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	CHANGE HISTORY				
Revision	Date	ECN Number	Section	Paragraph	Description
			See Windchill fo	or Revision Hi	story
D	15-Dec-21	25535	Various	Various	Clarification of existing requirements and the addition of AS13100 requirements
			Header	N/A	Addition of AS13100 Reference Clause 8.4
			4	N/A	Addition of APQP and PPAP
E	02-Jun-22	27169	Quality Management System Requirements Measurement, Analysis and	Paragraph 1 Paragraph 3	Addition of AS13100 Supplier Types and QMS requirements Addition of APQP/PPAP requirements
			Improvement All	All	Formatting updates
F	<mark>21-Oct-24</mark>	<mark>30686</mark>	General Requirements	N/A	Addition of SQS Code of Conduct; Supplier Performance updates; addition of clarifications to Supplier Type table, FOD Program, Handling & Packaging and Shipping Documentation Requirements.

#### **1.0 REFERENCES**

n:
ction Requirements
s – Requirements for Aviation, Space, and Defense
s – Requirements for Aviation, Space, and Defense
Requirements for Aero Engine Design and Production
g Acquisition of Authentic and Conforming Materiel
Avoidance, Detection, Mitigation, and Disposition
s - Requirements
e Competence of Testing and Calibration Laboratories
nse Contractors Accreditations Program
) Prevention Program Requirements for Aviation,
tions.
r Quality Survey
ance of AEC Specification by Supplier/Customer

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01007121	L4-01007121_FORM_Request for Deviation/Waiver
MPC	Material Procurement Card as defined by AEC Material Number and Revision

## 2.0 PURPOSE

The purpose of this document is: to provide a guideline to Albany Engineered Composites (AEC) Suppliers of the basic expectations regarding the Supplier's quality management systems, design requirements and manufacturing process controls required for doing business with AEC.

## 3.0 SCOPE

This document applies to all Suppliers providing AEC with materials, products, processing and related services, including intra-company Suppliers.

The general requirements contained within this manual do not supersede conflicting information found on contract or drawing. Those items take precedence.

In this manual, the terms "shall" and "must" indicate mandatory actions; "should" signifies actions that are necessary and expected, allowing for some flexibility in how to comply; and "may" denotes actions that are permissible or discretionary.

Questions concerning this manual should be directed to your respective AEC Buyer.

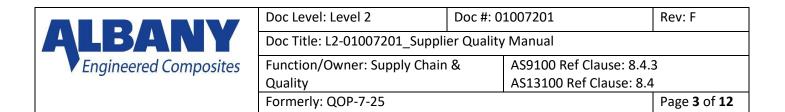
Term / Acronym	Definition
AEC	Albany Engineered Composites
MPC	Material Procurement Card
CA	Corrective Action
MRO	Maintenance, Repair and Overhaul
QN	SAP Corrective Action System for Supplier Corrective Action Requests
APQP	Advanced Product Quality Planning
PPAP	Production Part Approval Process

## 4.0 ACRONYMS / DEFINITIONS

#### **5.0 RESPONSIBILITIES**

Title	Responsibility
Quality Director	Responsible for maintenance of this document
Supply Chain	Provide Supplier with copy of document and updates.
Supplier (External	Comply with this procedure and the complete text of purchase orders. Supplier
Provider)	(External Provider) shall be required to furnish all request documentation at time of
	shipment.

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# **General Requirements**

## Applicability:

All Suppliers are to fully comply with the stated requirements of this manual. Individual waivers on certain elements may be granted at the discretion of Albany Engineered Composites, contact your buyer to document this process. All Suppliers shall provide all documentation in the English language only.

These general requirements do not apply to MRO purchases of material and services such as paper, cleaning, supplies and consumables that do not form a part of the product delivered by AEC to its customers.

## **Right of Access:**

Suppliers shall provide access to their premises and facilities for AEC, our customers and regulatory authorities for co-operation on product, process and business issues, including all subcontractors or sub-tier Suppliers and all applicable quality records.

Notifications shall be addressed to the attention of the quality director via your buyer. If access restrictions are identified (i.e. ITAR controls), AEC shall develop a risk analysis and mitigation plan to be implemented with the Supplier.

