ACRO Supplier Quality Manual

Perfect Comfort for Passengers

GENERAL QUALITY MANAGEMENT
REQUIREMENTS
FOR ACRO SUPPLY CHAIN

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Foreword

This manual has been created to assist our suppliers in understanding the purchasing expectations and quality requirements for products supplied to Acro Aircraft Seating Ltd (Acro).

The manual is also a tool assisting in complying with our approvals of the international standards ISO 9001:2015, AS 9100 rev. D and regulatory requirements CAA Part 21G, APDOA Part 21O, CAA Part 145, EASA Part 145 and to develop our supply chain.

Through implementation and adherence to the standards stated herein, Acro looks forward to mutually beneficial relationship with our suppliers. We recognise that our supply chain is fundamental to our ability to meet our customer and shareholder requirements therefore we aim to engage with our suppliers through long term agreements that secure partnership.

Our intention is to ensure that our supply chain is aligned to our current and future needs by communicating our values, objectives, future demands and capacity requirements.

Our product must make economic sense to our customers therefore we are committed to drive product costs lower by adopting and deploying lean techniques and ensuring our supply chain do likewise. We will seek out new and innovative materials and production processes and the suppliers that can deliver them.

We have established a philosophy of what we believe about our seats and values of what makes us, us. The intention of Acro is to work together with our supply chain in line with our philosophy and values in order to create contemporary seating that is robust, lightweight and easily maintainable whilst offering exceptional passenger comfort.

Our Vision:
To be a world-leading Aircraft seat supplier

Our Mission:
Through technical innovation, we provide comfortable and safe seats, promoting the passenger experience.

Acro Values

- Accountable
- Collaborative
- Respect
- Outstanding

Content

1. Introduction

1.1. Scope

This manual has been developed to communicate the operating principles, general expectations, requirements, and procedures of Acro. Adherence to the manual is required by all Acro suppliers and requirements shall be flown down to sub-tier suppliers. Every purchase shall be subject to this manual. Acceptance of Purchase Order constitutes acceptance and commitment to comply with this manual's content. This manual is provided as a supplement to, and does not replace or alter, any purchase agreements, general purchase conditions or requirements included in applicable engineering drawings, specifications and other contractual documents. This manual describes the minimum requirements, however, system improvements that exceed the requirements specified within this manual are always encouraged.

This manual is supplementary to and in addition to the Supplier Agreement and is incorporated by way of reference to and in said agreement. Where this manual contains additional requirements or expectation, they shall be deemed to be a binding condition on the Supplier as though they were contained within the Supplier Agreement. Where a Supplier fails to meet the requirements of this manual it shall be deemed to be a breach of the Supplier Agreement.

1.2. Definitions and acronyms

a. Concession approval for deviation from the released drawing but restricted to a production lot or batch quantity only.
b. Production Permit approval for the supplier to effect changes to a manufactured product, by using an approved deviation from the latest released drawing. This remains in force until the revised drawing is released, the Production Permit will then cease to be in effect.
c. Engineering Change a technical requirement changes such as component dimension, process, material or finish that drives a change to the issue level of a drawing or Bill of Material (BOM).
d. PO Purchase Order
e. SQM Supplier Quality Manual
f. CofC Certificate of Conformity
g. QMS Quality Management System
h. APQP Advance Production Quality Planning
i. FMEA Failure Mode and Effects Analysis
j. PPAP Production Part Approval Process
k. MSA Measurement System Analysis
l. EMS Environmental Management System
m. OHSAS Occupational health and safety management system
n. SDS Safety Data Sheet
o. ESD Electrostatic Discharge
p. COSHH Control of Hazardous Materials and Substances
q. REACH Registration, Evaluation, Authorisation and restriction of Chemicals
r. CLP Classification and Labelling of Chemicals
s. SVHCs Substances of Very High Concern
t. ECHA The European Chemicals Agency
u. FAI First Article Inspection
v. FAIR First Article Inspection Report
w. FOD Foreign Objects Debris
x. NADCAP National Aerospace and Defence Contractors Accreditation Program
y. NCR Non-Conforming Report
z. Shall indicates a requirement
aa. Should indicates a recommendation

2. Supplier Code of Conduct

2.1. Legal compliance

Compliance with laws and regulations: We require our suppliers to act in in full compliance with the Supplier Agreement and accordance with applicable laws, regulations, statutes and rules in the respective countries in which they operate.

2.2. Ethical standards

Accurate records: Suppliers must record all business transactions accurately, prudently and transparently, in compliance with applicable accounting standards. Records and trade documentation shall be retained in a comprehensible and up-to-date manner based on the applicable retention requirements.

Confidential information: Suppliers must treat Acro confidential information with special care, protect and safeguard all confidential information provided by Acro and our respective business partners. Suppliers only may use it for the purposes for which it is provided and ensure that confidential information does not fall into the hands of unauthorised third parties.

Intellectual property: In line with the Supplier Agreement, Suppliers must observe intellectual property rights and safeguard proprietary information. Transfer of technology and know-how shall be done in a manner that protects intellectual property rights.

Data protection: Suppliers must handle personal data in line with the relevant legal standards. The laws passed to protect personal data including General Data Protection Regulation must be strictly observed.

