Supplier Quality Requirements

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UNRESTRICTED Commercial in Confidence

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1.0 References / Abbreviation

1.1 Reference to applicable International Standards

AS/EN9100:	Quality Management System requirements for the Aerospace Industry
AS5553	Counterfeit Electrical, Electronic and Electromechanical
AS6174	Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Material
AS9102:	Aerospace Standard for First Article Inspection Requirements
AS9103:	Variation Management of Key Characteristics
AS9145:	Requirements for Advanced Product Quality Planning
AS9146:	Foreign Object Damage Prevention Programme for Aviation, Space and Defence
ISO9001:	Quality Management System requirements standard
ISO10012:	International Standard for Measurement Management Systems
ISO17025:	International Standard for competence of Testing & Calibration Laboratories
ISO2859:	International Standard specification for Acceptance Sampling
ISO2230:	Rubber Products – Guidelines for Storage
AS13000:	Problem Solving Requirements for Suppliers
AS13003:	Aerospace Standard for Measurement Systems Analysis
EN10204:	Type of inspection document

1.2 Abbreviation

AIE:	Advanced Innovative Engineering
ASL:	Approved Supplier Listing
ATP:	Acceptance Test Plan
COTS:	Commercially available applications, defined by industry recognized specifications and standards, sold through public catalogue listings
FAIR:	First Article Inspection Report
FMEA:	Failure Mode Effect Analysis
FOD:	Foreign Object Debris
LAIR:	Last Article Inspection Report
MSA:	Measurement Systems Analysis
NADCAP:	The National Aerospace and Defence Contractors Accreditation Program
NDA:	Non-Disclosure Agreement
PPAP:	Production Part Approval Process

2.0 Introduction

Competing in today's global market requires that products and services must be of high quality, delivered on time, with increasingly short lead times and at a competitive cost.

For AIE to be successful and meet the needs of our customers, we must have a process in place that encourages, supports, and ensures our suppliers also meet quality expectations.

The role played by our suppliers is key to our strategic business plan and crucial to our future success.

The objective of this document is to define the basic system requirements that we will use to ensure that our mutual responsibilities for product and service quality are understood and implemented.

AIE's goal is to progress and expand our existing global base to become the world leader in our chosen market fields. To ensure we achieve this target, AIE has developed specific strategies that include:

- Long term relationships with fewer suppliers.
- Closer interaction between AIE's manufacturing, engineering, purchasing, quality personnel and those of our suppliers.
- Deployment of Advanced Product Quality Planning.
- Assure compliance to market specific requirements such as BS EN ISO 9001 and AS9100 and other customer and regulatory standards.

To assist in the implementation of our objectives, AIE utilises a Supplier Quality Assurance programme, which embodies all the measures specified and mutually applied, between AIE and the supplier to obtain and maintain the overall standards required.

The development of supplier quality assurance requires close collaboration between AIE and the supplier, and this necessarily involves an in-depth knowledge of the organisation and methods employed by the supplier. It equally requires the supplier to be familiar with the requirements when doing business with AIE.

This document details the requirements of the supplier's quality system that can be assessed by AIE before the placing of new orders and the requirements to be followed by the supplier after orders have been placed.

3.0 Document overview

The Supplier Quality Requirements document has been written to address the industry standard and expectations from:

- The AS/EN9100 / ISO9001 International Standards
- Our key customers specific requirements

This document has been issued as guidelines for supplying product / service to AIE

In case of any conflicts in requirements of supply, the following dictates the Hierarchy of requirements:

1st Purchase Order / Condition of Supply

2nd Product Definition (Drawings / Specs)

3rd Customer Requirements

4th This Document

All Suppliers who process aerospace purchase orders shall be compliant with this document. These requirements should be flowed down to any Sub-tiers who have an influence on the fit, form or function of the end article.

Aerospace purchase orders are susceptible of being audited by Airworthiness Authorities, Military Agencies, and Customers. Therefore, the Supplier, upon justified occasions and with prior agreement of the Supplier, shall allow access:

- to areas in the manufacturing facility where Customer products are handled
- to all associated records which demonstrate product conformity
- Note: exceptions can be discussed where confidential areas and/or Intellectual Properties are concerned.

In this AIE requirements document, the following verbal forms are used:

– "shall" indicates a requirement.

– "should" indicates a recommendation.

– "may" indicates a permission.

– "can" indicates a possibility or a capability.

