supplier shall include the substance of this article, including this flow-down requirement, in all subcontracts awarded by Supplier for work under this contract.

Q28 AS9100 Rev D

Suppliers and sub-tier suppliers must be aware of their contribution to product or service conformity, their contribution to product safety and the importance of ethical behavior as stated in AS9100 Rev D.

Q29 FOD Prevention Program

Suppliers must have a FOD Prevention Program in place to eliminate Foreign Object Debris/Damage from occurring in product sold to the buyer.

Q30 Cyber-security

Suppliers must follow Cyber-security policies, and procedures based on industry standards (e.g. ISO 27000, NIST 800-53)



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Q31 Information Technology Assurance

Seller shall maintain data protection processes and systems sufficient to adequately protect specifications, information, data, drawings, software, and other items which are (i) supplied to Seller by Buyer, or (ii) obtained or developed by Seller in the performance of this Purchase Order or paid for by Buyer (collectively, "Buyer Data"), and to comply with any law or regulation applicable to such data. If an event occurs whereby Seller knows, or reasonably believes, that Buyer Data has been actually or potentially disclosed to, or accessed or acquired by, an unauthorized individual or individuals ("Security Incident"), Seller shall (i) use commercially reasonable efforts to investigate, contain, and remediate the Security Incident, and (ii) notify Buyer in writing promptly, but not later than seventy-two (72) hours after discovering the Security Incident. Seller's notification to Buyer of a Security Incident shall include sending an email to security@brandywinecomm.com and Seller shall encrypt emails to Buyer containing details of a Security Incident using industry standard encryption methods.

Q32 ROHS Required

All materials provided in this purchase order shall meet the latest ROHS requirements set forth by the European Union and proof of compliance shall be provided with shipments. Therefore, the materials must be suitable for "no lead" manufacturing processes.