# ABI-SHOWATECH (I) LTD

# AEROSPACE SUPPLIER QUALITY REQUIREMENTS MANUAL


Plant: Pulivalam

Pulivalam Village

Banavaram Post

Vellore District

Tamil Nadu – 632505

INDIA

Plant: Soorai Green

Surai Village and Post

Arakkonam Taluk

Vellore District

Tamil Nadu – 632505

INDIA

**Revision Summary**

| Issue No. | Release Date | Details of amendment | Prepared by | Approved by | Management authority |
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## Definitions

**Certificate of Compliance**: A legal document provided by the supplier that includes the requirements of the certificate of conformance, and specifically cites and certifies that all military, industry, material, and special process specifications referenced on the drawing have been met.

**Certificate of Conformance**: A legal document provided by the supplier that states their compliance to all applicable drawing, specification, and purchase order requirements.

**Deliverable Software**: All software, including software embedded in deliverable hardware and deliverable firmware.

**Deviation:** A specific written authorization granted prior to the manufacture of an item to depart from a particular requirement (s) of an item's currently approved configuration documentation for a specific number of units or a specified period of time.

**Direct Material**: Material that goes into and forms a permanent part of the end product. Services that may affect the form, fit or function of these materials is included in this definition.

**First Production Article**: The first items of a production run that are the result of a planned process designed to be used for future production of these same items. Prototype parts, or parts built using methods different from that intended for the normal production process, shall not be considered as first article production parts.

**Fixed/Frozen Process** :A manufacturing process that has been identified by ABI's customers that shall not be changed without prior ABI Showatech (I) Ltd approval. These includes process operating parameters, sequence of operation, material or sources.

**Non-Conforming Product:** Any material or product that does not meet the associated engineering drawing or specification or was not processed in accordance with the proper specification or procedure.

**Non-Deliverable Software**: Software used in the design, manufacture, inspection, test acceptance, or calibration that has a direct effect on a deliverable product. Examples include but not limited to:

- Computer Numerical Control (CNC)
- Gauge Calibration
- Coordinate Measurement Machine (CMM)
- Programmable Logic Control (PLC)
- Performance Acceptance Test
- Burn-in

**Product Acceptance Records:** Official records to be maintained by the supplier indicating a product passing through planned operations and satisfying planned requirements during product realization (e.g. signed routers, completed ATP data sheets)

**Quality Management System (QMS):** The collection of documents and procedures and standard practices that are used to define and effectively implement the organization's quality goals.

**Raw Material**: Unfinished constituents of a finished product, material that requires further processing to become the finished product.

**Root Cause Corrective Action (RCCA):** Action taken to eliminate or reduce the cause of an existing non-conformity, defect, or other undesirable condition at the most fundamental level.

**Special Process**: A process which may alter the chemical or physical properties of the item. The impact of such a process cannot typically be evaluated without destructive testing, such as;

- Chemical Processing (CP)
- Coatings (CT)
- Welding/Brazing (WLD)
- Non-Destructive Test (NDT)
- Heat Treatment (HT)
- Composites (COMP)
- Surface Enhancements (NMSE)
- Materials Testing Lab (MTL)
- Electronics (ETG)
- Non-conventional Machining (NM)
- Sealants (SLT)

**Standard Part:** A part manufactured in complete compliance with an established Government or industry accepted specification which includes design, manufacturing, and uniform identification requirements. The specification must include all necessary information to produce the part.

**Waiver**: A written authorization to accept an item, which during manufacture or after having been submitted for acceptance is found to depart from specified requirements but is suitable for use as is or after a repair.

## ACRONYMS

| | |
|---|---|
| AVL | – Approved Vendors List |
| CAR | – Corrective Action Request |
| CBSA | – Canadian Border Service Agency |
| C OF C | – Certificate of Conformance(CoC) |
| CDR | – Critical Design Review |
| CGP | – Controlled Goods Program |
| COTS | – Commercial off the Shelf Supplier |
| DDTC | – Directorate of Defence Trade Controls |
| DGCA | – Director General of Civil Aviation |
| DGAQA | - Directorate General of Aeronautical Quality Assurance |
| DTS | – Dock-to-Stock |
| ECR | – Engineering Change Request |
| EEI | – Electronic Export Information |
| FAA | - Federation of Aviation Authority |
| FAI | – First Article Inspection |
| FAIR | – First Article Inspection Report |
| FAR | – Failure Analysis Report |
| FIFO | – First-in, First-out |
| FMEA | – Failure Mode Effects Analysis |
| FOD | – Foreign Object Debris / Damage |
| ITAR | – International Traffic in Arms Regulation |
| MRB | – Material Review Board |
| NCR | – Non-Conformance Report |
| NN | – Notice of Non-Conformance |
| OSV | – Operator Self Verification |
| PDR | – Preliminary Design Review |
| PO | – Purchase Order |
| QMS | – Quality Management System |
| RCCA | – Root Cause and Corrective Action |
| SDR | – System Design Review |

## 1.0 Introduction

This document details the quality requirements for suppliers delivering items against ABI-SHOWATECH (I) LTD purchase orders. The aim of this document is to ensure that all suppliers to ABI-SHOWATECH (I) LTD understand the required Quality conditions and to ensure that all suppliers are aware of ABI, and their customers requirements.