Information marked as "NOTE" is for guidance in understanding or clarifying the associated requirement

It is essential for all suppliers to inform AIE promptly when they may not be able to meet the requirements set within this standard and additionally those set within the purchase order requirements.

If there is any doubt regarding any requirements set within this document, then please contact AIE Purchasing / Quality to enable us to support your query.

4.0 Supplier Selection, Approval & Monitoring

4.1 Supplier Pre-requisites

As a minimum the supplier shall be certified to ISO9001 with a preference being that the supplier holds AS9100 or AS9120 as applicable.

When Independent Test Facilities are required, the laboratory shall be ISO 17025 accredited unless Customer approval is granted. NADCAP approval could be also required depending on the project and final customer requirements.

Non-ISO approved organisations may be used at the discretion of AIE for development products but will be expected to demonstrate adequate management and controls of their processes that satisfy AIE's minimum requirements.

In the unusual situation that AIE decides to use a non-ISO approved supplier for production intent parts, AIE Quality will be required to fully engage with the supplier to carry out a full assessment of its management system with a view to potentially underwriting the supplier and control it's supplied parts with a supporting Quality Plan. The Quality Plan can be revoked at any point during the contract if it is deemed that the supplier poses any risk to product integrity and AIE's known customer requirements.

Supplier approvals for product / services shall meet customer requirements including (as applicable)

NADCAP approvals

Customer Approvals

Product Approvals/ qualifications

Recognised qualifications for special processes such as welding etc., may form part of contract requirements as deemed necessary.

Deviations from the above requirements require written approval from the AIE Quality Department.

4.2 New Supplier Introduction

Prior to commencement of activities the supplier is required to complete the AIE Supplier Assessment Questionnaire. A supplier generated document can be supplied if the information given is in line with those set within the AIE document. This document gives an initial overview of the supplier's organisation. In addition, the supplier will also be required to complete a Non-Disclosure Agreement. Both the Supplier Survey and NDA documents will be supplied by AIE's purchasing department.

An on-site assessment may be conducted as part of the initial introduction as a new supplier. The decision to assess a newly identified supplier depends on aspects such as criticality of supply, approvals held, location and financial implications. Notification of any planned assessments will be given in advance and dates agreed with the supplier.

Once the completion of the required documentation and initial evaluation by AIE Quality have taken place a decision is made as to the level of approval to be granted.

The supplier is then added to AIE's Approved Supplier List.

4.3 Supplier Quality Assurance Requirements (QAR's)

The requirements set within this document are supported during the purchase order process. As such, the purchase orders may invoke the QAR codes and documentation submittal requirements for each shipment. Applicable requirements must be flown down to sub-tier suppliers. In the event, any requirement cannot be met, notification must be made to AIE purchasing immediately for clarification, direction, and authorisation.

No:	Quality Assurance Requirement	QAR Detail
QAR 1	Raw Material Certification of Conformity	Basemetal material certifiation in accordance with BS EN1024 type 3.1 or similar for non metallic products. All materials must be supported with a traceable link through all stages of the supply chain back to the source.
QAR 2	Certificate of Conformity	A C of C with Each delivery to be supplied in accordance with BS EN10204 type 2.1 or similar for non metallic products and clause 9.1 of this document
QAR 3	Supplier Measurement - Goods Inspection Report (GII)	The Supplier shall provide a Goods Inspection Report with the delivery of the product batch. The features are defined and agreed with AIE usually prior to manufacture. The requirement will typcially be initially invoked for Prototype/ development and pre-production intent parts. The report can also be invoked during the first 3 production deliveries or until satisfactory confidence is gained with the goods supplied at which point a ship to stock will be invoked. The requirement shall be re-invoked follwing a Non Conformance Occurence.
QAR 4	ISIR Only	Initial Sample Inspection Report Only
QAR 5a	PPAP Level 1	Part Submission Warrant (PSW) & Appearance Report (If applicable)
QAR 5b	PPAP level 2	PSW with product samples, ISIR, Laboratory Reports
QAR 5c	PPAP level 3	PSW with product samples and complete supporting data
QAR 5d	PPAP level 4	PSW and other requirements as defined by the customer
QAR 5e	PPAP Level 5	PSW with product samples and complete supporting data available for review at the supplier's manufacturing location
QAR 6	FAIR - First Article Inspection Report	FAIR's are to be supplied as per the requirements of AS9102 on production intent parts only unless otherwise agreed with AIE Quality Department
QAR 7	Special Process Certification	This shall be submitted with each shipment to specify that all special processes or inspection methods, such as those defnied within the NADCAP requirements demonstrate compliance with the drawing, specifications, or purchase order and are accomplished by approved sources utilising approved equipment and personnel. The certificate must contain a reference to the AIE drawing/specification, where applicable. The certificate must contain a statement of conformity relating to the process completed and must be signed and dated by the responsible official on behalf of the processing organisation.
QAR 8	Acceptance Test Report	Test data to provide evidence of compliance with all acceptance test requirements as outlined in the applicable specifications. Test data shall be complete and shall cover all test and/or inspections performed and shall be traceable to the specific batch under test.
QAR 9	Limited Life Materials	in Accordance with ISO:2230 (Storage of Rubber Products)
QAR 10	Contract Specific Requirements	Contract Specific Requirements apply when a separate and detailed contract is in place and stated within the purchase order. Any relevant specifications agreed between both parties must be demonstrated with further reports etc.