Bribery and corruption: Bribery is not acceptable to Acro. We demand that suppliers adhere to anti-bribery and corruption law 'The Bribery Act 2010' and do not engage in any activities which would violate any applicable statute, directives and regulations relating to bribery, kickbacks, corruption, illegal payments and similar prohibited business practices.

Conflicts of interest: We expect suppliers to avoid all conflicts of interest or situations giving the appearance of a potential conflict of interest. Suppliers are expected to provide notification to all affected parties if an actual or potential conflict of interest arises.

Fair competition: We expect suppliers to conduct their business in line with fair competition and in accordance with all applicable anti-trust laws and competition regulations.

2.3. Employment standards

Child labour avoidance: Suppliers shall employ workers at least of minimum legal age, and in accordance with applicable law and regulations in the country of origin and conform to the provisions of the relevant International Labour Organization (ILO) standards. We do not tolerate child labour in our supply chain. Supplier shall maintain documentation of each individual's date of birth or have legitimate means of confirming each individual's age.

Voluntary employment: Supplier employs all employees on a voluntary basis and does not use any prison, slave, bonded, forced or indentured labour, or engage in any other forms of compulsory labour, or any other forms of slavery or human trafficking. We require our suppliers to comply with the Modern Slavery Act and flow down applicable requirements to your sub-tier suppliers to ensure that slavery and human trafficking is not taking place in any part of supply chain. Supplier shall inform Acro, and applicable government officials, of any credible information received from any source alleging an employee, subcontractor, subcontractor employee, or agent has engaged in conduct that violates the Modern Slavery Act, along with the actions taken against said employee, subcontractor, subcontractor employee or agent.

Non-discrimination and fair treatment: Suppliers must not discriminate against race, colour, sex, sexual orientation, gender reassignment, religion or belief, age, physical disability, political affiliation, or other defining characteristics. Supplier's terms and conditions of employment, including hiring, access to training, working conditions, compensation, benefits, promotions, discipline, termination or retirement, shall be based on the individual's qualifications, performance, skills, and experience.

Harassment: Suppliers shall provide their employees with a workplace free of harsh and inhumane treatment, without any sexual abuse, corporal punishment or torture, mental or physical coercion, verbal abuse of employees or any other form of harassment or victimisation. Supplier shall create a work place standard to maintain a means by which employees can openly communicate and share grievances with management, without fear of reprisal, intimidation or harassment.

Workers accident insurance: Suppliers shall provide accident insurance to all workers, covering medical treatment for work related accidents and compensation for work related accidents resulting in permanent disability.

Work hours, wages and benefits: Working hours shall not exceed the maximum set by the applicable law. Compensation paid to employees shall comply with applicable national wage laws and ensure an adequate standard of living. This includes minimum legal wage, overtime wages, and benefits (required by law). Suppliers are expected to provide their employees with fair and competitive compensation and benefits and pay employees in a timely manner.

2.4. Material compliance

Conflict Minerals: Suppliers are expected to ensure that products supplied to Acro do not contain metals derived from minerals or their derivatives originated from conflict regions that directly or indirectly finance or benefit armed groups. Suppliers shall exercise due diligence on the source and chain of custody of these minerals and make their due diligence measures available upon request. The rules reference the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

Raw materials: Suppliers are expected to source raw materials with responsible manners and respect for human rights and the environment. Suppliers shall evaluate the data in the test reports and validate the accuracy of test reports when raw material has been defined as an operational risk.

Counterfeit parts: Suppliers are expected to prevent the purchase and delivery of counterfeit parts, suspected counterfeit parts and parts from unapproved sources.

3. Commercial Requirements

Commercial requirements are included in the General Terms and Conditions of Purchase (SC-REQ-226) and in the Supplier Agreement (SC-REQ-429) or General Terms of Agreement (SC-FOR-678), when granted.

4. Quality Requirements

4.1. Management System

All suppliers are responsible for the development, documentation, implementation, and maintenance of a Quality Management System (QMS) that complies as a minimum with the ISO 9001 or AS 9100.

Suppliers are encouraged to become certified to the Environmental Management System (EMS) according to ISO 14001 or EMAS and Occupational health and safety management system (OHSAS) according to ISO 45001 or equivalent.

Calibration suppliers shall have a quality system that conforms to ISO/IEC 17025 or equivalent.

Conformity to the above standards shall be independently assessed and evidenced by an accredited third-party certification body.

Suppliers shall work only within the scope of approval and inform Acro of any changes to approvals including lapse or withdrawal.

If a supplier is requested by Acro to deliver product outside of the Suppliers Scope of Approval, Acro are to approve method of manufacture before supply begins and an audit by Acro may be required. This should only be for development, validation or first batch runs. An example may be using Rapid Prototype tooling while a permanent solution is sourced.

The Supplier must inform Acro of any major change to the Suppliers QMS. Examples may be change of company signatory or loss of certification voluntarily or otherwise.

4.2. Suppliers Performance

Consistent product Quality: Zero-defect products are required from suppliers to Acro. Any deviation from this will result in rejection and return of the product to the supplier.