The quality requirements include the supplier's process of procurement, planning, manufacturing, inspection and testing, storage, packaging and release against ABI purchase order requirements.

Suppliers shall comply with these requirements in full, and should the supplier be in doubt about whether they can comply with these requirements, they shall notify ABI-SHOWATECH (I) LTD listing any discrepancies.

In case of any conflict between this document and the commercial terms and conditions listed at pre contract review the commercial terms of contract shall take precedence. Suppliers should read this document in conjunction with our commercial terms of purchase to understand all ABI requirements are being fulfilled.

## 2.0 Supplier Quality System Requirements

Suppliers in to ABI will require varying level of approvals, depending on the product and service they are providing to notify ABI-SHOWATECH (I) LTD. The minimum approval requirements for each category are given below. Exceptions to this list may be possible, but only when a Quality Plan is in place between ABI and the supplier in question to support this exemption.

If a supplier believes they have been asked to provide services in contradiction to the below requirements, they shall contact / notify ABI-SHOWATECH (I) LTD to advise them of the potential discrepancy.

Should a supplier loose any of its accreditations that will affect supply in to notify ABI-SHOWATECH (I) LTD, they shall notify ABI at the earliest possibility to allow a contingency plan to be developed.

| Product Category | ABI Order Type | Supplier Service | Minimum Quality system Approval | Legends |
|---|---|---|---|---|
| AIRBORNE SERVICES | Production, Sub-Contract | Manufacturer | AS9100 or EN9100 or ISO 9001 | 1, 2 |
| | Raw materials | Rawmaterials manufactures | AS9100 or as defined by customer | 1, 2 |
| | Production, Sub-Contract | Special Process provider (i.e anodizing, welding, heat treatment, ) | AS9100 or EN9100 and NADCAP approval for applicable process | 1,2,3 |
| | Production , Consumable | Stockist | AS9120 or EN 9120 or ISO 9001 | 2 4 |
| Non - AIRBORNE SERVICES | Consumable | Tooling with design authority Tooling (Build-to-Print) | ISO 9001 | |
| | Consumable | Calibration/Laboratories Inspection Services (e.g., CMM) | ISO17025 | 5 |
| | Consumable | General supplies | No Approval requirements | |
| | | | | |

**Legends:**

1) Prime customer approval may be required for completed processes.

2) Items are to be supplied with a certificate of conformity (CoC) providing evidence of conformity to the order requirements

3) Prime customer approval may be required for stockist, depending on the particular quality requirements.

4) All equipment calibrated must be traceable to ISO17025 calibrated equipment, and a certificate of calibration provided which demonstrates this traceability.

## 3.0 Purchase Order Clauses

For all airborne requirements, as defined in Section 2, ABI-SHOWATECH (I) LTD will list the applicable Quality Clauses against the particular order line on the supplier purchase order. These purchase order clauses are specific to the package of work and the prime customer, and the supplier requirements for each clause are defined below. It may be possible that more than one clause will apply for certain product, and in case of any conflict between the two documents the supplier shall seek clarification from ABI.

In addition to the purchase order clause, each purchase order line may include reference to a customer condition of supply, a copy of which will be made available to the supplier by the ABI purchasing function.

Sections 4- 8 list key clauses that suppliers of airborne products into ABI-SHOWATECH (I) LTD are expected to comply with. These requirements mirror the clauses of the AS/EN9100 standard, with specific information relating to ABI Requirements. ABI may choose to audit suppliers against these requirements.

For Non-Airborne suppliers, Sections 4-8 are for information only, however they can be utilized by those suppliers for further information, or to help identify continuous improvement actions.

## 4.0 Supplier Quality Management Systems

### 4.1 General Requirements – as per to AS9100 standard

The supplier shall ensure that ABI-SHOWATECH (I) LTD, and their customers, are given full right of access to the suppliers premises, and to any of the suppliers sub-tiers premises, within a reasonable period of notice.

The supplier shall establish, document and maintain a Quality Management System - QMS in accordance with the latest revision of the AS/EN 9100 standard as requested in section 2 of this document.