4.4 Supplier Monitoring

All suppliers to AIE are placed on the Approved Supplier List. The list denotes the type of supplier, products that they supply, AIE approval level granted, their third-party certifications.

The ongoing performance of the key suppliers are monitored for delivery and quality. The performance of those suppliers is reviewed, and feedback given accordingly. The aim in every instance is for AIE and the supplier to hold a working relationship that encourages Continual Improvement.

The vision of AIE is that all suppliers achieve zero defects and encourages a zero-defect philosophy.

The suppliers are ranked and monitored as follows.

Type:

A – AS9100 Approved Supplier of manufactured items / Preferred Supplier (ISO9001 Minimum)

B – ISO9001 Approved Supplier of manufactured items.

C – COTS / National standard Product Supplier / Catalogue Item.

D – New / Development Product Supplier / Supplier under Quality Plan

Performance:

1 - Ongoing consistent performance for Quality & Delivery.

2 - Average to Medium performance for Quality & Delivery.

3 - Improvement required / Performance below expectation.

4 - Development only Supplier / Too early to evaluate / No Rating Required.

Approved Suppliers may be subject to an ongoing Supplier assessment. Selected Suppliers will be assessed as necessary to verify product conformance and to re-establish supplier performance. These assessments may be made up of a cross-functional team consisting of procurement, quality, and operations.

AIE will endeavour to support and assist in aiding resolution of supplier related issues.

Repeated failure to comply with AIE requirements or continual poor performance could result in the supplier approval being invoked.

AIE Reserves the right to review/revoke a supplier approval at any time.

5.0 Protection of Information / Right of Access

Any information the supplier receives from AIE must be kept confidential and never disclosed to any third party without the prior written agreement of AIE. The proprietary information can include but is not restricted to all versions of electronic data, drawings and documentation, tooling, and materials. Under no circumstance is the supplier to make a direct approach to AIE's customers in relation to agreed business dealings. Any information received from AIE suppliers will be treated in the same manner. This protection of information is covered under the AIE Non-Disclosure Agreement. It is the supplier's responsibility to flow down all / any Non-Disclosure Agreements through the supply chain for all AIE contracts.

Suppliers shall provide access to their premises and facilities for AIE, our customers and regulatory authorities for co-operation on product, process, and business issues if required.

6.0 Human Resources

6.1 Quality representatives

The Supplier shall define Quality Representatives, within its organisation, responsible for product quality across all production shifts. The Supplier shall ensure that they have:

- Delegation of authority to stop production and deliveries in case of any potential quality problems are found.
- Organisational freedom and unrestricted access to Top Management to resolve quality issues.
- been granted full access to all necessary information and records to facilitate root cause analysis and the definition of robust corrective and preventive actions.

These Quality Representatives shall have the full knowledge of products, skills, credential, and training to accomplish the tasks required and protect Customers from exported non-conformity.

6.2 Quality Human Resource Management

The Supplier shall have detailed training instructions, delegations of authority and corresponding records at hand.

A Skill matrix shall be accessible for all manufacturing and inspection processes.

In addition, employees who release products shall be trained and regularly assessed. They shall be assigned through a record and delegation of authority. Personal release stamps shall be granted and shall only be used by the person with the authorization. Each stamp shall be recorded with the date of release, the date of withdrawal and the Signature of the Employee.

Electronic approvals are authorized when the process demonstrates its robustness and the full traceability to the employees who performed a specific task, release operation or inspection on the product.

