

PROCUREMENT QUALITY PROVISIONS AND REQUIREMENTS

EACH PURCHASE ORDER IS SUBJECT TO THE FOLLOWING QUALITY REQUIREMENTS. THESE REQUIREMENTS ARE NOTED ON THE PURCHASE ORDER AS QAC (QUALITY ASSURANCE CODES). FAILURE TO COMPLY WITH ANY OF THE QACs IDENTIFIED ON THE APPLICABLE PURCHASE ORDER WILL RESULT IN REJECTION OF THE SUPPLIER'S MATERIAL OR SERVICES AT THE SUPPLIER'S EXPENSE. IN ALL CASES, BUYER MEANS DUCOMMUN-MONROVIA.

QA02 ADVANCED QUALITY SYSTEM: ISO 9001, AS9100 OR AS9120 FOR DISTRIBUTORS ONLY

The Supplier shall provide and maintain a quality system compliant with any of the listed standards.

BASIC QUALITY SYSTEM: MIL-I-45208

The Supplier shall provide and maintain an inspection system, which is in accordance with the noted standard.

SUPPLIER'S INSPECTION SYSTEM

The Supplier shall provide and maintain an inspection system adequate to ensure that supplies shipped on this order meet all applicable requirements. The system shall provide for the maintenance of records and data of all inspections and tests performed which shall be available for examination and verification by authorized representatives of Buyer or customer personnel, upon request. The Supplier's calibration system shall conform to the requirements of ISO 17025 or ANSI/NCSL Z540-1+ in that only current calibrated equipment, traceable to a national or international standard, shall be used for product acceptance.

QA03 SOURCE INSPECTION

Items procured under this P.O. are subject to source inspection or surveillance by Ducommun, prior to shipment. Supplier shall furnish suitable facilities and equipment necessary to perform the required inspection, at no cost to Buyer. Supplier shall notify Buyer at least 48 hours in advance of subject material being available for source inspection and shall hold shipment pending necessary action by Buyer. Final acceptance of material will be at Buyer's facility. Evidence of source inspection must accompany each shipment whenever source inspection is actually performed.

QA04 GOVERNMENT SOURCE INSPECTION

Government Source Inspection is required prior to shipment. Upon receipt of this order, promptly furnish a copy of this order to the Government representative who normally services your facility so that appropriate planning for Government Inspection can be accomplished.

QA05 CONFIGURATION CONTROL

Supplier shall not make any changes to top assembly drawings, which may affect the intended use of the parts/material being procured, without prior approval by Buyer and Buyer's customer, when required.

QA06 TRACEABILITY

The Supplier shall in the performance of this order, provide and maintain a system of traceability on all material and components. The Supplier's system shall effectively control serial numbers, lot numbers, or other suitable methods for ensuring the traceability of material delivered to Buyer.

QA07 FAA CONFORMITY INSPECTION

All detail parts, subassemblies, and assemblies in the configuration of the end item identified in this order shall be subject to FAA Conformity Inspection, except as waived by the responsible FAA regional representative. Documentation reflecting compliance with this requirement shall accompany each shipment to Buyer.

QA08 TOOL PROOFING

Tool proofing shall be accomplished on all Supplier-furnished tooling. All such tooling shall be identified with part number, drawing change status, tool ownership, and inspection acceptance. Supplier shall not perform any modification of tooling without prior Buyer approval. All modifications shall be subject to verification by Buyer.

QA09 FIRST ARTICLE INSPECTION

The initial lot of details, subassemblies, and assemblies in the configuration defined in the Purchase Order, shall be subjected to a First Article Inspection by the Supplier. A completed First Article Report, in accordance with the AS9102 Form, shall be submitted for review and approval by Ducommun Quality, prior to acceptance of any production parts. Subsequent lots shall require a new First Article Inspection and report in the event there is a design change that changes the part number of the part or the material, or a change in Supplier's tooling or method of manufacture. FAI will be declared complete upon: 100% inspection of the first three (3) parts and manufacturing of a minimum of six (6) consecutive parts with no concession or discrepancies.