### 4.2 Requirements in detail:

#### 4.2.1. Demonstrate compliance with:

a. The minimum standard of business behaviours and practices
b. Applicable laws and regulations
c. Act in a way that is ethical and corporately responsible

### 4.2.2. Control of documents

a. Comply with the current revision of documents / specifications
b. Flow down ABIs' documents / specifications to sub-tier suppliers

### 4.2.3. Control of records

a. Records retrievable within 24 hours
b. Records requiring authorization by us will be written in the English language
c. Records will have retained as two (2) categories as per 25.

### 4.2.4. Management commitment

Management should define and comply;

a. Quality policy,
b. Quality objectives,
c. Quality planning
d. Quality management reviews
   also match the potential effects of the supplier's product on our product into which they are incorporated
   AS9100 Rev D or ISO 9001:2015 certificate minimum

### 4.2.5. Responsibility, authority and communication

a. Personnel responsible for product quality & product safety (across all production shifts) and ensure that they have the following:
b. Authority to stop production to correct quality problems
c. Organizational freedom and unrestricted access to top management to resolve quality issues
d. Establish a procedure for task and shift handovers…
e. Necessary information is communicated (verbally and in written form) between the out-going and in-coming personnel.

### 4.2.6. Training and competence

a. Only competent employees can perform activities within the organisation
b. Suppliers should maintain list of competent employees and their personal file with established documented procedure for identifying training needs, achievement and review of competence of all personnel performing work...
c. Create role profiles & accountabilities
d. On-the-job training

e. Competency matrix
f. Employees working in the suppliers organisation should aware of “PRODUCT SAFETY”

4.2.7. **Cleanliness of workplace**

**a.** Maintain its workplace in a state of order, cleanliness and repair consistent with the product and production process needs:
**b.** Tools such as 5S (Five-S) and visual management should be used for workplace organisation improvement.

**4.2.8. Vision standards**

a. Perform a vision assessment (eye examination) ...
b. For personnel engaged in product verification / inspection activities
c. Vision assessment (optometric examination) is performed by a trained / qualified person
d. Perform a (one time only) color perception test

4.2.9. **Business continuity and risk management**

a. Establish business continuity plans that identify, analyze, evaluate and / or mitigate risks related to:
b. Product, facility or individual skill uniqueness
c. Access to alternative production facilities
d. Single points of failure
e. Access to alternative information technology systems
f. Action plans and timescales for business recovery
g. Contacts in the event of an emergency

**4.3.0 Critical items and assurance of product integrity**

a. Ensure personnel are aware of critical items and the potential consequences of delivering product that does not conform to requirements.
b. Specify critical items during…
purchasing / subcontracting
product design and development
production design and development
Include key characteristics and specific actions to be taken for these items

4.3.1. **Control of work transfers (source change)**

a. Establish a documented procedure for the control of work transfers (source change)...

b. Plan, control and verify the conformity to specified requirements during the temporary or permanent transfer of work
c. Submit to ABI
d. Proceed when a response has been received from ABI
e. Ensure delivery performance is protected

**4.3.2 . Change Notification**:

Supplier shall notify ABI in writing within 48 hours of any change of status to its Quality Management System, relocation, changes, or top management including the Quality Management Representative.

## 5. SPECIFICATIONS

5.1 Supplier shall comply with specifications stated on the face of the Purchase Order and with applicable engineering drawings, including industry, association, society, regulatory, international norms and standards.

5.2 These documents shall be controlled, maintained and issued as the latest revision in effect at the time of the Purchase Order unless otherwise stated therein.

5.3 Supplier shall maintain a change control management and verification system for documents and electronic media, including applicable government, association and customer furnished configuration data.

## 6. ACCEPTANCE

6.1 If any goods are found to be defective or otherwise not in conformance with the requirements of the Purchase Order, ABI may, in addition to its other rights and remedies, reject such goods and require their prompt correction or their replacement at Supplier's expense, including shipping and packaging charges. Alternatively, ABI may repair or replace such Non Conforming goods at Supplier's expense.

6.2 ABI's verification by source inspection of goods shall not be deemed to constitute acceptance of any goods which do not conform to the specifications thereof, or to waive any of the Buyer's rights or remedies arising by virtue of such defects or Non-conformances being discovered at a later time.

6.3. ABI retains the right to invoke source inspection of Product, processes and goods at the Supplier or sub tier Supplier's facility. When invoked, the Supplier shall provide adequate resources to the ABIs' representative requested in the course of verifying conformance to requirements. Contact the Buyer at least two weeks in advance to arrange for source inspection. Source Inspection may be waived at the discretion of Buyer's Supplier Quality Assurance.

6.4. Unless otherwise noted in the Purchase Order, Source inspection may be required on first article and delta first article parts. Source inspection may be required for follow-on production shipments. Should source inspection be required on an on-going basis due to quality concerns, the cost of such services will be the responsibility of the Supplier.