## **Notification of Organization Changes:**

Changes to the Supplier's organization that may affect quality and/or finance, shall be communicated to the AEC Buyer, for approval. (Examples include; changes to key personnel, processes, products, certifications, or services, including changes to external providers or location of manufacture).

## Purchase Order Requirements:

The Supplier shall adhere to all purchase order terms and conditions and any stated special instructions. The PO is the controlling document and overrides any requirements specified in this document. Terms and conditions are located on the AEC Supplier site.

http://www.albint.com/en-us/company/Pages/Suppliers.aspx

## Industry Standards:

AEC will not provide copies of copyrighted industry standards (AMS, AS, NAS, etc.)

Suppliers may obtain copies of industry standards from the agency that controls the standard.

## **Specification Exceptions:**

If an exception is required on a specification, utilize Form L4-01007120 Acceptance of AEC Specification and submit to the AEC buyer.

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## **Responsibility for Product Conformance:**

AEC and its customers expect Suppliers to deliver and certify material that is 100% compliant with all the purchase order requirements.

Suppliers and their sub-tier Supplier(s) shall be responsible for quality, reliability and safety of their products/services to meet all fit, form, function, industry and regulatory requirements.

AEC reserves the right to reject any deliverable that does not meet fit, form, function, industry, regulatory, and company requirements

#### **Communications:**

All communications related to the fulfillment of purchase order(s) shall be carried out through the AEC Purchasing Organization.

AEC Quality reserves the right to contact Suppliers and their sub-tier Supplier(s) for all quality related questions, issues, request for failure analysis, corrective actions or any related quality concerns.

## Protection of AEC Technology and it's Customer's propriety information:

Any information the Supplier receives from AEC must be kept confidential and not disclosed to any third party without the prior written agreement with AEC. Proprietary information can include but is not limited to all versions of electronic data, drawings, documentation, tooling, and materials.

#### **Counterfeit Parts Prevention:**

Supplier shall plan, implement, and control counterfeit part prevention processes in accordance with AS6174 or AS5553 as applicable, which includes notification to the AEC Buyer within three working days of confirmation of counterfeit material.

Supplier represents and warrants that only new and authentic materials are used in products required to be delivered to Albany Engineered Composites and that the products delivered contains no counterfeit parts. No other material, part, or component other than a new and authentic part is to be used unless approved in advance in writing by AEC.

To further mitigate the possibility of the inadvertent use of counterfeit parts, Supplier shall only purchase authentic parts/components directly from the original equipment manufacturers (OEMs/OCMs) or through the OEMs/OCMs authorized distribution chain.

Supplier must make available to AEC documentation that authenticates traceability of the components to that applicable OEM/OCM. Purchase of parts/components from independent distributors is not authorized unless approved in writing by AEC procurement.

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Supplier shall flow the requirements of this document to its subcontractors and Suppliers at any tier for the performance of this contract/purchase order.

#### Material Obsolescence:

The Supplier shall notify the AEC Buyer when made aware of a material obsolescence as soon as the information becomes available. The expectation is to provide at least 6 months notification prior to the cutoff date that an order will be accepted from AEC. Action plans to address obsolescence may include, but are not limited to lifetime buys or product re-designs.

## Supplier Assessment/Qualification

#### Supplier Quality Survey:

A Supplier Quality Survey (SQS), Form L4-01045714, shall be completely filled out for Suppliers who are not certified to AS9100, ISO9001, or ISO17025.

For Suppliers with third-party accreditations the front page of the Supplier Quality Survey must be filled out and a copy of their certificate must be supplied to AEC. Suppliers will be evaluated and approved prior to placing a purchase order.

All survey questions must be answered. If a Supplier has any questions regarding the survey, they should contact the AEC Buyer for clarification.

## All Suppliers are required to fill out the Code of Conduct portion of the SQS.

The purpose of the survey is to give an initial overview of the Supplier's organization. After the completed survey has been evaluated by AEC Quality, a decision will be made as to the level of approval granted.

#### Supplier Quality Audit:

The Supplier's quality system will be assessed and approved by AEC Quality.