On-time delivery: As per the Supplier Agreement Acro requires all Suppliers to provide goods and services on-time in full according to the agreed acknowledge date as stated in Purchase Order as per General Terms and Conditions of Purchase and individual contracts between Acro and the Supplier. Unauthorised early deliveries, late deliveries, partial deliveries or over shipments are unacceptable.

Capability and capacity: Suppliers are expected to have the resources necessary (people, property, facilities, equipment, and materials) to supply the products required to accommodate Acro production schedule.

4.3. Control of sub-tier suppliers

The Supplier is the recipient of the Supplier Agreement / PO and is responsible for meeting all requirements, including work performed by the sub-tier suppliers.

When the Supplier uses sub-tier sources to perform work on products or services scheduled for delivery to Acro, the Supplier shall flow-down to its sub-tiers, all relevant quality requirements imposed by this manual and other contractual document, including all applicable technical requirements, drawings, specifications, PO requirements and regulatory requirements.

Acro reserves the right to specify or approve sub-tier suppliers (including visits or audits) if Acro deem it necessary. This includes but is not limited to process sources (e.g. special process), materials testing services, distributors, and other subcontractors.

The Supplier shall apply appropriate controls to their sub-tier external providers and determine the verification, or other activities, to ensure that requirements are met. This includes but is not limited to inspection of purchased parts upon receipt, inspection and audit at the sub-tier premises (including source inspection), review of the required documentation.

4.4. Personnel awareness and competencies

The Suppliers shall ensure that all persons, performing work affecting conformity of product, performance or effectiveness of management system, have sufficient competencies (based on appropriate education, training, or experience) to fulfil the work to the required quality level.

The Supplier shall implement competence management (e.g. monitoring of skills, frequent and repetitive trainings, succession planning, qualification matrix). The Supplier shall retain appropriate documented information as evidence of competence.

The Supplier shall ensure that persons doing work under its control are aware of their contribution to product or service conformity, and their contribution to product safety and the importance of ethical behaviour.

4.5. Product safety

In all instances it is important that Supplier and Acro allocate responsibility for assuring that all performance, endurance, maintenance, safety and warning requirements are met.

The Supplier shall plan, implement, and control the processes needed to assure product safety, which may include, but is not limited to: the assessment of hazards and mitigation of associated risks, the management of safety critical items, the analysis and reporting of occurred events affecting safety, communication of these events and training of personnel.

4.6. Counterfeit parts

The Supplier shall prevent the purchase of counterfeit parts and parts from unapproved sources, prevent the delivery of counterfeit parts and control parts identified as counterfeit or suspected to be counterfeit. Further guidance can be found in SAE AS 5553.

The Supplier shall notify Acro of any suspected components used in our designs immediately upon discovery, irrespective of whether parts are suspected to be delivered to Acro or not.

All occurrences shall be investigated, documented and reported as appropriate, to Acro, your supply chain, government reporting organizations (e.g. GIDEP, FAA, CAA), industry supported reporting programs (e.g. ERAI), and criminal investigative or law enforcement authorities.

Confirmed Counterfeit Parts shall not be reintroduced into the supply chain, restocked nor returned to the manufacturer in a stock rotation.

The Supplier shall flow down requirements regarding prevention of counterfeit parts to sub-tier suppliers, assure traceability of parts and components and retain the documented information necessary to enable traceability.

4.7. Raw materials

The Supplier shall ensure the ability to trace all products manufactured from the same batch of raw material. In those cases where the Supplier elects to use more than one lot of raw material, the Supplier shall ensure, document and furnish positive traceability of each individual product to the raw material certification / test report that represents the raw material from which each of the products was manufactured. Traceability shall be provided by identifying the raw material lot, batch or melt number from the certification / test report.

The Supplier is required evaluate the data in the test reports and verify the correct material type prior to fabrication of product.

The Supplier shall perform and document periodic validation of the accuracy of test results for raw materials, when raw material has been defined as an operational risk.

Raw materials (including metallic materials e.g. forgings and castings and non-metallic materials) supplied to Acro shall include a copy of the material certificate or material test report from a test laboratory.

The Supplier is encouraged to procure raw material from original manufacturer or from aerospace approved distributor (AS 9120 – the standard for stockists and distributors of parts to manufacturers that supply the aerospace industry).

4.8. Shelf life

Each delivery of age sensitive materials shall have the expiration date or shelf life clearly labelled on the incoming goods and on the incoming paperwork.

A lot number or batch number shall be identified on C of C and when applicable information of any special handling or storage requirements shall be provided.

Goods shall not be supplied with a shelf life lower than 6 months without prior written consent from Acro.

4.9. Foreign Objects Debris (FOD)

The Supplier should handle parts through production and packing to ensure that product delivered to Acro is controlled in a manner that will prevent FOD from being introduced into the final product.

FOD prevention shall be implemented in all areas as applicable. Parts must be protected from handling damage in all areas, material handling awareness training shall be provided to employees and handling standards documented.

The Supplier shall ensure that all tooling, fixtures, jigs, test equipment and handling equipment are maintained in a state of cleanliness and repair sufficient to prevent FOD.