6.5. Some shipment or delivery dates on ABI's Purchase Order may extend beyond the current engineering level protection time frame. Fabricating in advance of Supplier's proposed lead time or 12 weeks (excludes hardware, forgings, or raw material which routinely exceed 12 weeks ) before the stated due date is at the Supplier's risk. Notify Buyer if part engineering revision level conflicts with part revision level on Purchase Order.

## 7. SUBCONTRACTING

7.1. Supplier agrees that it will not enter into a subcontract for the procurement of any goods covered by this Purchase Order in their complete or substantially complete form without prior written consent of the Buyer.

7.2. Control of Sub-Tiers

7.2.1. No material substitutions, omissions or modifications will be allowed without prior written consent of the Buyer.

7.2.2. The Supplier will assure that all material, services, and software procured from, or performed at sub tier Suppliers is in conformance to contractual requirements and specifications and ensure that all such requirements / specifications are flowed down to their sub tier Suppliers.

7.2.3 All special processes must be approved by ABI's customer and / or NADCAP.

## 8. COUNTERFEIT PART PREVENTION

8.1.1 The supplier shall have a counterfeit detection process for all levels and take appropriate steps for Avoidance, Detection, Mitigation, and Disposition.

8.1.2 For all used in the manufacture of deliverable products shall be from the Original Component Manufacturer (OCM)/ Original Equipment Manufacturer (OEM) or franchised distributors or Authorized Aftermarket Manufacturer (AAM).

8.1.3 For like fasteners, nuts, washers, springs, o-rings, inserts, and pins, must have a certification from the Original Component Manufacturer (OCM)/ Original Equipment Manufacturer (OEM) or Authorized Aftermarket Manufacturer (AAM) or authorized distributor. These parts are not required to meet AS5553.

8.1.4 In the event a part is not directly available from the OCM/ OEM/ AAM or franchised distributors or authorized distributor, purchase from independent distributors may be made but the evidence of supply chain traceability (chain of custody) back to the OCM/ OEM/ AAM shall be provided. The Certification shall clearly identify the name and location of all of the supply chain intermediaries from the original manufacturer to the final source of the product delivered to ABI.

Note: Distributors shall, in addition to the above, include their company's certification for each part number shipped.

8.1.5 Supplier's that deliver next higher assemblies shall flow this requirement down to all their sub-tier suppliers to prevent the inadvertent use of counterfeit parts and materials. Component certifications from the OCM/ OEM/ AAM must be readily retrievable and made available upon request.

8.1.6 If evidence of supply chain traceability (chain of custody) to the OCM/ OEM/ AAM is not available, the supplier must notify ABI immediately and get authorization to purchase this product.

8.1.7 Confirmed counterfeit parts will be segregated from conforming parts and controlled until rendered unusable by physical destruction. Excess, suspect or confirmed counterfeit parts may not be returned to the Supplier for refund or replacement except under controlled conditions which would preclude the resale or re-introduction into the supply chain. The Supplier shall be notified and authorization to scrap obtained before product is destroyed.

8.1.8 Confirmed counterfeit parts will be reported to the Government Industry Data Exchange Program (GIDEP) and applicable US Government investigative authorities.

8.1.9 Suppliers shall be liable for all costs relating to the removal and replacement of Counterfeit Work, including without limitation ABI's and ABI's customer's costs of removing counterfeit items, of reinserting replacement Work and of any testing necessitated by the reinstallation of items after counterfeit items have been exchanged

8.1.10. Certification Required – REACH: Submit certification indicating compliance with Regulation (EC) No 1907/2006 -. Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. Compliance indicates that all supplied components contain no Substances of Very High Concern (SVHC) in accordance with Regulation (EC) No 1907/2006. If certifying an assembly, all components must be

compliant with REACH. REACH applies to all supplied material, including chemical substances.

8.1.11. Certification Required – RoHS: Submit certification indicating compliance to Directive 2011/65/EC, Restriction of Hazardous Substances (RoHS), unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. RoHS restricts the use of the following six hazardous materials to the indicated levels:

Lead (Pb) <0.1%, Mercury (Hg) <0.1%, Cadmium (Cd) <0.01%, Hexavalent Chromium (Cr VI) <0.1%, Polybrominated Diphenyl Ethers (PBDE) <0.1%. If certifying an assembly, all components shall be compliant with RoHS.

## 9.0. DESIGNS, TOOLS, DIES, CUSTOMER PROVIDED MATERIAL, ETC.

9.1 If the goods are to be produced by Supplier in accordance with designs, drawings, blueprints, tooling or fixtures furnished by ABI, the Supplier shall return the same to ABI at ABI's request upon completion or cancellation of this Purchase Order.