As part of the AEC Supplier development program and control process, all approved Suppliers may be subject to a Supplier verification audit. Selected Suppliers will be audited as necessary to verify product/process conformance.

#### Supplier Performance:

On-Time Delivery and Quality delivery performance will be tracked by AEC and communicated to Suppliers through performance scorecards and/or during business review meetings. Business Review meetings will be scheduled at the discretion of AEC Purchasing or AEC Quality. Supplier performance ratings for delivery and quality will be measured on a 12-month rolling average as follows:

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Delivery and Quality Performance	Rating
100%	Preferred - Always Meets Expectations
<mark>99%</mark>	Acceptable - Usually Meets Expectations
<mark>98%</mark>	Meets Minimum Expectations- Sometimes Meets Expectations
<mark>&lt;98%</mark>	Unsatisfactory - Fails to Meet Expectations

AEC expects Suppliers to promptly address any adverse trends or specific non-performances identified. AEC Quality may take actions, which may include but not limited to, source inspections, un-scheduled quality system audits, removal from ASL, or any other actions deemed necessary.

# **Quality Management System Requirements**

## **Supplier Types:**

Suppliers are separated into the following types and requirements based on the commodity they provide:

Table 1				
Supplier Type	QMS Minimum Requirement			
<b>Type 1: Make to Print and Type 2A: Design and Manufacture.</b> Manufacture, inspect, test, and certify the conformance of semi-finished and/or finished products (installed on aerospace engines or a component of such a product) to proprietary engineering drawings whether customer design, or organization design.	9100 registration			
<b>Type 2B: Design only.</b> Contracted Design Responsible Organization/Partner/Supplier Tasks Organizations.	ISO 9001 or Site Quality Management Approval based on scope of work			
<b>Type 3: Distributor.</b> An organization carrying out the purchase, storage, splitting or sale of products without affecting product conformity. Distributors are limited to Raw Materials, Industry Standard Parts, and Commercial-Off-The-Shelf (COTS) items.	9120 registration			
<b>Type 4: Special Process.</b> As part of an Organizations manufacturing scope and/or Special Process Houses.	Nadcap or end-use Customer's requirements			
<b>Type 5: Raw Material.</b> Manufacture, inspect, test, and certify the conformance of Raw Material to proprietary engineering specifications.	ISO 9001 registration			
<b>Type 6: Production Shop Assist Only and Equipment Providers.</b> Offload of planned manufacturing operations or equipment manufacturers/distributors.	ISO 9001 or Site Quality Management Approval based on scope of work			

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Type 7: External Calibration or Laboratory Service Provider.	ISO/IEC 17025 or National Equivalent, e.g., UKAS, COFRAC, NIST
Type 8: Industry Standard Part or Industry Standard Raw Material Manufacture.	ISO 9001 registration
Type 9: Castings and Forgings Produced to a Proprietary Design.	9100 registration

#### Note: Table 1 is required for suppliers of aero-engine components.

Exceptions to these requirements may be granted based on program needs, customer specifications, or at the discretion of Senior Quality and Procurement Management.

Supplier shall implement and maintain the Supplier Type quality management system required throughout the performance of all work under the purchase order.

The Supplier's quality management system shall provide a means of ensuring that product conform to specified requirements. This system shall control the issue of MPCs, drawings, specifications, procedures, etc. Provision shall be made for the control of obsolete copies and subsequent archiving and disposition.

Supplier shall ensure that personnel are made aware of their contribution to product or service conformity, product safety and the importance of ethical behavior.

Any changes in the Supplier's certification status shall be reported within three business days to the AEC Quality Director via the AEC buyer.

#### **Quality Records:**

The Supplier shall maintain a documented procedure for record creation, change (handwritten or other), completion and control of quality records in accordance with applicable quality system standard (i.e. ISO 9001, AS9100, AS13100).

Unless otherwise approved by AEC in writing, the Supplier shall retain all required records for a minimum of 50 years after record generation.

#### Management Responsibility:

The Supplier shall make known a person to AEC, who will have the necessary authority to assume responsibility for product quality. It is expected that the named person will provide evidence of the Supplier's commitment to the development and implementation of the quality management system and continually improving its effectiveness.