Procedures shall be implemented to ensure that eye examination for visual acuity are administered by a qualified / licensed ophthalmologist to all individuals performing visual inspection and/or other product acceptance activities that require visual acuity. It is recommended for eye examinations to take place every 2 years or in line with customer requirements.

Suppliers must ensure that all their employees are aware of their contribution to product conformity, product safety and the importance of ethical behaviour.

The requirements listed above are also fully applicable to temporary employees.

The Supplier shall document the knowledge gathered within its organisation and ensure that it is maintained and transmitted over the years. A process shall describe the structure of the methodology implemented.

7.0 Change Management and communication

7.1 Changes in Quality Management System

The Supplier shall officially inform AIE Quality Department immediately regarding the following:

- New certificates (to be sent to AIE Quality Department as soon as certificates are released)
- Change of the nominated quality representative.
- Significant change to the quality management system
- Major audit findings (ISO 9001, AS/EN9100, AS/EN9120, NADCAP…)
- Loss of QMS certification (ISO 9001, AS/EN9100, AS/EN9120, NADCAP…)
- Loss of government or export licences

7.2 Change Management

The Supplier shall define a procedure to clarify how Change Control is managed through its organisation and how the information is communicated to AIE Quality Department and its customers when the change is MAJOR.

A Major change is a change in product or processes which may affect form, fit, function, reliability, safety, delivery, service, or compliance with regulatory and statutory requirements.

Major changes include but are not limited to:

- Location changes of manufacturing or logistics facility.
- Change of manufacturing source.
- Change of Special Process Supplier.
- Loss of product certification that could affect supply to AIE.
- Change of manufacturing process (manufacturing methods, parameters, machines, inspection method…) which could affect the characteristics of the parts.
- Changing a sub-component of a specific end article.
- Design change affecting fit, form, or function.
- Packaging change (included labelling)
- Any change (minor and major) on a safety critical item
- Change of ERP system
- Key Characteristics

For such change, The Supplier shall inform AIE Quality Department at the earliest opportunity (i.e.: decision stage) before implementation to enable relevant review and approvals to be processed and formally request with an Engineering Change Request document.

No major change can be implemented by the Supplier unless prior agreement is given by AIE Quality Department.

When required, a clear and detailed project plan based on risks analysis shall be implemented by the Supplier and submitted to AIE Quality Department. This plan shall include as a minimum:

- All risks identified and quantified,
- The risk mitigation plan
- The residual risk levels.
- Associated Cost
- Cut-off date
- Product approval submission

Depending on the nature of the change, samples, LAIR & FAIR or tests can be required by AIE Quality Department for approval.

Note:

1. Alterations in post-production processes such as de-flashing/deburring are not considered as major changes unless such changes would impact article specifications (e.g., matt, or shiny finish specified)
2. Preventive maintenance, machine cutting tools (etc.) are not considered as major changes.
3. Customer owned tooling modifications shall require Customer approval prior to any changes.

7.3 Control of manufacturing documentation change

Any changes made to manufacturing documentation (e.g., work instructions, travellers, routers) shall be recorded, dated and traceable to an authorised person making the change (e.g., name, signature, stamp, electronic signature). The original information shall be legible and retrievable after the change (e.g., single line through). Corrections should only be made with permanent ink (black or blue in colour). Amendments with Pencil are strictly forbidden.

The use of correction fluid is forbidden.

8.0 Process & Production Validation

8.1 Risk Management

The supplier shall have a process for identifying and managing risks within its business in line with ISO9001/AS9100.

8.2 Production Preparation

The supplier (except for COTS/Standard item suppliers) shall identify and control the variation of Process Key Characteristics (refer to AS9103), but also mitigate risks relating to the organisation and its personnel (human factors and management of responsibilities shall be considered).

Each manufacturing process shall be regularly reviewed against potential risks of non-conformities or delays in the customer delivery request date.

As such, the tools listed below as a minimum (or equivalent) shall be implemented, regularly reviewed, and assessed:

- Process FMEA,
- Manufacturing Flow Chart,
- Process Control Documents or equivalent documentation that defines specific control of manufacturing Key Characteristics.
- Product Control Plans
- Measurement Systems Analysis (MSA)
- AS9145 Advanced Product Quality Planning or equivalent can be used.

