



Supplier Quality Assurance Requirements

Revision Level: R	QP-SQAR Supplier Quality Assurance Requirements	Reviewed by: Director of Supply Chain Operations Part 21 Accountable Manager
Revision Date: 7/27//2017	M7 Aerospace Proprietary Information	Owner: Quality Manager



Supplier Quality Assurance Requirements

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Supplier Quality Assurance Requirements

1.0 Scope & Purpose:

1.1 Scope:

The M7 Aerospace (M7) Supplier Quality Assurance Requirements (SQAR) is the Suppliers' guide to understanding M7's quality requirements and expectations.

The M7 SQAR:

- a. Forms a part of the M7 purchase order, unless otherwise specified herein.
- b. Identifies specific quality requirements of the M7 Aerostructures Manufacturing, M7 Maintenance Repair Operations, M7 Government Programs, and M7 Spare Parts Sales business units.
- c. Provides helpful general information to the supplier.

1.2 Purpose:

This document is applicable to all M7 purchase orders for production, overhaul, and modification of contract deliverables including tooling, ground support equipment and repair stations.

2.0 Definitions & Acronyms:

- 2.1 SCAR - Supplier Corrective Action Report. Request to review and correct an issue impacting quality of products or services.
- 2.2 Source Control Drawings - The purpose of Source Control Drawings are to document requirements for an existing vendor or commercial item which exclusively provides the performance, installation and interchangeability characteristics required for one or more specific applications. A source control drawing also controls the source or sources for the item by listing the approved sources of supply.
- 2.3 Special Process - Processes that, due to their nature, may have deficiencies that may not be verifiable upon completion of the special process. Therefore, special processes, such as; but not limited to: Anodic Process, welding, brazing, heat treatment, plating, chemical conversion coatings, chemical cleaning and stripping, prime and paint, NDT processes, structural adhesive bonding and abrasive/mechanical blast cleaning, must be controlled to ensures that each process is performed by trained and qualified personnel and in accordance with approved specifications containing definitive standards of quality, and that periodic inspection of gauges, solutions, or any critical equipment is controlled and documented.
- 2.4 Specification Control Drawings – Specification control drawings represent our minimum acceptable requirements. Therefore, these drawings should be among our best. Neatness, clarity and completeness are essential. As defined, specification control drawings are not intended to serve as installation drawings.
- 2.5 SQAR - Supplier Quality Assurance Requirements.
- 2.6 Type Design - Drawings, Specifications and other data necessary to define the configuration and design features of the aeronautical product.

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3.0 Responsibility & Authority:

The Quality Manager is responsible to assure this document remains current with regulatory requirements and M7 operational requirements.

4.0 Process:

General

4.1 Quality System Requirements

The supplier should maintain a Quality System that is compliant to ISO9001, AS 9100, 14 CFR § 21 Production Approval, 14 CFR § 145 Repair Station Certification, or an equivalent industry-recognized quality system or standard. M7 recognizes third-party certifications issued by an accredited Certification Registration Body (CRB). Accredited CRB's can be found on the SAE web page: www.sae.org/oasis. The scope of third-party certification must be appropriate for the type of product or service provided to M7.

Initial and subsequent periodic review of supplier's quality system may be performed at the option of M7. Objective evidence of supplier compliance, either by submittal of requested evidence or evidence of a third party accreditation, may be acceptable for the purpose of re-survey, but will not preclude the use of on-site evaluations or other review methods, when required.

M7 may, at its own discretion, honor qualified second and third party audits provided that the scope of the audit performed by the alternate party correlates with the type of product or service provided to M7. M7 reserves the right to perform additional assessments if deemed necessary.

Suppliers shall forward a copy of their certifications to M7. Any changes to the certification such as update, withdrawal or disapproval must also be forwarded to M7 in a timely manner.

A change in supplier name, ownership, facility location or other significant event that could affect quality (i.e., bankruptcy, labor strife, etc.) may subject the supplier's quality system to reevaluation by M7. The supplier shall notify their buyer of any of these aforementioned changes in writing. The buyer will instruct the supplier on formal notification actions and specific forms to submit, if necessary.