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## **Resource Management:**

The Supplier shall determine and provide the resources needed to maintain the quality system and continually improve its effectiveness, and enhance customer satisfaction by meeting AEC requirements. Personnel performing work affecting product quality shall be competent based on appropriate education, training, skills and experience.

The Supplier shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements.

## **Product Realization**

## Customer Related Processes (Contract Review):

Orders or contracts shall be formally reviewed to ensure that the Supplier has the technical and logistical capabilities to meet the requirements. Discrepancies or queries shall be resolved before the order or contract is accepted. Amendments to orders or contracts shall be formally reviewed. Records of contract review shall be maintained. All applicable specifications and/or requirements shall be flown down to sub-tiers.

#### **Design and Development:**

If design activities are undertaken for AEC by the Supplier, design inputs and outputs shall be adequately specified (Example: by specification).

Formal documented reviews shall be held at appropriate stages of design. Designs shall be checked by verification (theoretical check) and validation (practical check).

All design changes shall be documented and approved by AEC personnel before implementation.

#### Purchasing:

Supplier shall not sub-contract any work awarded by AEC without the prior written approval from AEC.

Supplier shall maintain records of lot traceability throughout the product life.

Supplier shall establish and implement activities to ensure that purchased material is conforming to applicable requirements.

#### Supplier Sub-Tier Control:

The Supplier shall ensure that subcontractors/Suppliers are evaluated and selected on their ability to meet specified requirements. An approved list of subcontractors/Suppliers shall be maintained.

Purchasing documents shall clearly describe the relevant drawings and specifications including issue (revision) status and the quality requirements to be applied.

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The Supplier is required to use customer approved sources when identified on the purchase order, MPC, and/or drawing.

## Product and Service Provision:

Manufacturing processes shall be defined by documented procedures. Criteria for quality shall be defined by documented procedures. Criteria for quality shall be defined in a clear and practical manner. Where processes cannot be verified by subsequent inspection or testing, such processes shall be performed by qualified operators or have suitable process control parameters established.

## **Control of Monitoring and Measuring Devices**

All measuring and test equipment used to demonstrate conformance of product shall be calibrated with reference to national or international standards. Such equipment shall be clearly marked with identification of its calibration status, including expiry date. Records of calibrated equipment shall be maintained. When equipment is found to be out of calibration, actions shall be taken to identify and rectify any affected product including product already shipped.

## FOD Program:

The Supplier shall establish and maintain a program that meets the requirements of AS9146 to control and eliminate Foreign Object Damage (FOD) during manufacturing, assembly, testing, inspection, and packaging/shipping operations. The FOD program includes flowing down these controls to sub-tier suppliers to ensure a consistent approach throughout the supply chain.

## Handling and Packaging:

If not defined by contract, Supplier shall use best business practice to package product to prevent damage, substitution, corrosion, and deterioration. The Supplier shall consider packaging materials that do not pose a risk of FOD; for example, the use of packing peanuts or similar materials that can dislodge and contaminate the product are prohibited. All packaging should be designed to minimize the potential for FOD throughout shipping and handling.

## **Measurement, Analysis and Improvement**

## Monitoring and Measurement of Product:

The Supplier shall monitor and measure the characteristics of the product to verify that the product requirements have been met. This shall be carried out at appropriate stages of the product realization process per planned arrangements.

## Product Acceptance:

When product acceptance authority media is utilized (i.e. stamps, electronic signatures), the Supplier shall establish controls for the media:

a. Avoid Misuse

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- b. Establish traceability to the authorized user
- c. Avoid duplication
- d. Align to responsibilities and authorities defined within the quality system
- e. Maintain good condition and legibility

## Advanced Product Quality Planning (APQP) / Production Part Approval Process (PPAP):

Based on Supplier Type, the following applies:

- a. Types 1, 2A, and 4 Product Process Verification shall be met through compliance to Advanced Product Quality Planning (APQP) and Production Part Approval Process (PPAP) as defined by AS9145 and AS13100 Chapter B.
- b. Type 2A and 2B The Design and Development Process shall comply with applicable elements of the Advanced Product Quality Planning (APQP) and Production Part Approval Process (PPAP) as defined by AS9145 and AS13100 Chapter B.