9.2 Such designs shall not be used by Supplier in the production of materials for any third party without ABI's written consent. Such designs involve valuable property rights and proprietary information and shall be held confidential by Supplier.

9.3 Unless otherwise agreed herein, the Supplier shall supply all materials, equipment, tools and facilities required to perform the requirements of this Purchase Order at its cost.

9.4 Title to, and the right of immediate possession of, all property furnished by ABI to the Supplier shall remain with ABI, except that title to such tooling or material which is identified as Government property shall remain with the Government.

9.5 Title to any ABI furnished property shall not be affected by the incorporation or attachment to any property not owned by ABI, nor shall any such property, become a fixture of the Supplier or lose its identity for any reason.

9.6 ABI furnished and/or owned property condition shall be identified, maintained and inspected regularly for suitability of use. Supplier shall notify ABI immediately if the property is lost, stolen, or unfit for use for any reason. ABI makes no warranties of any nature with respect to any property or data it may furnish to Supplier hereunder. Supplier shall notify ABI immediately of furnished property which becomes lost, stolen, missing, destroyed or damaged.

9.7 Property furnished by ABI shall be used solely in the performance of work ordered by ABI only.

9.8 Property shall be subject at all times to disposition as ABI may direct. Supplier agrees to maintain inventory control of all such tooling and property and to furnish inventories thereof when required by ABI.

9.9 Unless otherwise specified, Supplier shall be liable for any loss or destruction or damage to property furnished to Supplier by ABI. Supplier shall be responsible for returning property in a suitable for use condition as when received at a time specified in accordance with the provisions of the Purchase Order.

9.10 Supplier shall notify ABI prior to destruction of any furnished materials, or equipment.

9.11. If ABI has provided the raw material for this order, no material substitution is allowed unless authorized in writing by ABI. The Supplier shall not return any furnished material without prior approval of ABI.

## 10.0 RAW MATERIAL TYPE AND TEMPER

10.1 For all metallic details, prior to the first fabrication operation only, the Supplier is required to verify the correct material type and temper to engineering. Evidence of verification shall be on the Supplier's shop traveler, work order, planning or other inspection status (including FAI) documentation.

## 11.0 NOTICE OF ESCAPEMENT

11.1 The Supplier shall notify ABI, within 24 hours of discovery, of any Non Conforming Product shipped (escapement) and/or any changes in Product or process definition. Records of Non-Conforming Product must be maintained and made available to the buyer immediately upon request.

11.2 In the event of an escapement, the Supplier shall send a “Notification of Escapement” in writing to ABI and shall contain the following as a minimum:

a. Supplier Name,
b. Description of Non Conformance,
c. A list of all affected Part Numbers,
d. Part number and traceability number which identify the Non Conforming parts, if applicable.
e. All affected Buyer’s Purchase Order Numbers,
f. Packing Sheet Numbers,
g. Quantities and Date Shipped,
h. Information Regarding Quarantine of All Related Work-In-Process and/or Finished Goods and
i. Any other information that is required.

## 12.0 NONCONFORMING MATERIAL AND CORRECTIVE ACTION

12.1 The Supplier is required to notify ABI within 24 hours of any Product/service that has escaped from the Supplier's facility. The Supplier is required to provide as much detailed information as possible including a complete description of the defect, the requirement and specification(s), part numbers affected, PO numbers affected, quantity, method of discovery, any traceability information and any inspection/ test data that may be applicable.

12.2 When Non Conforming Product is reported to ABI Quality by the Buyer (our customer) and evaluated to be the responsibility of the Supplier, a Buyer Nonconforming Material Document (NMD) will be issued for all Non-Conforming Product and will require immediate containment of all such Product under the Supplier's control. Disposition of Product will be provided to the ABI buyer promptly.

12.3 In certain circumstances, ABI may need to use a Non Conforming Product supplied by a Supplier. When this happens, the following process will be applied:

a. The Supplier will submit the description Non Conformance along with a proposed disposition and completed corrective action to the ABI buyer.
b. The ABI buyer will forward the Supplier's proposed disposition of the Non Conforming Product to the affected ABI plant for potential customer submission and disposition.
c. ABI buyer will coordinate final response and disposition to the Supplier.

12.4 If the Supplier is issued a SCAR, the SCAR response should be issued to the Supplier Quality Engineer / Buyer within the date specified in the Buyers request or no later than 14 days after receipt of product on Supplier's dock.

12.5 Failure of Supplier to respond will result in a potential change in approval status. At a minimum a meeting will be held with the supplier to review the issues.

## 13.0 DISPOSITION AUTHORITY

13.1 Supplier disposition authority for Non Conforming Product is limited to "Rework", "Return-to-Supplier", "Return-to-Buyer" (by Buyer permission only), and "Scrap". The Supplier shall notify the Buyer in writing immediately if disposition actions taken have an effect on the ability of the Supplier to deliver Product as specified or agreed upon.