4.10. Special processes

The Supplier shall establish procedures for controlling special processes including but not limited to: criteria for review and approval of processes, determination of conditions to maintain the approval, approval of facilities and equipment, qualification of persons, monitoring the processes, requirements for documented information to be retained. This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered or that requires destructive testing to validate, e. g.:

a. Chemical Processing e.g.: anodizing, chemical cleaning, chemical milling, conversion / phosphate coatings, pint / dry film coatings, plating, stripping, surface treatment / passivation, etching.
b. Coatings, painting and corrosion protecting e.g.: thermal spray, diffusion coatings, vapor deposition, stripping of coatings, heat treating of coated parts, dry film lubrication of coated parts, plating of coated parts.
c. Composites e.g.: compression moulding, core processing, liquid resin processing, metal bonding, prepreg / adhesive bonding / resin film infusion.
d. Elastomer Seals
e. Heat Treating e.g.: normalizing, annealing, hardening and tempering, aging, carburizing, nitriding, stress relieving, brazing, hot forming.
f. Materials Testing laboratories
g. Non-Destructive Testing e.g.: liquid penetrant testing, magnetic particle testing, ultrasonic testing, radiographic testing, eddy current testing, digital radiographic testing.
h. Sealants e.g.: adhesion promoters' coatings and coating process peel panels, shear specimens, tensile bars, polyurethanes silicones.
i. Electronics e.g.: wire crimping
j. Welding e.g.: torch / induction brazing, flash welding, electron beam welding, resistance welding, fusion welding, laser welding, ultrasonic welding, friction welding, percussion stud welding.
k. Conventional Machining e.g.: hole-making, broaching, milling, turning, grinding, edge treatment.
l. Nonconventional Machining & Surface Enhancement

Acro reserve the right to specify when special processes are to be performed by a NADCAP approved Supplier. For special processes that requires NADCAP accreditation, the Supplier shall retain a certificate of conformance verifying the Special Process was performed by a NADCAP accredited source with each shipment.

For special processes that does not require NADCAP accreditation, process shall be conducted in accordance to the Specification or Standard quoted on the drawing.

4.11. Tooling, machines and measuring equipment

Equipment and tools used to automate, control, monitor, or measure production processes shall be validated prior to final release for production and maintained and stored in appropriate manner.

All tooling, equipment and machines shall be properly labelled. The Supplier shall have a process to monitor the condition of tooling, equipment and machines on a regular basis to ensure that items remain serviceable and are maintained in a state of cleanliness and free from FOD. A preventative maintenance plan shall be in place to determine potential high impact or high probability breakdowns, to ensure that equipment remains available to meet Acro delivery requirements.

The Supplier shall have a process for the retention of tooling to provide necessary after delivery life support, e.g. warranty claims, spares.

The Supplier shall control the calibration of all measuring and test equipment against measurement standards traceable to international or national measurement standards (e.g. ISO/IEC 17025).

A register of the monitoring and measuring equipment, including: the equipment type, unique identification, location, the calibration or verification method, frequency and acceptance criteria shall be maintained.

Certificate or record of calibration shall include the following: equipment type, identification number, manufacturer, calibration date, calibration due date, range of measurement, standards or instructions used, acceptance criteria / tolerance, measurement results, environmental conditions.

The Supplier shall determine if the validity of previous measurement results has been adversely affected when measuring equipment is found to be unfit for purpose and shall take appropriate action as necessary.

The Supplier shall maintain a list of all Acro owned assets under its control. These should be clearly and indelibly marked as Property of Acro.

4.12. Non-deliverable software

The Supplier shall control non-deliverable software (e.g. CNC programs) related to the manufacturing, design, fabrication, inspection or test of deliverable articles to Acro. Change of programming or updating of software used to control the production of parts manufactured shall be controlled and included in process change notification and First Article Inspection.

4.13. Obsolescence

The Supplier should consider the potential consequences of obsolescence (e.g., materials, processes, components, equipment, products), including but not limited to:

Technical obsolescence: May occur when a new product or technology supersedes the old, and it becomes preferred to utilise the new technology in place of the old.

Functional obsolescence: Items may become functionally obsolete when they do not function in the manner that they did when they were created. This may be due to natural wear, or due to some intervening act. Products which naturally wear out or break down may become obsolete if replacement parts are no longer available, or when the cost of repairs or replacement parts is higher than the cost of a new item.

Knowledge obsolescence: Loss of personnel expertise, relevant knowledge and skill-based sets can be a matter of obsolescence. It may be prevented by competence management: monitoring of skills, frequent and repetitive trainings, succession planning, qualification matrix.

The Supplier is encouraged to apply proactive and reactive approach concerning obsolescence management:

Proactive: Development and implementation of an obsolescence management program.

Reactive: React to obsolescence problems as and when they occur.

4.14. Records

The Supplier shall establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records.

Unless otherwise specified by Acro, quality records shall be retained for a minimum period of seven (7) years from the date of delivery to Acro.

Quality records shall be kept and maintained (and back up in the case of computer records) to be reasonably protected from fire, smoke or water damage to facilitate the traceability of each delivery of goods from its delivery note number, to its C of C, to the manufacturing batch and associated inspection records and to the raw material certificates, delivery notes and identities of your supplier(s) of such raw materials.