QA10 APPROVED SPECIAL PROCESS SOURCES

All processing such as welding, heat-treating, plating, NDT, etc., shall be accomplished by approved process sources when required by the specification. Records of process sources and approval status shall be maintained and available for review. Each shipment shall be accompanied by a legible and reproducible Certificate of Special Process performed with the signature and title of an authorized representative of the Supplier. Note: Certification must include revision level of drawing and specification, with PO # noted.

QA11 PHYSICAL/CHEMICAL TEST REPORT

Each shipment shall be accompanied by a legible copy of actual physical and/or chemical test reports for the material submitted to the Buyer for acceptance. Test reports shall ensure compliance to applicable specifications with traceability to the lot or batch and shall be signed by an authorized representative of the testing agency. For proprietary products, manufacturers/suppliers shall provide material certifications for the materials within the product that are not proprietary and/or are controlled by a customer or other non-proprietary specification.

QA12 NONDESTRUCTIVE INSPECTION REQUIREMENTS

All parts requiring Nondestructive Testing shall be processed in accordance with the requirements of the applicable specification. Personnel reading and/or interpreting Nondestructive Testing indications shall be certified/qualified in accordance with the requirements of the controlling specification, for the test method used. Customer-approved sources shall be used when required.

QA13 RADIOGRAPHIC INSPECTION

The applicable radiographs and a copy of the inspection report shall be submitted to Buyer with each shipment.

QA14 CERTIFIED TEST DATA

Each shipment shall be accompanied by a legible and reproducible copy of reports of actual test results identifiable with test parameters, and the products submitted per the applicable drawing and specification. These reports shall contain a signature and title of an authorized representative of the agency performing the test and shall assure conformance to specified requirements. When parts are serialized, the serial numbers shall appear on the test report.

QA15 RUBBER CURE DATE

The Supplier shall be responsible for legibly and permanently identifying each part or container with the rubber cure date, date of manufacture, and shelf-life. Assemblies shipped with rubber parts therein shall be marked with assembly date and the cure date of the oldest elastomeric item.

QA17 CERTIFICATION OF CONFORMANCE

Each shipment shall be accompanied by a legible and reproducible Certificate of Conformance with the signature and title of an authorized representative of the Supplier. This certificate attests to the fact that the material/service provided by the Supplier meets the requirements of the drawing, specification, or purchase order. Records supporting this certification are on file and available for review by Buyer or Buyer's customer, upon request. Note: Certification shall include the following:

- a. Purchase Order Number
- b. Part number and/or Specification, as applicable,
- c. Revision Level of Drawing/Part number and/or Specification, as per issued PO
- d. Signature and title of authorized representative of the supplier and date

QA18 CERTIFICATION OF BUYER-FURNISHED MATERIAL

The Supplier shall submit in writing with each lot, a document, which certifies that material furnished by Buyer is contained within the parts or assemblies, submitted and that substitute material was not used for those parts. The certification must be signed by an authorized representative of the Supplier and list those items supplied by Buyer by part number, nomenclature, and serial number (if applicable). In the event the Supplier has used material supplied from other sources, the material certifications indicating conformance to the engineering and purchase order requirements must be included in the certification documents.

QA19 TEST SPECIMENS

This purchase order requires test specimens for lab analysis by Buyer unless otherwise specified. The specimens shall be from the same lot, batch, or heat of material and shall have been processed with the represented parts. Specimens must be identified as to which process lot they represent.

QA21 SHEET STOCK

Sheet stock shall be identified with heat lot number, gauge and the applicable material specification.

QA23 DIGITAL PRODUCT DEFINITION / MODEL-BASED DEFINITION

Ducommun approval for DPD and MBD and/or any other digital data is required. Supplier shall provide, maintain, and follow a plan that documents the use of Ducommun Supplier DPD, MBD and/or any other digital data. The plan must include a dependable design management and quality process(es) in place that exhibit its operation. The plan shall also demonstrate an ability to maintain the integrity of DPD, MBD and/or any other digital data through all operations and as new methods are arranged. Any specific customer digital requirements will be listed within the body of the purchase order.