Note: Rework is defined as a process performed entirely within the confines of the drawing and referenced specifications that will result in characteristic(s) that conforms completely to the drawings, specifications, and contract requirements.

## 14.0 PART MARK

14.1 When a part mark specification or direction is provided by the drawings, specifications or Purchase Order, the following shall be additionally applied as below requirements addressed in 14.2 in a special identification tag.

14.2 When a part mark specification or direction is not provided by the drawings, specifications or Purchase Order, and shall include the following in a special tag:

a. The part number specified on the Buyer Purchase Order,
b. The manufacturing date,
c. The Supplier's name or cage code traceable to the Supplier, and
d. The number used by the Supplier to provide traceability of their quality records. (e.g., Serial number, Lot number, Control number)

14.3 Traceable items that size and or application that do not allow the part number and serial number identification shall be individually packaged and identified by an appropriate label.

## 15.0 SAMPLING

15.1 The Supplier shall provide 100% inspection of Products delivered. Sampling may only be performed when authorized in writing by the Buyer.

Note: Sampling plans need to be approved by the OEM customers.

### 15.2 In-process inspection

Supplier shall plan in-process inspection considering 1. All the processes, output of which cannot be inspected at subsequent stages and 2. To make sure that non-conformances are identified at critical phases of operation so that effect of non-conformance does not affect delivery schedule and cost of the project.

In-process inspection steps shall be part of process plan and control plan.

15.3. ABI reserves the right to include mandatory inspection points at appropriate stages, which will require supplier to inform ABI in advance of the impending inspection point/s and hold the process for inspection, unless otherwise waived by ABI in writing.

### 15.4. Final Inspection and release

15.4.1. Final inspection shall be done as per pre-defined check list. This check list shall not only contain the drawing dimension requirements but shall also contain requirements in "notes" given in the drawings, surface roughness requirements mentioned on the drawing and the material. It shall also cover requirements given in the associated specs.

and workmanship standards. It shall also contain any specific requirements such as packing spec. and also labeling and shipping requirements.

15.4.2. A competent person, independent of mfg. team of the supplier shall review the final product and its associated documents and ensure that all requirements have been complied with before releasing the product for shipment. Release of product must be signed off.

### 15.5. Traceability Requirements in Final inspection report to consists of,

a. Batch Number of the production / Serial number of the part.
b. Raw Material Traceability – Lot number/heat number/batch number etc.
c. Traceability for Anodizing/Passivation/conversion coating – Heat number/Batch number etc.

### 15.6. Documentation requirements

a. Final inspection report – Covering Critical dim & Visual inspection as per QIP
b. Raw Material Test report from Material supplier / 3rd party test report ( Supplier should be NABL Approved)
c. Salt spray test report for – Anodizing/Passivation/conversion coating (Test should as per standard test plan as provided by drawing)
d. Wet tape test report for conversion coating (If any)
e. Test report for any other test specified in the drawings and purchase order
f. In process inspection report.( which should cover first piece & Periodic inspection details)
g. Incoming inspection report for the raw material purchased.

### 15.7. Calibration

1. Master list: Supplier shall establish and maintain a master list of instruments which need to be calibrated. The master list shall contain the following information as a minimum:
2. Unique sl. No. of the instrument
3. Description of the instrument
4. Make of the instrument
5. Location of the instrument
6. Least count and accuracy of the instrument
7. Name of the calibrating agency
8. Frequency of calibration
9. Date of Calibration
10. Due date of next calibration

11. Qualification of person / Master instrument traceability if calibration done in house at supplier place.

### ii. Frequency of Calibration

Supplier shall assign frequency of calibration for each instrument. The calibration frequency shall be based on the frequency of use, environment in which it is used and handling conditions of the instrument and as per the instrument manufacturer recommendation.

In between if any damage found to instruments calibration needs to be done and out of calibration procedure (iv) as below to be followed.

### iii. Assign Responsibility

Supplier shall assign a person who is responsible for calibration activities, this person shall also be responsible for making sure that concerned persons are informed in advance of the due date of calibration and makes sure that instruments are sent for calibration in time.

### iv. Out of calibration condition

If during calibration or during any other activities it is found that a particular instrument is out of calibration, then following must be done:

1. Quarantine the instrument.
2. Analyse whether products already supplied to customer can be out of tolerance.
3. If the above is yes – then trace all the products which were inspected/ produced using this instrument and send a re-call / alert note to the customer.
4. Mutually agree with customer to provide replacement/ rework.

## 16.0 PACKAGING AND DELIVERY DOCUMENTATION

16.1 When a packaging specification or direction is not provided by the engineering drawings, specifications or Purchase Order, the packaging shall be in accordance with:

a. Commercial Standard Practice for Commercial Packaging, or
b. Military: Standard Practice for Military Packaging.