Suppliers shall maintain a calibration program traceable to the National Institute for Standards and Technology (NIST) for all measuring and test equipment used for inspection, repair, test or overhaul of product or determining product conformity.

4.1.1 M7 Proprietary Parts

Suppliers or sub-tier suppliers who design product to an M7 Source/Specification Control Drawing (SCD) are required to communicate to M7 any change made to the suppliers' designs that could or will affect form, fit, function, manufacturing or result in a revision level change to design data, (drawings, EO's, etc.) regardless if the change continues to meet the M7 SCD requirements. This communication should be through the M7 purchasing agent (buyer). This will enable M7 Engineering to evaluate the potential impact.

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4.2 Commercial Requirements

Supplier shall comply with the requirements noted in the Contract Terms & Conditions (T&C) section of the purchase order and/or view on our website:

<http://www.elbitsystems-us.com/suppliers>

4.3 Facility Access

M7, its customer and/or their authorized Inspection Agency, and the Federal Aviation Administration shall have the right to send representatives to the supplier's and/or supplier subcontractor's facility to determine contract compliance by either monitoring, witnessing, and/or performing such activities as inspections, witness of testing or other system, process and/or product evaluations, and verifications as necessary to determine product acceptability to contractual requirements. The type, necessity, and degree of demonstration of conformance will be at the sole discretion of M7 or the FAA, taking into consideration factors such as product complexity, environment where the product is used, ability to determine product quality after receipt, and past supplier performance. Without additional charges, the supplier or their subcontractor shall make their facilities available for these activities and provide all reasonable support for the safety and convenience of these representatives during their stay. If a supplier denies access to M7 or the FAA, M7 will not be able to accept any product in work at the supplier, and the supplier will bear any cost associated with the affected product.

4.3.1 M7 Inspection Types

4.3.1.1 Receiving Inspection - Deliverable product(s) are subject to M7 inspection upon receipt at M7 facility.

4.3.1.2 Government Source Inspection - Deliverable products are subject to Government oversight during the performance of the purchase order prior to shipment.

4.3.1.3 Government Surveillance - Government reserves the right to perform surveillance of a supplier's quality and/or manufacturing operation during the performance of this Purchase Order.

4.3.1.4 M7 Source Inspection - Deliverable product is subject to source inspection by M7 and/or its customer. M7 conveys its requirement for source inspection to the supplier via the purchase order. Supplier shall notify M7 buyer in writing at least seven (7) days in advance of the proposed schedule for "in process" or "final" source inspection, unless prior written agreement for a shorter period of notice has been made. If source inspection is required by the purchase order, then the supplier shall prepare all production, process, and shipping documentation, etc., including a First Article Report if requested, for presentation to M7 source inspector prior to the inspector's arrival at supplier's facility.

4.3.1.5 No Customer Inspection Required - Suppliers Quality System certifies to requirements of deliverable items/products in this purchase order. No M7 inspection is required.

4.3.2 M7 reserves the right to reject product at M7, supplier's or sub-tier supplier's facility.

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4.4 Supplier Sub-tier Control

Supplier is responsible for ensuring all items procured from its subcontractors conform to all requirements of the M7 purchase order and M7 customer's requirements. Supplier shall ensure all applicable provisions of this document are flowed down to its subcontractors. Supplier shall ensure, through their quality system that sub-tier supplier quality system is at least compliant to the primary supplier quality system minimums found in Section 4.1, "Quality System Requirements" of this document. Special Processors/defined Suppliers are approved by M7 or customer.

4.5 Counterfeit Parts Prevention

As with any industry, the potential for counterfeit parts exists within the Aerospace Industry. Therefore, suppliers must make every effort to assure safe, reliable product and mitigate the risk of counterfeit parts entering the system.

A counterfeit part is any item misrepresented as having been designed and/or produced under an approved system or other acceptable method. The term also includes parts that have reached a design life limit or has been damaged beyond possible repairs, but is altered and misrepresented as acceptable.