- A. Boeing D6-51991
- B. All Other Customers

QA24 RETENTION OF RECORDS

Quality Records shall be retained for a minimum of Ten (10) years after completion of purchase order, or as directed by Ducommun Customer's Quality Requirements. Records shall be identified and stored in a manner that allows them to be easily retrievable and adequately protected.

CONTAINER IDENTIFICATION

Each container of product shall be labeled to clearly display the product name, product number, Ducommun Purchase Order number, and any other information required by the purchase order or per governing specification if applicable.

NOTIFICATION OF DELIVERED NONCONFORMING PRODUCT

The Supplier shall notify the applicable Ducommun Quality representative in writing within 5 business day of the discovery, which shall contain applicable information concerning the defect; part numbers, lot numbers, quantities, ship dates, description of the nonconformance and the final corrective action plan.

SUBMITTAL OF NONCONFORMING PRODUCT

The Supplier shall not ship any nonconforming product to Ducommun without authorization from the applicable Ducommun Site. These waivers and/or concessions must be referenced on the C of C and be included with the shipping paperwork.

CHANGES TO QUALITY SYSTEM

Ducommun Quality shall be notified in writing when any changes are made to the Supplier quality system that may affect product quality.

CHANGES TO ORGANIZATION OR LOCATION

During fulfillment of the PO, the Supplier shall give Ducommun Quality written notice a minimum of 60 days before relocating any production, inspection or processing facilities; or before transferring any work between different facilities, or making other changes which may affect product quality

FLOWDOWN OF REQUIREMENTS

The Supplier shall flow down all applicable product, regulatory, and quality requirements (including requirements for traceability, documentation, and software) to the Supplier's sub-tiers. The Supplier is responsible for ensuring and validating the compliance of the Supplier's sub-tiers and maintaining documented evidence.

RIGHT OF ENTRY

- a. The Supplier shall provide contact information and access to the person responsible for ensuring that Ducommun requirements are promoted throughout the organization. Said person must have the authority to resolve quality concerns.
- b. Ducommun, Ducommun Customers and regulatory agencies reserve the right to access to the Supplier's and relevant sub-tier Supplier's facility and records as necessary.
- c. Upon request, the Supplier shall grant Ducommun Quality access to quality system documentation including the quality manual, procedures and records. If requested, the Supplier shall translate the required documentation into English.

MATERIAL SUBSTITUTION

Supplier will follow the provided drawing, specification and approved supplier requirements with regards to material Selection. Any substitution of material different from the primary material may be done only after the advance Notification of Ducommun with Supplier receipt of Ducommun approval before start of any work.

DEVIATIONS/DISCREPANCIES

Any departure from drawing, specification, or other purchase order requirement must be recorded on Supplier's nonconforming material report. Dispositions of such deviations/discrepancies must be approved by Buyer prior to shipment. Receipt of Buyer approval does not waive source inspection requirements if such requirements are specified in the contract. A copy of the dispositioned nonconformance report must accompany each affected shipment.

BARCODING LABELING

Barcodes are required for all shipments. Please see your buyer for the barcoding requirements.

COUNTERFEIT MATERIAL – LEGAL NOTIFICATION RESPONSIBILITY

The supplier and sub-tier suppliers shall have processes and controls to ensure no Counterfeit Material is delivered to Ducommun or Ducommun assigned customers. Supplier shall have a process that is compliant to the latest revision of AS6174 as a whole, and specifically have processes in place to support all of the requirements of section D3.1 thru D3.7. Supplier shall maintain documentation, i.e. Certificates of Manufacture, Certificates of Conformance, Independent third party testing, and other documentation necessary to assure traceability to Original Equipment Manufacturer. The supplier and sub-tier suppliers shall disclose records of source, and chain of custody for any/all parts that become the subject of legal or counterfeit issues. The supplier shall provide immediate notification to Ducommun Buyer, and shall follow up with the completed documentation package within a reasonable time. This requirement has no time limit and extends beyond any other record retention stated herein or on the Purchase Order. Documentation shall be maintained per record retention requirement flow down, and be available upon request. Suppliers shall flow this requirement to all sub-tier suppliers, and their suppliers back to the original manufacture. Suppliers are required to assure full compliance through audits, third party audits, random compliance testing.