Records retained by the Supplier must be complete, legible, identifiable to the corresponding product and stored and maintained in such a way that they are readily retrievable.

The Supplier shall be capable of retrieving and delivering required records to Acro within 5 days of receipt of written notice or in exceptional cases relating to an airworthiness investigation within one working day.

Upon expiry of 7-year term, the Supplier shall offer Acro the opportunity to collect records prior to their destruction or discarding.

4.15. Change management, production permits and concessions

The supplier shall notify Acro of changes to processes, products, or services, including changes of suppliers or sub-contractors, raw materials or location of manufacture, and obtain Acro approval. The Supplier is required to make your request in writing with the details of the proposed changes at least ninety (90) days before its implementation or as soon as practical. No changes will be accepted unless Acro agree to the change in writing.

Acro reserve the right to re-qualify any parts due to any above-mentioned change or failure to notify us in the event of a change. At our request, the Supplier shall provide samples of product produced with the proposed change to test in our manufacturing process prior to shipment of any such product.

The Supplier shall not without our prior written consent, assign, transfer or sub-contract the Order or part of the Order (including plating/finishing) to any third party. Where the Supplier uses sub-contractors, the Supplier shall first seek Acro consent in writing. Notwithstanding Acro consent, the Supplier is responsible for assessing sub-contractor's competence and for ensuring continued adherence to quality standards and relevant specifications.

Any Engineering Changes, Concessions and Production Permits at Acro are proceeded according to procedure SC- PRC-318 – Engineering Change (EC) Implementation of Drawing changes, Concessions and Permits with Suppliers.

The process is aimed to ensure that Suppliers are provided with the latest revision level of drawings, and supply product with authorised deviations from released drawings using Concessions and Production Permits. The Operational Buyer will ensure a copy of the Concession or Production Permit is provided to the Supplier. In the case of open POs, the Supplier representative will be issued with a list of affected POs. The delivered products shall be inspected in line with any Concession details, including validity period.

Supplier shall not ship parts that do not meet drawing specifications unless is granted with a valid concession. The Supplier shall quote the Concession number on delivery documentation, including C of C and FAI Report.
Non-conforming product shall never knowingly be shipped to Acro without Acro approval.

The Supplier is responsible for the timely and effective flow down of any notices, changes, concessions, production permits or any variations to our POs to any sub-tiers.

4.16. New product introduction and production control

Acro reserves the right to require from the Supplier the implementation of Advanced Quality Planning (APQP) approach in accordance to AS 9145 during the introduction of new products into production.

Acro reserves the right to require from the Supplier the submission of PPAP form and relevant supporting documents (e.g. design records, DFMEA, process flow diagram, PFMEA, Control Plans, MSA, initial process studies, packaging, preservation, labelling, FAI). PPAP form shall be compliant with AS 9145 (Acro form QA-FOR-527 may be used for this purpose, if required). The Supplier is responsible for the creation and maintenance of mentioned documents, operator work instructions or SOPs and associated route cards or travellers.

4.17. Key characteristics

Acro reserves the right to identify product key characteristics on design data (e.g. drawings). When this is applied, the Supplier shall ensure that this data is effectively flow down to the supply chain and a methodology to identify and manage process key characteristics, including, but not limited to those defined by Acro design shall be defined. The following shall be taken into consideration: process implications, tools implications, manufacturing capabilities, previous failures & in-service experience, scrap rates, returns rate, PFMEA (Process Failure Mode Effects Analysis). Process key characteristics may be defined by the Supplier even when Acro design has not defined them.

4.18. Finish standard

Where applicable, the Supplier shall follow Acro Cosmetic Guideline Document (QA-PRC-193) as a requirement for finish / visual inspection standard and cosmetic acceptance criteria applicable to materials, assemblies and surfaces delivered to Acro. This standard does not include fit, form or function requirements.

5. Verification and Validation Requirements

5.1. First Article Inspection (FAI)

The Supplier shall use a representative item from the first production run of a new part or assembly to verify that the production processes, production documentation, and tooling are capable to produce parts and assemblies that meet drawing requirements. FAI shall provide objective evidence the Supplier's processes can produce compliant product and that associated requirements are understood and incorporated.

Any First Article Inspection (FAI) performed, and any First Article Inspection Report (FAIR) provided to Acro shall meet requirements of AS 9102 (Aerospace First Article Inspection Requirement).

A FAIR is required for each new part produced, change of process or machinery and location of production. FAI shall be repeated when changes occur that invalidate the original results. The Supplier shall perform a full FAI or a partial FAI for affected characteristics, when any of the following occurs:

- a change in the design characteristics affecting fit, form or function of the part
- a change in manufacturing source, process, inspection method, location of manufacture, tooling, or materials that can potentially affect fit, form, or function
- a change in numerical control program or translation to another media that can potentially affect fit, form, or function
- a natural or man-made event, which may adversely affect the manufacturing process
- an implementation of corrective action required to complete a previous FAI
- a lapse in production for two (2) years

A FAIR report (compliant to AS 9102) and a C of C must accompany the physical product with a copy emailed to the qainspector@acro.aero and fair@acro.aero address.