All suppliers must establish a Counterfeit Parts Prevention and Control Plan to assure that parts meet or exceed M7, regulatory and M7 customer requirements. This shall ensure counterfeit parts are not delivered to M7 or its customers. Aerospace Standard AS-5553 is an excellent guideline for developing a Counterfeit Parts Prevention Program.

Supplier shall immediately notify M7 with the pertinent facts regarding any confirmed or suspected counterfeit parts.

In any case, the Counterfeit Parts Prevention Program must include but not limited to:

- a. A robust receiving inspection process
- b. Documentation traceability requirements (certifications, packing slips, etc.)
- c. Counterfeit Part recognition keys:
 - 1) Absence of manufacturer's logos or labels
 - 2) Alterations or changes to documents
 - 3) Inconsistent finishes, painting, etc.
 - 4) Poor quality part ink or laser marking
 - 5) Bar codes that do not match the printed part number

If counterfeit parts are furnished under a purchase agreement, such items shall be impounded. The Supplier or when applicable their Sub-Tier Supplier shall promptly replace such items with items acceptable to M7 and the Supplier or when applicable their Sub-Tier Supplier may be liable for all costs relating to impoundment, removal and replacement. M7 may turn such items over to US Government authorities (Office of Inspector General, Defense Criminal Investigation Service, Federal Bureau of investigations, etc.) for investigation and reserves the right to withhold payment for the suspect parts pending the results of the investigation.

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4.6 Drug and Alcohol Abuse Prevention Program

M7, as a certificated 14 CFR § 145 “Repair Station”, provides covered functions for 14 CFR § 121 and § 135 operators. M7, as prescribed by regulation, maintains an antidrug and alcohol misuse prevention program in accordance with 14 CFR § 120, Drug and Alcohol Testing Program. M7 requires that all suppliers providing goods and services in support of its 14 CFR § 145 Repair Station maintenance activities, institute and maintain an antidrug and alcohol misuse prevention program in accordance with 14 CFR § 120. The program shall conduct tests for Pre-Employment Screening, Periodic, Random, and where necessary, Post-Accident, Reasonable Cause/Suspicion, Return to Duty, and Follow Up screenings. Annual reports of antidrug program and alcohol misuse prevention program results must be maintained and be available for review by the FAA, M7 and its customers in accordance with the requirements of 14 CFR § 120.

4.7 Control of Tooling at Supplier’s Facility

4.7.1 Parts Only

Suppliers making tools for the purpose of fulfilling a parts order from M7, wherein the tools remain the property of the supplier, shall maintain their tools in a manner pursuant to conformance requirements; showing that the revision level of the relevant part is adhered to, and that any other modes of configuration control are also being managed.

4.7.2 Tools and Parts

Suppliers making tools for M7, and production parts directly from those tools, are required to adhere to First Article Inspection and reporting requirements found in the “First Article Inspection Records” section of this document. Tooling in this instance is the property of M7, and suppliers will maintain the property according to this document and any other requirements specified in the purchase order. Upon receipt and verification of the FAI package, M7 will forward to the supplier a tooling approval plate, which shall be attached to the tool, for the purpose of tool identification and configuration control. Unless verified by M7 source inspector, the supplier shall provide photographic evidence to M7 of the attached plate. In cases where photos may not be convenient, other arrangements for proof of tool identification shall be arranged in writing with M7 purchasing.

4.7.3 Customer Supplied Tooling

Suppliers of tooling or product that retain Customer Supplied Tooling on-site (M7 or its customers) will have documented procedures to control customer supplied tooling. These procedures will assure that:

- a. Tooling is properly controlled to prevent inadvertent damage.
- b. Tooling is inspected prior to each use for condition of all details and parts.
- c. Tooling is inspected at least annually.

M7 will be notified that the annual inspection has been accomplished and any issues found with the tool. Any condition that prevents the tool from producing a conforming product will be reported to M7 immediately upon discovery.

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4.8 Government Owned Property

Suppliers who maintain or manage Government Owned Property on-site will have documented Government Property Control Procedures.

Additionally, suppliers will provide to M7 the latest copy of their Government Property Management System Analysis (PMSA).