FOD PREVENTION PROGRAM

Supplier is required to have & maintain a Foreign Object Debris (FOD) prevention program in accordance with NAS-412, AS9146.

AEROSPACE OPERATOR SELF-VERIFICATION PROGRAM

Per AS9162 Operator self-verification program, develop and implement an effective OSV program, that augments A robust Quality Management System.

QA32 DELIVERY

If Supplier fails to deliver a Product or service on the scheduled date, as indicated in this Agreement or any Order or as otherwise agreed between the parties in writing, due to Suppliers or its subcontractors or Supplier's fault, Ducommun may, after written notice to Supplier, and after taking into account a grace period of ten (10) calendar days, charge Supplier for delays in deliveries in the amount of one half of a percent (0.5%) per day of the price of the delayed Product or service, which shall accrue from the first day of the delay until the delivery of such delayed Product or service, up to a maximum amount of fifteen (15%) of the value of the delayed Product or service. For purposes of the foregoing, delivery will occur when the Products and/or services under any Order are delivered to Ducommun at the specified delivery point. Notwithstanding the foregoing, Supplier shall be responsible for compensating Ducommun for any similar penalty, over and above the stated amount, that any OEM imposes on Ducommun for its Production Schedule delays that are caused by Supplier's failure as described above. In such event, the parties agree to negotiate and resolve in good faith the amount to be paid by Supplier prior to enforcement.

QA34 MRR/CORRECTIVE ACTION PROCESSING COST RECOVERY

Each supplier nonconformance report MRR issued by Ducommun (as measured by a corrective action or material rejection report)
The Supplier will reimburse Ducommun \$250.

QA35 IDENTIFICATION LIMITED SHELF-LIFE

Materials with limited shelf-life, epoxy, paint, adhesives, etc., shall reflect the date of manufacture, lot number, and applicable specification on the container. Each container must be identified. Unless otherwise agreed upon in writing, all material shall have at least 70% of its shelf-life remaining, at time of receipt.

QA36 TEMPERATURE RECORDERS FOR REFRIGERATED SHIPMENTS

Materials requiring transport and storage in a temperature-controlled environment below 70°F and/or specifically designated through customer specification for temperature sensitive materials handling and storage, shall require the supplier to include digital continuous temperature recorders. Unless identified otherwise on the purchase order (and the governing specification), (2) temperature recorder per shipping container shall accompany a shipment from the supplier's manufacturing facility or from a supplier authorized distributor, re-packager or auxiliary warehouse. The temperature recorders shall be placed inside each clearly identified/designated shipping container, where feasible.

A shipping container is defined as the largest of the following descriptions:

- 1) An individual loose packaging unit.
- 2) A bundled pallet or skid of individual units or
- 3) An enclosed container holding several pallets or packaging units that allows contained materials to remain as a single identifiable group under the same environment through the entire shipping cycle.

The supplier will provide appropriate and necessary hardware /software to retrieve/track/monitor the data contained in the digital recorder. This includes providing any revisions/upgrades prior to Ducommun receiving material with temperature recorders that require the hardware/software revision/upgrade in order to effectively retrieve data.

QA37 BOEING SPECIAL PROCESSES - APPROVED SOURCES –

When required per specification, all Boeing Special Processes, including but not limited to, Nondestructive Testing, Chemical Processing, Surface Enhancement, Composite and Metal Bonding, Heat Treatment, Material Testing, Welding, shall be processed by approved sources as listed on Boeing's Approved Process Sources D1-4426. This requirement shall include sub-tier processors performing Boeing special processes. Certificates of Special Processes shall include all processor codes and process codes for special processes performed. Each shipment shall be accompanied by a legible and reproducible Certificate of Special Process performed with the signature and title of authorized representative of Supplier. Note: certification shall include revision level of drawing and specification, with P.O. number noted. Records of process sources and approval status shall be maintained and available for review.

QA40 FOD PREVENTION PROGRAM

Supplier is required to have & maintain a FOD prevention program in accordance with D6-85622 "foreign object debris/foreign object damage (FOD) prevention requirements for Boeing Suppliers"

QA41 BOEING PRODUCTION CERTIFICATE

Seller hereby acknowledges that the parts and/or materials being shipped under this order are intended for use under Boeing's Federal Aviation Administration (FAA) issued production Certificate 700.