Goods delivered to Acro missing the appropriate documentation i.e. C of C, FAIR, Material Certificates and if required Flam Tests, will be quarantined or returned to supplier at their cost.

FAI Report (QA-FOR-054) has three parts requiring completion. Failure to complete all sections correctly will result in parts or assemblies being rejected and returned to supplier and may impact supplier performance metrics. Further guidelines of how to complete the FAI Report may be seen in QA-SOP-535 (Guidelines of FAIR).

Supplier shall never knowingly ship non-conforming product to Acro without Acro approval. Supplier shall not ship parts that do not meet drawing specifications, unless is granted with a valid concession quoted on the delivery documentation and FAI Report.

FAI documentation shall be considered a quality record. The Supplier shall retain the appropriate FAI documentation while the product is being produced and, retain them according to records retention requirements. Supplier may use Acro template QA-FOR-054 First Article Conformance Form. The form shall be obtained by Acro Quality Department (qainspector@acro.aero).

5.2. Source inspection

Supplier's products or services may be subject to source inspection by Acro, representatives of Acro customers, applicable government or regulatory agencies. Source inspection requirements may be a result of the Supplier's quality performance or other mandates. The Supplier shall provide the necessary access, equipment and resources required to effectively accomplish the source inspection, auditing, approvals, checking progress and carrying out or witnessing tests or inspection procedures to Acro or our nominated representatives. Such tests and inspection as we may carry out shall not in any way diminish, affect or impair suppliers' obligations. At Acro request, supplier shall provide test samples for design approval, inspection, verification, or auditing. Cost of such services may be the responsibility of the Supplier.

5.3. Outgoing product inspection

Prior to delivery of any goods to be provided under the PO, the Supplier shall inspect and test the goods for compliance with the PO and in assessing their fitness for use. The Supplier must implement sufficient controls (e.g. Control Plans) to ensure that the product to be shipped conforms to Acro physical, dimensional and visual requirements.

These controls may include final inspection, FAI as required and audit (component and packaging). Acro shall be deemed to rely on Suppliers' skills and judgement, save where the Goods are manufactured to drawings.

Record of the appropriate inspection, to verify adherence with the PO and associated drawings must be kept and the Supplier shall provide certified copies of records of such inspection and tests free of charge.

At our request, the Supplier will provide instructions for product acceptance and information on statistical techniques used during the process for our acceptance.

Surface finish boundary samples and working samples requires agreement with Acro against customer agreed specification. i.e. gloss, Ra etc.

The supplier shall ensure they can meet the drawing requirements and ensure they have the capability i.e. Ra, gloss, colour equipment etc. to meet drawing requirements.

5.4. Sampling plan

The Supplier may use reduced-frequency (sampling) inspection plans only when historical records indicate that a reduction in inspection can be achieved without jeopardising the level of quality.

The Supplier shall ensure that sampling inspection is in accordance with nationally accepted standards and based on recognized statistical principles.

The supplier shall record measurement data (these points shall be agreed with Acro Supplier Quality Engineer) and processing data results against each batch.

Sampling may not be used to justify the existence of known defectives or discrepancies in a lot.

6. Delivery Requirements

6.1. Product release

The release of products to Acro shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved. Release documentation shall include evidence of conformity with the acceptance criteria and traceability to the person authorising the release.

Refer to FAIR process 5.1 and approval from Acro Quality Assurance to enable product release.

The Concession number must be quoted on the release documentation, and where applicable, the part marked after the method has been agreed. Failure to observe these requirements will result in rejection.

6.2. Certificate of Conformity and delivery documentation

The Supplier shall ensure that all documented information required to accompany the products and services are present at delivery.

The Supplier shall provide a printed delivery note clearly stating Acro PO number and special processes applied to the product. The Supplier shall also include a C of C with any goods delivered.

The Certificate of Conformance shall include as a minimum:

Date:	Date the certificate is created
Purchase Order No:	Acro PO number
Delivery No:	A number uniquely identifying the C of C and cross referring to the relevant delivery note
Description:	Description of the part
Part No:	Part Number as set out on our Drawings and referenced on our PO
Issue:	Drawing Issue number as set out in our Drawing and referenced on our PO
Batch No or Date of Manufacturing:	Your internal manufacturing batch number or date of manufacture
Produced by:	The full name of your legal entity

and a signed statement including the name of the individual who is signing, substantially similar to:

"I certify for and on behalf of [insert name of your legal entity] that the above articles have been manufactured and inspected in accordance with our quality assurance procedures; and that the materials, processing, production, part marking, control and inspection of the above parts conform in all respects to the relevant drawings."

Raw materials shall include a copy of the material certificate or material test report from a test laboratory.

Chemical substances and mixtures shall include updated Safety Data Sheet (SDS).

Where applicable, the Supplier shall provide EASA Form 1 or FAA 8130 release documentation as stipulated under your approval.

Each First Article will be submitted with the supporting First Article Inspection Report (FAIR) and a C of C as per point 5.1. of this SQM. A re-issue of the FAIR will be required for all series production parts that have not been manufactured for two (2) years following the date of the last manufacture. A copy of FAIR must accompany the physical product with a copy emailed to the qainspector@acro.aero address.