4.9 Quality Record Retention

The supplier shall maintain Quality records in accordance with the applicable Quality System standard (i.e., ISO9001, AS 9100, CFRs, etc.). The records shall be retained for a period of not less than ten (10) years from completion of purchase order. In the event a supplier ceases doing business, regardless of the reason, all records affecting M7 delivered product shall be transferred to M7 forthwith. The supplier must impose this requirement on their sub tier suppliers.

4.9.1 Records shall include, but not be limited to:

- a. Evidence of inspection to assure conformance to current drawings and specifications
- b. First Article Inspection report
- c. Test Reports (e.g., metallic physical & chemical, acceptance test, functional test, etc.)
- d. Periodic inspection and control of inspection media
- e. Records to indicate control of Special Tooling and Special Test Equipment
- f. Data records of all Qualification and Acceptance/Function tests performed
- g. Certification of personnel as required by specification and/or contract
- h. Standard or Special Process certifications, including those from subcontractors
- i. Material Review Board reports

4.10 Documentation Requirements

4.10.1 Packing Slips

Supplier shall provide a packing sheet or attachments for each separate shipment with the following minimum requirements:

- a. Supplier's company name and address
- b. Purchase order number, line item(s) and part numbers
- c. M7 dispositioned nonconformance document number(s), as applicable
- d. Required parts traceability forms
- e. Evidence of M7 source acceptance if purchase order required M7 source surveillance

4.10.2 First Article Inspection Records

A First Article Inspection (FAI) Report from the supplier is required when the article produced is a new part or representative of the first production run. This includes all details and sub-assemblies that constitute the end item ordered. The FAI shall not be considered complete until all non-conformities are resolved. The First Article Inspection Report shall be completed using the format specified in AS 9102 without exception.

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FAIs are also required when any of the following conditions apply:

- a. First time part is produced from a new tool.
- b. A change in the design affecting fit, form, or function of the part.
- c. A change in manufacturing source(s), processes, inspection method(s), location, tooling or materials with the potential of affecting fit, form or function.
- d. A change in numerical control program or translation to another media.
- e. A natural or man-made occurrence, which may adversely affect the manufacturing process.
- f. A lapse in production for two years unless relief is provided in accordance with this procedure or as specified by the Customer.
- g. The FAI requirements may be satisfied by either a full or a partial FAI in accordance with AS 9102. A partial FAI addresses only differences between the current configuration and prior approved configuration and is generally conducted if data changes subsequent to the accomplishment of a full FAI or a tool is reworked, etc.

FAI records must include all dimensions or forms specified on the purchase order, on printed drawings, and in digitally represented models, referenced by the purchase order, drawing, or digitally presented data. Each report must also include the following, as applicable:

- h. Part Number and Description
- i. Purchase Order Number
- j. 100% of Engineering specified dimensions, and the actual measurements obtained
- k. Special process certifications, including those from subcontractors
- l. Test data; including requirements, performance ranges, and results
- m. Raw material certifications
- n. Specification and/or drawing numbers and the revision level during manufacturing and inspection
- o. Location of manufacturer and date of inspection
- p. Signature of authorized agent of the manufacturer
- q. Identification of the report as First Article
- r. Certification of Conformance
- s. Bubble Drawings – required when the drawings do not provide clear characteristic locations (for example: Sheet 1 Zone A 3) and when Engineering data is Model only since the Models do not provide Zone locations.

NOTE: The FAI checklist at Appendix A should be used when completing FAI's to assure proper completion of the FAI.

Suppliers shall arrange and organize FAI records in a way that is easily comprehensible upon receipt. Certifications, test reports and other essential documents for detail parts listed in assembly FAI shall immediately follow each sub-assembly FAI report. For large assembly FAI reports (consistency of multiple sub-assembly and detail parts), a binder is the preferred method of presentation.

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4.10.3 Certificate of Conformance

Suppliers and sub-tiers shall provide a Certificate of Conformance with every shipment.

The Certificate must include the following, as applicable:

- a. Supplier name and location
- b. Part number and description
- c. Lot or serial number (as applicable)
- d. Purchase order number and PO line item
- e. Quantity
- f. Statement of conformance to applicable drawings, specifications or other technical data
- g. Signature or stamp of authorized agent date of the manufacturer or distributor and date.