8.3 FAIR / PPAP Requirements

For all AIE make to Print proprietary items, the production intent supply of parts shall be covered by a valid FAIR in accordance with AS9102 or if required a PPAP with a defined level as agreed with AIE. The rules set within AS9102 dictate when a FAIR is required unless customer requirements dictate.

As a minimum Pre-production intent supply, development or prototype supply will require material information and a base dimensional report upon initial supply.

AIE could request First Article or PPAP at any level dependent on customer requirements.

Any discrepancies or non-conformances discovered during the FAI shall be documented and communicated to AIE Quality prior to submission of the FAIR/PPAP. If authorised by AIE Quality any rejection documentation, concessions, production permits or corrective actions shall be submitted as part of the FAIR/PPAP report.

The article lot submitted to FAIR/PPAP and delivered to AIE shall be identified by means of a label stating FAIR/PPAP SUBMISSION. The part used for the FAIR report shall be individually packed and identified as a FAIR/PPAP SAMPLE.

FAIRs shall be sent by email to AIE Quality Department or via Net-Inspect if requested to do so. Parts can be released by the Supplier once the documentation is noted as received by AIE Quality.

8.4 Validation of Catalogue and Standard Items

FAIR's/PPAP's are not generally required for standard catalogue or commercial items (COTS)

Customer requests for validation data shall be limited to Dimensional Reports and Material Test Reports. Anything additional shall be contractually agreed with the customer and Supplier prior to order acceptance.

The supplier shall keep all the records demonstrating full compliance towards the standard or the catalogue requirements.

Such records classified as category A as defined in this standard can be audited by AIE Quality Department and Customers if Intellectual Properties/Non-disclosure agreements are respected.

Note:

- standard item means recognized by National or International references such as ISO, AMS, BS, NF …
- catalogue items are defined in marketing documents, brochures or catalogues and cannot be made specific to a Customer.

8.5 Product Safety

Where product is implied or defined as safety critical the supplier shall demonstrate a satisfactory level of associated risk management and control to the product and processes during the entire product life cycle.

8.6 Product Control

The Supplier shall develop documented controls appropriate to the product and process characteristics to ensure product conformity. These include such controls as process parameters, the characteristic to be controlled, equipment used, frequency of checks and proposed sampling method.

Results of in-process inspections shall be in line the planned requirements to confirm product conformity.

8.7 Visual & Dimensional Inspection

Aerospace parts require 100% inspection for visual defects.

Visual aids or acceptance criteria should be defined by the supplier when national/international standards or customer specifications do not apply or exist.

The supplier shall ensure visual inspection activities are performed in a satisfactory environment with adequate light intensity so that product conformance is maintained throughout the production process through to final inspection. Industry standards such as DIN EN12464-1 can be used as a guidance.

Sampling techniques are forbidden for the inspection of Critical or Major Characteristics and for Safety Critical Items, unless agreed with AIE Quality Department.

Results of inspections must be recorded and validated by authorised personnel. Measured values of dimensional inspection shall be recorded when specified by the product control/ inspection plan.

Selection of measuring equipment shall be adequate to the inspection feature and determined in line with AS13003 Measurement System Analysis

8.8 Control of Measuring Equipment

Measuring equipment used to verify product and process conformity must be calibrated and traceable to a relevant national or international standard. Records of calibrated equipment shall be maintained.

Measurement equipment shall be maintained in a good condition and checked for evidence of damage or wear to ensure measurement accuracy.

If equipment is found to be out of calibration, actions shall be taken to identify and rectify any affected product, including product already despatched.

9.0 Traceability and Control of Records

9.1 Traceability

The Supplier shall ensure full traceability (upstream and downstream) from raw materials to final product supply

Traceability is mainly built around raw material lot numbers and process operations (Works orders…):

> Note 1: Traceability shall be maintained from parent to child batches (i.e.: Assemblies and Split batches)
>
> Note 2: All product and material quantities must be accounted for and traceable through records (i.e.: First off, Lost, scrapped, test pieces…)

The supplier shall control any unique / serialised identification of the product when required to do so as specified in the AIE product definition.

9.2 Control of Records

Documentation and Records shall be maintained, stored, legible and retrievable within 48 hours.

Control of records shall allow the recovery of a readable version of any records (including electronics records integrity)

Corrections to records shall be recorded, dated, and traceable to the person making the change using a permanent marking method with the original data being legible and retrievable after the change.

- The storage, usage and disposal of records are performed in a manner appropriate to their security classification (when stated) and will prevent unauthorised or fraudulent use.

