



Supplier Quality Requirements – Aerospace and Defense

ABOUT FLEX

Flex is a leading sketch-to-scale™ solutions company that designs and builds intelligent products for a connected world. With more than 200,000 professionals across 30 countries and a promise to help make the world Live smarter™, the company provides innovative design, engineering, manufacturing, real-time supply chain insight and logistics services to companies of all sizes in various industries and end-markets. For more information, visit www.flex.com or follow us on Twitter @flexintl.

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1.0 BACKGROUND/INTRODUCTION

- 1.1. This document defines supplemental and more specific quality agreements to the Supplier Quality General Requirements, FMS-QMS-3-005-00 between all Flex legal entities (“Buyer”) and Flex suppliers (“Seller” or “Supplier”).
- 1.2. Changes to this procedure can only be made by approval from the Supplier Quality Systems team supporting Global Procurement and Supply Chain or the Aerospace and Defense Segment.

2.0 SCOPE AND PURPOSE

- 2.1. Buyer companies serve a variety of industries and business segments and as such, a Buyer has unique supplier quality requirements specific to these industries and business markets.
- 2.2. This document defines the special Aerospace and Defense industry requirements for Suppliers relating to the quality of all products or services, to be used in Aerospace and Defense applications, purchased by the Buyer from Suppliers during the term of any Agreement, including but not limited to purchases made pursuant to Purchase Orders (POs), General Business Agreements (GBAs) or any other contract or document referencing this document. Any deviations, exceptions or additional requirements shall be mutually agreed in writing between Buyer and Supplier. Specific quality criteria, targets and similar measures will be mutually agreed in product specific Component Quality Plans (CPQ), if not already defined in a product specification. When referenced by the applicable contract or agreement or in a purchase order issued by Flex, all of these requirements will comprise a complete quality agreement between Buyer and Supplier.
- 2.3. The terms of purchase transactions between Buyer and Supplier are governed by a General Business Agreement (GBA) or Terms and Conditions Checklist. If neither of those Agreements exists, the terms governing purchase transactions between Buyer and Supplier are the Buyers Standard Terms and Conditions which are transmitted with every purchase order.

3.0 DEFINITIONS AND ABBREVIATIONS

- 3.1. BU: Business Unit
- 3.2. GPSC: Global Procurement and Supply Chain
- 3.3. Component Quality Plan (CQP): A document that is used to specify the procedures and resources that will be needed to carry out a project, perform a process, produce a product, or manage a contract.
- 3.4. GBA: General Business Agreement
- 3.5. Certificate of Conformance (CoC): A declaration by the Supplier to the Buyer that, apart from any identified and approved concessions, the products identified in the purchase order conform to the specified purchase order/contract requirements. For critical items, the ability to trace the history, distribution, use or location following delivery is an important consideration.
- 3.6. Critical Items: Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on production and use of the product; including safety performance, form, fit, function, producibility, service life, safety critical items, key characteristics, etc.
- 3.7. Electronic Data Interchange (EDI): The structured electronic transmission of data between organizations often used to transfer electronic documents from one computer system to another, i.e., from one trading partner to another trading partner.

- 3.8. Record: A document that provides evidence that activities have been performed or results have been achieved. Example: Records can be used to show that traceability requirements have been met and that verification has been performed.
- 3.9. Special Process: Production processes where the resulting output cannot be verified by subsequent inspection and/or testing, and deficiencies may become apparent only after the product has been placed into service.
- 3.10. Special Requirements: Requirements identified by the customer, or determined by the organization, which have high risks to being achieved, thus requiring their inclusion in the risk assessment process. Factors used in the determination of special requirements include product or process complexity, past experience and product or process maturity. Examples of special requirements include performance requirements imposed by the customer that are at the limit of industry's capability, or requirements determined by the organization to be at the limit of its technical or process capabilities.
- 3.11. COTS: Commercial Off-the-Shelf
- 3.12. Key Characteristics: An attribute or feature whose variation has a significant effect on product fit, form, function, performance, service life, or producibility, that requires special action for the purpose of controlling variation.
- 3.13. Product Safety: The state in which a product is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage to property.
- 3.14. DFARS: Defense Federal Acquisition Regulation Supplement
- 3.15. FOD: Foreign Object Debris
- 3.16. FAI: First Article Inspection

4.0 REFERENCES

- 4.1. Supplier Quality General Requirements, [FMS-QMS-3-005-00](#)
- 4.2. SAE AS 9100, Quality Management Systems – Requirements for Aviation, Space and Defense Organizations
- 4.3. SAE AS 9102, First Article Inspection Requirements
- 4.4. AS5553, Counterfeit Electronic Parts, Avoidance, Detection, Mitigation, and Disposition, current version
- 4.5. SAE AS 6174, Counterfeit Material; Assuring Acquisition of Authentic and Conforming Material, current version
- 4.6. Defense Federal Acquisition Regulation Supplement (DFARS)

5.0 SUPPLIER REQUIREMENTS

- 5.1. Communication and Document Submission:
 - 5.1.1. While Flex has multiple manufacturing locations worldwide, the official communication and document submission language between Flex and its suppliers is only English.
- 5.2. Compliance to AS 9100:
 - 5.2.1. As determined by the Buyer, the Supplier may be required to maintain a quality management system that complies with SAE AS 9100.