16.2 Supplier shall provide a Packing Sheet for each separate shipment that includes as a minimum:

a. Supplier's name and address,
b. Buyer's Purchase Order number, change order number and applicable line item number,
c. Part number and quantity,
d. Applicable engineering drawing revision levels and engineering drawing changes (ECN etc.) as stated on the Buyer's Purchase Order or subsequent Purchase Order revision.

16.2.1 Foreign Suppliers shall additionally provide:

a. Custom's Declaration Letter, and
b. Declaration of Certificate of Origin.

16.3 A bar coded shipping label is required to be affixed on the outside of each package shipped to ABI Below is an explanation of requirements and a sample bar code label.

a. ABI Purchase Order Number: Usually a ten digit number.
b. Line Item: Usually two, three or four digits. The fourth digit (usually a letter) is used on non-recurring items and it indicates the PO line item type
c. Part Number: Part number as reflected on the P/O
d. Quantity: Reflects how many items are in this package?
e. Shipment Number: Indicates if this is a first, second, third, etc. shipment against a specific P/O
f. Note Box ____ of ____ for the P/O Line Item being shipped
g. Remember to use Code 39 bar code font with no start/stop characters

## 17. CERTIFICATE OF CONFORMANCE

17.1 When a Buyer Certificate-of-Conformance (C of C) document form is not specified on the Buyer's Purchase Order, the Supplier may use Supplier's Certificate-of-Conformance form if it contains the following as a minimum

a. Supplier's name and address,
b. Part number and part name,

c. Purchase Order number or Buyer's name,
d. Quantity,
e. All drawings,parts lists, sheet numbers, revision levels and amendments, models,
f. A certification statement to read as follows: "(Supplier) certifies that these parts were purchased, and/or manufactured, and/or processed, and/or assembled, and inspected and meets all applicable OEM customer and Buyer requirements."
g. An authorized Quality Assurance stamp (where applicable), signature and date.
h. The number used by the Supplier to provide traceability of their quality records. This should be the same number applied in the part mark per 14.1 above.

Note: The following should be listed in the C of C or attached to the C of C in the form of certifications:

i. Material type, alloy, temper, thickness or other size dimension(s), lot number, manufacturer and specification number and revision level,
j. Heat treat facility, lot number, process name, quench method, specification number and revision level,
k. Hardness and conductivity readings (required and actuals) and percentages tested,
l. All other special processes performed, by facilities, specification names, specification numbers and revision levels,

17.2 For supplied raw material or materials used in the subsequent manufacture of parts, components or assemblies a copy of the original mill or manufacturer test reports shall be provided.

17.3 For any designated special processes or testing performed, a copy of the original processor or testing facility certificate containing the process performed and the actual test results stated shall be provided. A reference to the specification, standard or method used to validate acceptance shall be stated, including the revision level for each identified document.

## 18.0 CRITICAL COMPONENTS

18.1 All Fracture Critical, Fatigue Critical, Durability Critical, or Maintenance Critical designated parts identified by the Purchase Order, ABI/Customer/OEM engineering or specifications, require submittal of the Supplier's manufacturing plan 30 days prior to start of production.

18.2 Upon approval of Supplier's manufacturing plan, Supplier shall control all processes as stated in the plan.

18.3 No deviation from the approved plan is permitted without written approval from the Buyer.

18.4 Record retention requirements for Critical Components are typically lifetime retention requirement. Supplier is to ensure that the retention period is applied in accordance with the Engineering and Quality requirements for the program and Product, and/or specific sections of this document.

## 19.0 FIRST ARTICLE INSPECTION

19.1 A First Article Inspection Report (FAIR) is required for all products produced for ABI on their initial shipment and shall compliant with the latest revision of AS9102. A FAIR must contain dimensional results along with a bubbled print, for dimensional data that is measured with a coordinate measuring machine; refer to section 17 of this document. The FAIR also requires certificates of conformance for all material and processing performed during manufacture. Source Inspection is required for all FAIR's unless otherwise waived by ABI Supplier Quality.

19.2 The Supplier will notify the ABI Buyer two weeks prior to completion of Product so that source inspection can be arranged. The FAIR will be presented to Source Representatives at the time of Source inspection, and copies will be shipped along with the First Article part(s). Included with the submission of first article reports the Supplier will forward copies of all work orders and process certifications associated with the first article unless information is proprietary.

19.3 The Organization shall perform a full FAI, or a partial FAI for affected characteristics, when any of the following events occurs:

a. A change in the design affecting fit, form or function of the part.
b. A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling or materials, that can potentially affect fit, form or function.
c. A change in numerical control program or translation to another media that can potentially affect fit, form or function.
d. A natural or man-made event, which may adversely affect the manufacturing process.
e. A lapse in production for two years or as specified by the Customer.