QA42 EXEMPT FROM DUCOMMUN ACCEPTANCE

Ducommun will not accept material from the following company.
SAPA Extrusion America, Ducommun will not accept any materials manufacture by this company.

QA99 OUTSOURCING QUALITY REQUIREMENTS

- 1.0 Ducommun-Monrovia reserves the right to implement SPC features on future key characteristics if deemed necessary.
- 2.0 Supplier must comply with end customer Quality Assurance criteria for inspection and must correlate with Ducommun program/inspection methods, where applicable. Ducommun Quality Assurance must approve any changes in methodology.
- 3.1 The following deliverables, along with a timeline for completion of each item, are required prior to start of production:
- 3.2 Supplier Evaluation (Form CF0003)
Supplier must submit a Ducommun Supplier Evaluation (at a minimum) or Ducommun can request a physical (onsite) audit. An audit can be performed either by Ducommun and/or its customers, at any time.
- 3.3 Planning
The Planning is to become frozen once approved.
- 3.4 Part Specific Manufacturing Control Plan
The Control Plan is to become frozen once approved. The Supplier has the option to temporarily redline additional inspection points in the process for investigation purposes.
- 3.5 First Article Inspection
First Article submission may not use more than 80% of part tolerance. Parts produced exceeding the 80% but within the requirements of the blueprint, are acceptable for production shipments but cannot be used to approve the First Article.
- 3.6 Ducommun First Article Approval
Ducommun must be notified once the First Article is ready for approval. A process review can also be requested at any time.
- 4.0 If Source Inspection is performed at the Supplier's facility, a Certificate of Conformance will be included with each shipment. The Supplier is not required (unless otherwise notified by Ducommun) to include material certifications and other supporting documentation. The Supplier shall file and make these available to its customer when needed.
- 5.0 MRB authority lies with Ducommun or its customer.
- 6.0 Supplier will maintain a method of collecting product quality data at each inspection point, which can be requested by Ducommun at any time. Data will be collected for pilot through production runs.
- 7.1 Corrective Actions shall contain the following information:
- 7.2 Problem Statement
- 7.3 Immediate Corrective Action and Containment Results

- 7.4 Immediate Corrective Action Effectivity
- 7.5 Root Cause
- 7.6 Root Cause Effective Action
- 7.9 Records of material procurement, processing, fabrication, inspection and test shall be maintained on file at the Supplier's facility. These will be made available to the buyer and/or customer upon request and shall be retained for a period of ten (10) years from the date of final payment under the applicable order for all products unless otherwise specified on the order.

DAS0001 SUPPLIER PURCHASE ORDER CLAUSE

Supplier shall meet the requirements documented in SOP-7-17 / CWI-00013 (Supplier Requirements).

<http://www.ducommun.com/dco/supplierlinks.aspx>

Obsolete Clause list

- QA01 BASIC QUALITY SYSTEM: MIL-I-45208 (OBSOLETE- REPLACED BY QA02)**
- QA01A SUPPLIER'S INSPECTION SYSTEM (OBSOLETE- REPLACED BY QA02)**
- QA16 IDENTIFICATION LIMITED SHELF-LIFE (OBSOLETE- REPLACED BY QA35)**
- QA22 CONTAINER IDENTIFICATION (OBSOLETE- REPLACED BY QA24)**
- QA20 DEVIATIONS/DISCREPANCIES (OBSOLETE REPLACED BY QA24)**
- QA22 CONTAINER IDENTIFICATION (OBSOLETE- REPLACED BY QA24)**
- QA25 NOTIFICATION OF DELIVERED NONCONFORMING PRODUCT (OBSOLETE- REPLACED BY QA24)**
- QA26 SUBMITTAL OF NONCONFORMING PRODUCT (OBSOLETE- REPLACED BY QA24)**
- QA27 CHANGES TO QUALITY SYSTEM (OBSOLETE- REPLACED BY QA24)**
- QA28 CHANGES TO ORGANIZATION OR LOCATION (OBSOLETE- REPLACED BY QA24)**
- QA29 FLOWDOWN OF REQUIREMENTS (OBSOLETE- REPLACED BY QA24)**
- QA30 RIGHT OF ENTRY (OBSOLETE- REPLACED BY QA24)**
- QA31 M A T E R I A L SUBSTITUTION (OBSOLETE- REPLACED BY QA24)**
- QA33 B A R C O D I N G LABELING (OBSOLETE- REPLACED BY QA24)**
- QA38 COUNTERFEIT MATERIAL – LEGAL NOTIFICATION RESPONSIBILITY (OBSOLETE REPLACE BY QA24)**