- 5.2.2. A copy of the Supplier's current registration certificate shall be forwarded to the Buyer and placed on file with the Buyer.
- 5.2.3. The Supplier shall immediately notify the Buyer of any subsequent changes to their third-party registration status; e.g., Supplier subsequently changes registration bodies, loses its registration status, or is put on notice of losing its registration status.
- 5.2.4. As determined by the Buyer, the Supplier may be required to have a foreign object debris (FOD) control program.
- 5.2.5. The Supplier shall ensure its personnel are aware of:
- Their contribution to product or service conformity.
 - Their contribution to product safety as defined herein.
 - The importance of ethical behavior.
- 5.3. Control of Records:
- 5.3.1. The Supplier shall maintain records in accordance with SAE AS 9100 for all product inspections and tests for a period of seven (7) years except where noted. The Supplier shall make these records available to or accessibly to representatives of the Buyer's organization, its customer, or its regulatory agencies upon request. Records shall include, but are not limited to:
- Receiving / receiving inspection results
 - First article inspection results
 - In-process and final inspection results
 - Traceability and serialization – ten (10) years
 - Measuring equipment calibrations
 - Manufacturing plans
 - Quality plans
 - Material test reports (for verification of critical items and raw materials, as specified in the purchase order)
 - Process validations (including special and critical certifications defined in section 5.6 of this document.
 - Test data of qualifications
 - Functional, interchangeability and acceptance tests performed
 - Employee training documentation
 - Any other applicable inspection records
- 5.3.2. The supplier shall notify the Buyer prior to destruction of any records relative to this contract / purchase order.
- 5.4. Sourcing by Supplier and the Supplier's direct and sub-tier external providers.
- 5.4.1. Where designated by the Buyer, the Supplier shall use customer-designated or approved external providers, including process sources (e.g., special processes).
- 5.4.2. The Supplier shall flow down applicable requirements including customer requirements to its external providers.
- 5.4.3. The Supplier shall apply appropriate controls to their direct and sub-tier external providers to ensure that requirements are met.
- 5.5. First Article Inspection (FAI): The Supplier shall be required to perform FAI on all non-COTS items under this contract or purchase order per the guidance of SAE AS 9102, First Article Inspection Requirements.
- 5.6. Validation/Certification of Special Processes:

- 5.6.1. Where the Supplier's fulfillment of this contract or purchase order requires the operation of special processes, these processes shall be validated and approved by the Supplier's quality representative prior to any production. The Supplier may be requested to provide to the Buyer documentation showing evidence of validation of special processes and/or certification to perform special manufacturing, assembly, and testing as required by the contract. Records of these validations shall be made available or accessible to the Buyer, its customer or its regulatory agencies.
- 5.6.2. When the output of special processes is part of this contract or purchase order, a certification shall be provided with each shipment of item(s) delivered. Validation data shall include sufficient product identification/serialization information to allow positive traceability and recall.
- 5.6.3. When the purchase order requires Buyer approval of critical or special processes prior to Supplier proceeding with build of the item, the Supplier shall provide advanced notice of approval need data and Supplier readiness to the Buyer, to allow Buyer a reasonable time to oblige. Supplier will be responsible for maintaining delivery schedule as confirmed.
- 5.6.4. When a specific material or manufacturing special process is identified by a Buyer, Supplier and all members of their supply chain shall use Buyer approved suppliers. Such supplier and their supply chain (not part manufacturing suppliers) shall be Nadcap accredited for the following special processes.
- Brazing
 - Chemical processes
 - Coatings
 - Heat treating
 - Materials testing
 - Non-conventional machining
 - Nondestructive testing
 - Shot peening
 - Welding
- 5.6.5. Buyer may further define Nadcap requirements.
- 5.7. Counterfeit parts: Suppliers shall prevent and mitigate the use of counterfeit parts.
- 5.7.1. The requirements of SAE AS 5553 for electronic components and SAE AS 6174 for non-electronic product apply.
- 5.7.2. Supply must be compliant to the applicable Defense Federal Acquisition Regulation Supplement (DFARS) for government contracts (i.e., DFARS 252.246-7007).
- 5.8. Certificate of Conformance (CoC): Supplier shall provide a certificate of conformance with each shipment to attest that the parts, assemblies, subassemblies, or detail parts conform to the manufacturing quality requirements, and to the terms of the contract/purchase order. Certifications must contain the following information:
- Contract / order number
 - Part number and revision (if applicable)
 - Name and address of manufacturing or processing facility
 - Manufacturing line designation
 - Material identification, e.g., manufacturer's lot, serial number, part number, manufacture date, batch code (where applicable)
 - Quantity shipped
 - Raw material certification test results (as required)
 - Signed and dated by an official of the company or set up on EDI with prior arrangements made by the Supplier with the Buyer.

- 5.9. Notification of non-conformities: As determined by the Buyer, the Supplier shall notify the Buyer of nonconforming processes, products, or services and obtain approval for their disposition.
- 5.10. Facility Right of Access: Work under this purchase order/contract is subject to government or customer surveillance/inspection at the Supplier's facilities as well as at any level of the supply chain, including applicable documented information, upon request by the Buyer or applicable regulatory authorities.

6.0 RESPONSIBILITY

- 6.1. Changes to this procedure can only be made by approval from either the Supplier Quality Systems team supporting Global Procurement and Supply Chain or the Aerospace and Defense Segment.
- 6.2. Site and Segment/Business Unit supplier quality and materials personnel are responsible for ensuring their suppliers are familiar with this document.
- 6.3. The Supplier Quality Systems team supporting Global Procurement and Supply Chain, the Aerospace and Defense Segment and the site's supplier quality and materials organization are responsible for ensuring this document is referenced in all supplier contract documents.
- 6.4. The Supplier Quality Systems team is responsible for ensuring the current version of this document is available at the Flex Supplier Quality Webpage.

7.0 DOCUMENT REVIEW AND APPROVAL REQUIREMENTS

- 7.1. This document shall be reviewed and approved as defined in Control of Documented Information, [FMS-QMS-1-001-00](#).