Goods delivered to Acro missing the appropriate delivery documentation, C of C, FAIR, SDS, Material Certificate will be quarantined.

6.3. Part marking and labelling

All goods shall be indelibly marked or bagged and labelled with the part number, batch number and issue number of the relevant drawing and your manufacturing batch number, unless other stated on the drawing. All part marking, and labelling must be complete and legible. The position of part marking as shown on the relevant drawing or otherwise agreed with Acro Engineering.

All components require Part Marking in accordance with approved design data and batch traceability. Type, location, and durability of marking is to conform with Acro requirements drawing no 10144 latest issue. In case of doubts, it is the responsibility of the supplier to seek approval from Acro Engineering as to method.

6.4. Packaging and shipping

All parts delivered to Acro shall be correctly packaged according to the agreed packaging specification. When a packaging direction is not provided by the engineering drawings, packaging specifications or PO, the Supplier shall ensure appropriate packaging to prevent damage, contamination, deterioration, corrosion, loss and other risks during transportation and storage that comply with common industry practices. Metal to metal contact shall be avoided at all cases.

The Supplier is responsible for the packaging of the goods in a manner that is safe and suitable for damage free transit at no additional cost to Acro unless otherwise specified in the PO or contract.

The Supplier is encouraged to consider the use of environmentally, economically viable and reusable packaging (returnable containers) that is in no way detrimental to the integrity of the products supplied. It is the responsibility of the Supplier to collect returnable packaging.

7. Post-delivery Requirements

7.1. Non-conforming product and rejects

The Supplier shall inform Acro immediately upon discovery of any failure, malfunction or defect in any raw material used in production, product, part, process or article produced and already delivered to Acro and any occurrences of

counterfeit or suspected counterfeit parts used. A notification of escape shall be made to Acro and shall be completed in writing, and addressed to the relevant:

- part numbers affected
- delivery dates and batch numbers of product affected
- details of the root cause of the fault
- details of the corrective actions taken by the supplier to rectify the fault.

If Acro identify during the incoming inspection or at any stage of the production process, that goods or services do not comply with the PO or any other conditions of purchase are broken or not complied, Acro will reject the goods or services. In such cases a Non-Conforming Report (NCR – form number QA-FOR-015) or problem solving 8D report (form number QA-FOR-016) will be send to the Supplier.

The Supplier is required to arrange for the prompt collection of the rejected goods within five (5) working days of notification. Initial response with initial containment must be completed by the Supplier and returned latest within 24 hours, long-term actions must be defined and reported within seven (7) calendar days unless otherwise agreed. The supplier is expected to implement all necessary actions to close NCR or 8D within thirty (30) calendar days unless otherwise agreed with Manufacturing Quality Department (qainspector@acro.aero).

Any rework or repairs to rejected part must be conducted in a controlled manner that assures that the reworked or repaired products meet Acro specifications and requirements. Written instructions should detail the rework or repair. The reworked or repaired goods must be re-inspected prior delivery to Acro, to ensure that corrected product conforms to the requirements.

When a supplier produces a non-conformance that they believe will be acceptable under a concession, this concession request shall be applied for in writing to Acro.

7.2. Poor performing suppliers' management

Poor performing suppliers will be managed in accordance to the Supplier Agreement and Acro internal procedure (SC-PRC-306 – poor performing suppliers and problem resolution). All active approved Suppliers are reviewed for their delivery, compliance and quality performance on a monthly basis.

Where parts have been issued to production and subsequently do not meet the part requirements for specification, fit or function, these will be recorded via NCR process.

Components or parts that have failed in service and are reported by the customer to the Customer Support Team will be subjected to 8D Root Cause Analysis.

For repeatable occurrences of missed OTIF or poor product quality, Acro will launch a supplier 8D to establish route cause for failures.

It is the responsibility of the supplier to manage 2nd or/and 3rd tier suppliers to ensure that all drawing requirements are met.

Inspection and testing of part to drawing requirements is the responsibility of the supplier.

The review of the problem suppliers and the resulting outcome of the improvement plans, will determine the supplier strategy which falls into the following:

Develop: develop supplier relationship
Maintain: sustain current business levels but do not award new products
Exit: exit supplier in a controlled manner and do not use

7.3. Cost of poor quality

As per the Supplier Agreement Acro reserves the right to charge back to the Supplier expenses incurred as result of a poor supplier quality (late delivery, missing, incorrect, incomplete documentation, dimensional discrepancies, shipping of non-conforming goods etc.). Any expenses generated by scrapped parts, customer or Acro charges, expedited freight etc. are the Supplier's responsibility.

If Acro labour is required for inspection, sorting Suppliers parts or other activities to maintain production, keep it free from defective components or meet customer requirements, Acro reserve the right to charge the supplier at an hourly labour rate. Additionally, Acro reserves the right to recharge delivery fees at Cost + 15% for handling and administration. If a supplier defect causes Acro finished product to be reworked or scrapped, all charges incurred will be the responsibility of the Supplier. All other related costs will be charged to the Supplier including eventual costs from Acro customer.