## Supplier First Article Inspection (FAI):

First article inspections shall be performed per AS9102 - Aerospace First Article Inspection Requirement. FAI data package includes a ballooned drawing, material/process certifications, and completed forms 1, 2, and 3.

The following are exempt from FAI requirements:

- a. Parts and assemblies rejected on a previous FAI do not require another full FAI. A delta FAI would be required showing conformity for the rejected issue.
- b. Standard hardware, proprietary off the shelf material whose characteristics are established 100% by non-customer drawings (i.e. NAS, MS, AS), or deliverable software.
- c. Contractually excluded parts/assemblies.

Supplier shall establish a process for the inspection, verification and documentation of a representative item from the first production run of a new part, or following any subsequent changes that invalidates the previous FAI. Excess products remaining from a previous production lot may not be used to fulfill FAI requirements.

The FAI Report must be submitted to AEC with the first shipment of the impacted product. Packaging shall be conspicuously marked with "FAI Report Enclosed."

## Control of Non-Conforming Product:

Supplier shall have an established procedure and require their sub-tier Suppliers for advance notification to AEC for escaped non-conforming product and make necessary arrangements for immediate containment and product recall if necessary.

The advance notification of escape to AEC shall be completed within 24 hours to the AEC buyer using the L4-01007121, Request for Deviation/Waiver Form. This communication is required whether from Supplier or their sub-tier Supplier. This notification shall include all production information, non-conformity, manufacturing date and part traceability, containment plan and actions in all locations to include in-route product.

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If seller identifies non-conforming product, and wishes to pursue a deviation through AEC, contact your AEC buyer using L4-01007121, Request for Deviation/Waiver Form. Under no circumstances shall non-conforming product be shipped to AEC without approval on the Request for Deviation/Waiver Form.

In either of these circumstances, a corrective action may be assigned to the Supplier. This form will ask for a high-level summary, and Suppliers may use their own form, as long as it answers all questions found on the AEC Corrective Action Request. It is expected that a systematic solution be applied to the root cause for corrective action and that objective evidence is provided.

# **Shipping Documentation Requirements**

## Packing Slip/Certificate of Conformance (CofC):

The Supplier shall provide a packing sheet and CofC (this may be a combined document) for each separate shipment with the following requirements:

- a. Supplier's Company name and address
- b. Purchase order and line item
- c. AEC material number
- d. Quantity (unit of issue) total by line item
- e. Certified to appropriate documents listed on MPC Card (when applicable)
- f. Certified to the MPC Revision applied to the purchase order (when applicable)
- g. Vendor lot number (i.e. traceability code)
- h. Statement that all work performed in connection with the purchase order conforms to requirements. This Supplier's quality management or designee must sign and/or stamp the document.
- i. Distributors must attach original manufacturer's C of C with their own (includes all distributors to establish full chain of custody)
- j. If shipping multiple lots of the same part number, each lot must have a corresponding quality stated on the C of C
- k. Dispositioned non-conformance report (if applicable)
- I. SDS (if applicable)
- m. FAI enclosed (if applicable)

## Test Reports:

Material and Special Process Test results shall reflect all requirements of the drawing and/or specification and conform to drawing and/or specification limits. Documented evidence of this conformity including listing of each material element or test result in the applicable test report.

The applicable test report shall be signed by a cognizant test laboratory person, clearly confirming which of the following is correct:

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- a. All tests and inspections have been performed and results meet the drawing and/or specification requirements, or
- b. All tests and inspections have been performed and the results meet all the drawing and/or specification requirements, except \_\_\_\_\_\_, which does not meet requirements, or
- c. All tests and inspections have been performed and the results meet all drawing and/or specification requirements, except test(s) \_\_\_\_\_\_, which was not performed in accordance with the drawing and/or specification requirements.

## Suppliers of Age Sensitive Materials:

Supplier shall provide expiration date, if applicable, that meets AEC MPC requirements. If shelf life is not within stated requirements, treat as non-conforming product and notify AEC buyer for approval to ship.

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