Category	Period	
A	Permanent	Retained permanently or until the Customer has instructed the Supplier to dispose of the records.
B	10 years	Retained for ten (10) years minimum commencing from the date that the product was delivered to the customer. The Supplier can dispose of these records at the end of the specified period once approval is granted.

See annex for examples of category A and category B records.

The Supplier shall ensure that:

- No records relating to the supply of product to AIE shall be destroyed without formal AIE Quality Department authorisation before or after the required retention period,
- Destruction of records is traced, irreversible and confidential,
- Records are destroyed in accordance with pre-determined conservation periods.

10.0 Release documentation, Identification and Packaging

10.1 Certificate of Conformity / Advice Note

The Supplier shall deliver the parts accompanied by an authorised certificate of conformance (EN 10204-2.1 certificate or similar for Non-Metallic Products).

All other required documentation will be requested and flowed down via the purchase order.

The Certificate of Conformance shall have a unique traceable document reference number and shall mention:

- Suppliers name and address
- Delivery address
- Purchase order number
- Description of the product
- Part number (as referenced on the purchase order)
- Traceable reference (serial number, article batch number, as applicable)
- Date of manufacture or Cure Date when applicable.
- Quantity
- Conformance / compliance statement [1]
- Signature of person authorized to release the product.

The Certificate shall also provide additional information (when applicable):

- First Article Inspection Report (FAIR)
- Production Part Approval Plan (PPAP)
- Any applicable Customer Approval or Quality Plan number
- Production Permit number or Concession Number

[1] Typical compliance statement: "Certified that the whole of supplies hereon has been inspected / tested and unless otherwise stated, conform in all respects to specification, drawing and purchase order requirements".

Note: The standard EN10204 can be used as a guide to issue a Certificate of Conformance.

10.2 Product certificates

AIE shall determine and flow down all characteristics to be reported in the product certificates such as Acceptance Test Reports or EN10204-3.1 type certificates. However, when the characteristics to be reported in EN10204-3.1 type certificates are not defined, the following rule applies:

- All Critical Characteristics noted on the drawing must be reported.
- For other parts: the 3.1 certificate report the results of the Supplier Inspection Drawing

10.3 Packaging and Identification

The type of packaging shall be defined by the supplier and approved by AIE when required taking into consideration the environment and shipping stresses that could affect the part during handling and shipping. The packaging must be of a standard to prevent damage, deterioration and contamination during shipment and storage to ensure the proper life storage of the parts.

Returnable packaging should be the preferred solution when possible. All packaging including those deemed as returnable shall be clean and free from FOD.

It is preferred to prevent mixing either different part numbers or batches of parts within the same packaging.

Do not use packaging materials that can cause deterioration/corrosion with consideration taken to protect the product using Primary, secondary, and tertiary packaging methods.

Individual boxes must not exceed the recommended legislation for weight requirements. Anything above this weight must be palletised and secured accordingly.

Electrostatic sensitive items must be packaged with anti-static material to prevent static damage and marked as static sensitive, including the documentation.

Items with open orifices must be capped, bunged, or packaged in a way to prevent contamination/FOD during storage and shipping.

Bulk packaging is accepted unless specific packaging is required or if parts must be protected through individual packaging.

10.4 Cure Date and Shelf-life Restrictions

For elastomer products, cure date shall not exceed twelve (12) months unless preauthorisation has been given by AIE Quality Department. In some instances, more restrictive rules could be applied by the Customer. Any such requirements are identified in the purchase order sent to the Supplier.

Limited shelf-life articles shall be delivered with at least 75% of the specified life/calendar life unless specified in any applicable material specification, engineering requirement or customer specific requirement flowed down.

For items made from rubber, UV protected sealed bags shall be used. Packaging materials shall be compatible with rubbers (refer to national or international standard such as ISO2230, ARP5316 …)

The Supplier clearly identifies each bag with at least:

- The AIE Part Number and Revision
- The Quantity
- The Article Batch Number
- The Cure date when applicable or date of manufacture
- QR Codes are to be placed on the packaging of the product containing the information above

11.0 Management of Non-Conformity

11.1 Control of non-conforming products

The Supplier shall:

- Establish a method of detection and feedback of product nonconformities or process noncompliance.
- Contain any nonconformities by segregating (or at a minimum identifying) the product or process to prevent its unintended use or delivery.
- When reduced inspection or sampling plans are used for Dimensional Inspection, the full batch shall be inspected when an article is detected as non-conforming.
- Take necessary actions to contain the effect of the nonconformity on other processes or products, including potential non-conforming products that might be delivered to Customers (official 'Quality Alert' notification shall be sent to AIE Quality Department within 24 hours).
- Clearly and permanently mark (or establish alternative controls to prevent use) product dis-positioned for scrap until physically rendered unusable.
- Take appropriate corrective action that also includes read across activities and preventive actions.
- Maintain records related to the control of nonconforming product.