7.4. Spares

During the product life cycle period, the Supplier may be involved in providing spare parts to Acro or our customers. The Supplier shall ensure the availability of suitable resources to provide customer support for all the after sales activities and establish a process to ensure, for the defined and agreed product life cycle, the availability of spare parts. Spare parts may be of the same product configuration or coming from alternative solutions which have been developed, validated and qualified.

8. Environmental, Health and Safety Requirements

Suppliers shall ensure that the working conditions and environment are controlled as appropriate in respect to cleanliness, temperature, humidity, ventilation, lighting, space, noise, air pollution and protection from Electrostatic Discharge (ESD).

Suppliers shall comply with relevant health and safety and environmental legislation, including requirements of REACH and CLP and apply special conditions for control of hazardous materials and substances (COSHH).

Suppliers shall not deliver to Acro products containing substances listed in Restricted Substance List on REACH annex XVII and shall provide a declaration of use Substances of Very High Concern (SVHCs) listed in Candidate List on ECHA (The European Chemicals Agency).

Suppliers providing to Acro chemical substances and mixtures are required to deliver updated Safety Data Sheet (SDS) in accordance with regulatory requirements.

Suppliers are recommended to establish an OHSAS (e.g. ISO 45001) and EMS (e.g. ISO 14001) as per clause 4.1. of this Supplier Quality Manual.

Suppliers shall ensure that all persons, performing work under suppliers' control are aware of adequate environmental and health and safety responsibilities and requirements.

9. Contingency plans and business continuity

Suppliers shall have a business continuity plan which would allow for the safeguarding, storage and recovery of engineering drawings, electronic media, and production tooling in the event of damage or loss.

Supplier shall prepare and implement contingency plans ensuring the continued flow of material to Acro is secured in the events of an emergency, such as: significant utility interruptions, interruptions in the supply chain, key equipment failure, labour shortages and field returns.

Contingency plans should take into account the output of the resource analysis and include as appropriate succession plan e.g. a deputy list.

It is recommended to periodically validate and test and regularly reviewed and improve contingency plans.

10. Compliance, Capability and Capacity monitoring

To monitor supplier's compliance with Acro requirements included in this manual, we will carry out due diligence and audits of our supply chain. Acro reserves the right to conduct announced and unannounced on-site independent third-party audits of supplier's facilities, operations, books, and records and conduct confidential worker interviews in connection with such audits.

You will grant a right of access at all reasonable times for the purpose of auditing, approvals, checking progress and carrying out or witnessing tests and / or inspection procedures to us and to our nominated representatives (including airworthiness authorities, certification bodies and customers). You agree to allow and to cooperate with our reasonable requests to conduct audit and to obtain similar rights of access to any sub-contractors or sub-tier suppliers.

Upon receipt of any unsatisfactory audit results and supplier's failure to implement recommended corrective actions, Acro reserves the right to suspend any purchases from supplier until corrective actions are implemented, or to terminate its relationship with supplier.

The supplier will periodically be audited against capacity and capability, this will be to ensure our supply base can meet current and future demand. The supplier will need to demonstrate how they plan to meet all their customer's demands including the Acro demand. The audit duration can take up to three days, so suppliers need to ensure they can accommodate these requests.

The supplier shall allow reasonable time for any visitor from Acro for monitoring or problem resolution activities.

11. Revisions

Iss.	Am.	SECTION	CHANGES MADE	DATE
01	00	N/A	First revision & release of the Supplier Quality Manual	02/03/2018
02	00	4.10 5.1 6.3 7.1 12	Special processes – in accordance with the Spec. quoted on draw. FAI – add Acro template number & refer e-mail address to Acro QA Part marking – add unless other stated on drawing NCR – add Acro doc. reference numbers and e-mail to Acro QA Associated documents – add NCR form, CAR form and FAI form	05/06/2018
03	00	4.1 4.7 4.16 4.17 4.18 5.1 5.3 5.4 6.3 12	Changes in 4.1 Management system Changes in 4.7 Raw material New chapter 4.16. NPI and production control New chapter 4.17 Key characteristics New chapter 4.18 Finish standard Changes in the 5.1. First Article Inspection (FAI) Changes in 5.3. Outgoing product inspection Changes in 5.4. Sampling plan Changes in 6.3. Part marking and labelling Additional attachment in chapter 12 Add in the packaging section information that metal to metal contact shall be avoided at all cases	09/08/2019
04	00	All	Reformatted Template reference rebranding. Updated Brexit changes impacting Acro Approvals Updated document with site change amendments, address, telephone number etc.	26/01/2021
05	00	Pg 1. Pg. 2	Updated front page with S6 & S7 image Updated Acro values, vision and mission statement	09/09/2021

12. Associated documents / templates

Associated documents are available on request from Acro Buyers or Manufacturing Quality department:

- SC-REQ-226 – General Terms and Conditions of Purchase
- SC-REQ-429 – Supplier Agreement
- QA-PRC-193 – Cosmetic Guideline Document
- QA-FOR-015 – NCR Form
- QA-FOR-016 – CAR Form (8D Corrective Action Form)
- QA-FOR-054 – First Article Conformance Form
- QA-FOR-527 – Production Approval (NPD) Form
- QA-SOP-535 – Guidelines for FAIR
- Drawing 10144

Thank you

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