## 20.0 NON DESTRUCTIVE TESTING (NDT)

20.1 Supplier shall review the purchase order and associated drawings/drawing notes and related documents to determine if NDT is required. Submittal to and approval of NDT general procedures and part-specific techniques by ABI and / or our Customer is required prior to performing NDT. After initial approval, any changes to subject documents must be resubmitted to ABI Aerospace for approval.

20.2 Suppliers using outside sources for NDT shall ensure that the selected NDT sub-tier has ABI and / or Customer approval for the NDT procedure/technique used. On-site validation of procedures/techniques to verify specification compliance may be performed at the discretion of ABI Aerospace.

## 21.0 INSPECTION DELEGATION AUTHORITY

21.1 The Supplier, when issued an “Inspection Delegation Authority Memo” by ABI Quality Assurance, is authorized to inspect products identified within the Purchase Order on behalf of ABI Quality Assurance, unless otherwise excluded.

21.2 The Supplier’s Delegation Authority is subject to the limitations as may be specified in the “Inspection Delegation Authority Memo”, and/or as specified within the Purchase Order/Contract.

21.3 ABI Quality Assurance reserves the right to conduct Product integrity audits, quality system assessments, verify Suppliers conformance to delegation requirements and to revoke the Supplier’s delegation authority at any time.

## 22.0 KEY CHARACTERISTICS

22.1 When identified on the Engineering drawing, model, or documentation, all key characteristics will require a statistical process control plan.

22.2 The statistical process control plan for key characteristics is subject to review and audit by the Buyer at any time during the conduct of the contractual work.

## 23.0 FOREIGN OBJECT DAMAGE CONTROL

23.1 The Supplier will ensure that Product delivered to ABI is controlled in a manner that will prevent FOD from being introduced into the final Product.

## 24.0 CUSTOMER & PROGRAM SPECIFIC REQUIREMENTS

24.1 In addition to the requirements contained herein, there are specific Customer and Program related requirements that apply based on the type of Product being provided by the Supplier and the Buyer’s end item Customer.

24.2 The Supplier is hereby required to implement the Customer and Program specific requirements, as applicable, contained in Addendum A of this document.

## 25. Records of objective Evidence / Record Retention & Storage

A procedure shall document how quality records (Hard / Electronic copy) shall be access controlled and stored in a suitable environment e.g. a building that affords protection against; theft, malicious damages, fraudulent use, corruption, damage, fire, condensation/ damp and flood. Records shall be stored in a format that will ensure the records remain legible and accessible for the duration.

Before any original record relating to ABI is destroyed, permission to destroy shall be sought from ABI QA / SCM department.

### Record Retention Matrix

| Record Type | Retention Period |
|---|---|
| General Quality Records | Indefinitely ** |
| Qualification Records | Indefinitely ** |
| Radiographic Film | 11 years |
| Critical parts as identified on the drawing | Indefinitely ** |
| Distributor standard off the shelf product | Indefinitely ** |
| Flight Safety Parts, Safety Parts, Flight Critical Parts, ESA parts, Frozen Process Parts | Indefinitely ** |
| Non-traceable, non-serialized parts | Indefinitely ** |
| Traceable parts as identified on drawing or PO | Indefinitely ** |
| Serialized parts as identified on drawing or PO | Indefinitely ** |
| | |

Unless otherwise specified by ABI, the Supplier shall maintain all records that provide objective evidence of compliance to contract requirements as specified above after the last delivery of products and/or services on the contract. ** Prior to discarding, transferring to another organization, or destruction of such records, the Supplier shall notify the Parker Buyer in writing and give ABI the opportunity to gain possession of the records. These requirements are applicable to records generated by Supplier's sub-tier sources also.

If suppliers unable maintain records in physically, suppliers can scan and store in safe manner in drives with protection and password lock and transfer physical documents / records to ABI for enable us to retain as per customer requirements.

Annexure – 1

1. Plating/Electro-Deposition
2. Heat Treating
3. Vibration or Qualification Testing
4. Anodizing
5. Annealing
6. Coating or Vapor Deposition
7. Painting
8. Hot Iso-Static Pressing
9. Bonding/Lamination
10. Passivation
11. Material and Chemical testing
12. Encapsulating and Potting
13. Chemical Conversion Coatings
14. Radiographic Testing
15. Impregnation
16. Chemical Cleaning/Milling
17. Penetrant Inspection
18. Leak Testing
19. Dry Film Lubrication
20. Magnetic Particle Inspection
21. Welding
22. Ultrasonic testing
23. Brazing
24. Eddy Current Testing