11.2 Deviation Permits / Concession requests

The Supplier shall discuss any potential concession applications with AIE Quality Department prior to submission. Where provisionally agreed a formal concession document will be forwarded to AIE Quality for review and acceptance by the supplier prior to the shipment of the product.

Applications for Concessions/Permits must be accompanied with a corrective action report detailing how future improvements will be made to avoid re-occurrence.

Any part subject to Production Permit or Concession Request shall be clearly identified indicating the concession request reference and identified on the shipment advice note and/or the Certificate of Conformity.

The supplier can either use their own Concessions/Permit blank or if needed request from AIE Quality.

11.3 Complaints Handling

From receipt of a complaint or audit finding the standard response times shall be:

- Initial Response: 24 Hours – to determine how AIE will be protected with continuity of supply.
- Containment Response: Maximum 48 hours from Initial AIE contact. All potential non-conforming product is contained, and short-term product continuity is confirmed.
- Root Cause Investigation: 10 working days – to demonstrate investigation has taken place into the true Root Cause of the complaint
- Full Response: 28 working days – The full corrective action response is given with suggested corrective actions and any plan required to be agreed in full implementation of those actions.

AIE Quality Department may request specific response dates in line with customer requirements that may also be dictated by the criticality of the complaint.

8D Reports shall be used to demonstrate that all activities have been completed to protect the Customer and prevent issues from reoccurring. AS13000 can be used as a reference for the methodology.

8D responses shall include the relevant Root Cause analysis tools depending on the type and severity of the non-conformance.

Human Factors shall be considered in the root cause analysis and result of the investigation shall be mentioned in the 8D report.

Note: AIE Quality Department could require 8D reports for delayed delivery. Similar investigation and root cause analysis shall be implemented by the Supplier.

11.4 Control of reworks

Where customer requirements allow rework of products for non-conforming items the method shall be fully traceable and documented.

AIE Quality Department shall be notified if any reworks affect the original product specification including fit, form and function.

Any agreed rework of product parts should be identified throughout the supplier's production system (Router, Job Card, Works order etc…) and subsequently on the delivery information documents, C of C and packages.

Batch traceability must be maintained in all instances.

12.0 Special Processes

Suppliers of Special processes shall hold the relevant design authority / End user approval. Where no approval is flowed down, NADCAP Approved suppliers shall be preferred.

Special processes are, but not limited to:

- Coatings
- Composites
- Heat Treatment
- Material Testing Laboratories (external laboratories) when specifically required.
- Non-Destructive Testing (FPI, MPI, Xray.)
- Surface Treatment
- Welding

13.0 Prevention of Counterfeit Parts

The supplier shall plan, implement, and control processes, as appropriate to their organisation and the product, for the prevention of counterfeit or suspect counterfeit parts and material use and their inclusion in products delivered to AIE.

Counterfeit parts and material affect all supply classes, including but not limited to; Electrical, Electronic and Electromechanical (EEE) parts, raw materials, hardware, fasteners, valves, bearings, castings, epoxies, paints, lubricants, adhesives, refrigerants, batteries etc.

"Counterfeit Work" means work that is or contains parts and material misrepresented as having been designed and/or produced under an approved system or other acceptable method. The term also includes approved work that has reached a design life limit or has been damaged beyond possible repair but is altered and misrepresented as acceptable.

The Supplier shall notify AIE immediately if they become aware or suspect that they have supplied any parts that may contain counterfeit items.

If any parts delivered to AIE constitutes or includes counterfeit items, the supplier shall, at its expense, promptly replace the affected items with those proven to be genuine and conforming to the requirements of the contract.

AS6174 (Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel) & AS5553 (Counterfeit Electrical, Electronic and Electromechanical) as applicable can be used by the supplier as a guidance to the industry requirements set for control of counterfeit parts.

The supplier shall also ensure that the requirements of counterfeit control are suitably made aware to its employees and its sub tiers.