REVISION HISTORY

Revision Letter	Date	Description of change	Changed By
L	04/09/18	<p>Added New paragraphs:</p> <p>FOD PREVENTION PROGRAM Supplier is required to have & maintain a Foreign Object Debris (FOD) prevention program in accordance with NAS-412, <u>AS9146</u>.</p> <p>AEROSPACE OPERATOR SELF-VERIFICATION PROGRAM Per <u>AS9162</u> Operator self-verification program, develop and implement an effective OSV program that augments A robust Quality Management System.</p>	H. Parent

Revision Date	Description of Change	Changed By
11/18/16	Started using letters/date for revisions, removed document reference in header	H. Parent
9/21/16	Clause QA34 updated to incorporate SCOPQ added statement For each supplier nonconformance issued by Ducommun (as measured by a corrective action or material rejection report) the Supplier will reimburse Ducommun \$250.	H. Parent
8/30/16	Added Part number line (d) .to QA17	H. Parent
5/12/16	Moved all obsolete clause to a list. Changed under clause QA 24 statement Notification of delivered nonconforming product. The Supplier shall notify the applicable Ducommun Quality representative in writing within 1 business day of the discovery. Changed to 5 business day, Added QA42 Ducommun will not accept material from the following company. SAPA Extrusion	H. Parent
3/29/16	QA03 changed the word buyer to Ducommun. Replaced Clause QA40 as a standalone clause Replaced missing sentence in QA37 Fixed various typos, added FOD to QA24	H. Parent
3/23/16	Removed QA01, QA01A combined with QA02 Combined QA20, QA22,QA25 thru QA33,QA38 & QA40 into QA24	H. Parent
3/11/16	•Update to QA09 added FAI will be declared complete upon: Manufacturing of a minimum of (6) consecutive parts with no concession or discrepancies.	H. Parent
2/29/16	• Added QA40 and QA41	H. Parent
2/19/16	• Updated QA36 (Added specific Ducommun requirements for (2) Temperature recorders per container.)	J. Gerardo
4/28/15	• Added clauses QA37 and QA38.	J. Gerardo
1/5/15	<ul style="list-style-type: none"> • Updated QA11 (Physical/Chemical Report) - added "For proprietary products, manufacturers/suppliers shall provide. . . " • Added DAS0001 (Supplier Purchase Order Clause). • Reformatted text in its entirety. 	J. Gerardo
8/19/14	• Updated QA17 (Certification of Conformance).	J. Gerardo
8/4/14	• Added Clause QA36 (Temperature Recorders for Refrigerated Shipments).	C. Thaw

3/4/14	<ul style="list-style-type: none"> • Updated the Ducommun Logo. • Replaced all references to Ducommun AeroStructures/DAS with Ducommun. • Added Note to QA10: Certification must include revision level of drawing and specification with PO number noted. Also added reference to NDT. • Added Note to QA17: Certification must include revision level of drawing and specification, with PO number noted. 	A. Lock
11/21/13	<ul style="list-style-type: none"> • Updated QA02. 	A. Lock
7/18/13	<ul style="list-style-type: none"> • Made QA16 obsolete with immediate effectivity. • Added QA35 to comply with SOP-7-17. 	C. Thaw
6/24/13	<ul style="list-style-type: none"> • Added QA31, QA32 and QA33. • Added QA34. 	J. Smith C. Thaw
11/14/12	<ul style="list-style-type: none"> • Added QA25, QA26, QA 27, QA28, QA29 and QA30. 	H. Dabiri