14.0 Foreign Object Damage

The supplier shall plan, implement & control processes to ensure the prevention, detection, and removal of Foreign Objects (FO) and subsequently Foreign Object Damage (FOD) and as such is eliminated from all parts prior to shipment into AIE.

A FOD prevention programme recommended to be in line with the standard AS9146 shall be implemented and flowed down to any sub-tier suppliers that can impact the product.

Potential FOD includes but is not limited to burrs, chips, dirt, corrosion, and contamination resulting from the manufacturing, assembly, maintenance, processing, cleaning, storage, and subsequent packaging of parts.

Suppliers must ensure all passageways – cast and/or machined are clear of chips, core material, dirt, breakout of cast walls, etc.

Prior to closing inaccessible or obscured areas and compartments during assembly, supplier shall ensure the areas are free of FOD.

The Supplier shall ensure that the responsibility for the FOD prevention program is clearly defined and appropriate personnel have received FOD awareness training.

15.0 Obsolescence Management

The Supplier shall notify AIE Purchasing of any part or material obsolescence as soon as the information becomes available, with an expectation to provide notification at least six months prior to the last date an order will be accepted. This is particularly pertinent to COTS items.

To this regard, the Supplier shall implement a Part Obsolescence Management Process as appropriate. This Process shall include the following elements at a minimum:

- Obsolescence planning and risk analysis at the design stage
- Annual assessment of Product Bill of Material(s) to identify any obsolescence that will potentially impact delivery of product.

- Proactive detection of part, material, or manufacturing/test equipment obsolescence issues
- Action Plan to resolve each obsolescence issue, including forecast analysis and product support decisions.

16.0 Material Safety Data Sheets

All potentially hazardous material shall be accompanied by the relevant Material Safety Data Sheet.

17.0 Business Continuity Plan

The Supplier shall maintain a Business Continuity Plan (also known as Risk Management or Contingency Plan) to avoid or minimise the risk of supply chain shortage in case of an emergency event.

18.0 AIE Owned Tooling

It is the supplier's responsibility to ensure that any tooling owned by AIE is used, maintained, stored, and protected to ensure that the product integrity and conformity to Fit, form, function against the intended product definition is maintained.

The supplier should maintain a tool register and the tool shall be identified as belonging to AIE and permanently marked with the Part number / Tooling purchase order number / tooling number. Multi cavity tools should also show the relevant cavity.

Any anomalies found in such tooling must be immediately reported to AIE Purchasing and Quality.

The supplier must contact AIE Purchasing & Quality should they wish to adjust, refurbish, remove, dispose, or intend to scrap off any tooling owned by AIE.

Under no circumstances can any such tooling be used for use on any other customer orders.

It is the responsibility of AIE to notify and collect tool(s) from the supplier if required.

AIE could request that the supplier permanently disposes of the tool. In this case, the tool shall be permanently damaged to avoid being used for any other purpose. Evidence of the disposal will be required and submitted to AIE Purchasing and Quality.

19.0 Control of Records & Record Category (Example list)

All records pertaining to quality shall be stored and maintained in a legible form. No records will be destroyed until authorised by AIE. Specific projects and regulatory bodies may require more extended retention periods, and this will be notified in advance to the supplier.

It is the responsibility of the supplier to ensure that it complies with all statutory, regulatory, health & safety and environmental requirements for the processes employed.

The use of correction fluid is not permitted on any AIE related documentation. Any amendment shall be made by crossing out the error with a single line and initialling the change.

Record Category A (Product related – Permanent Record Retention)

Raw material approvals

Initial sample report (ISIR, FAIR, PPAP), where contractually required

SPC data and material approvals, where applicable

Manufacturing travellers or production records

Inspection reports (dimensional, visual and test where required)

Material Test report (for each batch)

Acceptance Test Report

Non conformance data

Requalification data, where contractually required

Drawings, specifications, Inspection Plans

FMEAs, Control Plans, Process Flow Charts, where contractually required

Certificate of Conformance (such as EN10204-2.1) / Advice Notes

Record Category B (Others records – Minimum 10 years Record Retention)

Calibration records

Work Instructions / Standard Operating Procedures

Product Audit results

Management Reviews, KPIs

Supplier approvals (cat B)

Audit reports, both internal and external (cat B)

Quality Plans (cat B)

Order Review records (cat B)

Training records for all positions responsible for processing products (cat B)

20.0 Revision History

Detail	Issue Level	Date
First Release	1	03/02/2021