Standard Parts: (fasteners manufactured and conforming to an established industry or U.S. specification, e.g. AN, MS, NAS, SAE) require a C of C from Manufacturer or Authorized Distributor.

Commercial Off the Shelf Parts (COTS): require a C of C with the manufacturer identified.

NOTE: Caution should be exercised when receiving a "Certificate of Compliance" that has a statement such as "document with traceability to the manufacturer available upon request." This does not alone establish traceability.

4.10.4 Overhauled/Repaired/Modified Items – FAA Certified Repair Stations

Supplier shall provide a completed serviceable tag with Maintenance Release Statement, FAA Form/Tag 8130-3 in accordance with 14 CFR § 43. Any Airworthiness Directives (AD) or Service Bulletins (SB's) required by contract or the FAA shall be documented on the 8130-3, including level of compliance.

When applicable, the supplier shall provide FAA Form 337, "Major Repairs and Alteration Statement", and or FAA Form 8110-3, "Statement of Compliance with Federal Aviation regulations, and Alternate Method of Compliance". A CRS must perform the work (CRS status may be authenticated by M7 utilizing the FAA website or other appropriate source). Supplier shall provide a completed copy of the final inspection work order, which details the entire scope of work performed, upon request.

4.10.5 14 CFR § 21 (Certification Procedure for Products and Parts)

Suppliers of new FAA-approved parts shall provide documented evidence of traceability to Part 21 Quality System Requirements with each shipment. Suppliers of approved serviceable replacement parts shall provide, with each shipment, documented objective evidence of traceability to Part 21 as outlined by FAA Advisory Circular No. 20-62, latest revision. Supplied parts shall be airworthy and acceptable for aircraft/aeronautical installations to all specifications called out contractually.

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4.10.6 Tooling – Suppliers of Special Tooling or Special Test Equipment

In addition to the requirements, outlined in the “Packing Slips” and “Certificate of Conformance” sections of this document, record the tool number, tool symbol, and tool serial number (including the ‘multiple’ number, as applicable).

4.10.7 Reworked/Repaired/Replaced/Modified Items

Supplier’s Certification of Conformance and/or packing sheet document shall reflect the following requirements for rework, replacement, repair or modification, items returned to supplier, or work performed by supplier at the M7 facility.

- a. The item(s) have been reworked, repaired, replaced, or modified (as applicable), in accordance with respective nonconformance documents or Purchase Order.
- b. The item(s) meet the requirements of the engineering document(s).
- c. The original configuration and qualification status of the item(s) remains in effect (as applicable).
- d. All applicable nonconformance document numbers or other references to ensure traceability.

NOTE: Discrepant material shall not be shipped to M7 without prior approval from M7 Materiel Review Board (MRB).

4.10.8 Raw Material

Metallic raw materials shall be identified (marked) in accordance with Federal Standard 184, or ASTM B666, as applicable. Sheet materials shall have the identification markings placed on the “non-preferred” side of sheet.

NOTE: All metallic raw materials shall be delivered with the applicable physical and chemical heat lot test reports.

NOTE: All interior materials shall be delivered with the applicable burn test reports.

Supplier and sub-tier supplier shall maintain a copy of all supplier-procured raw material certifications, which must be readily retrievable and shall include material specification, description, alloy and condition. The supplier shall maintain the mill certification for procured metallic material that shall include physical properties (including hardness and conductivity), chemical analysis, and heat-lot number(s). Distributors of metallic raw material shall include a copy of the original mill certification with the shipment of deliverable material.

4.10.9 Process Specification Certifications

Supplier will provide copies of all special process certifications, including sub-tier supplier process certifications with the delivered product.

4.10.10 Calibration Certifications

Calibration certificates shall include a reference to all applicable standards for calibration, as specified in the purchase order for calibration services.

New equipment calibration certificates are acceptable from OEM or authorized distributor.

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4.11 Nondestructive Test (NDT) Submittal Requirements

Supplier shall review the purchase order and associated drawings/drawing notes, specifications, customer requirements and related documents to determine if NDT is required. NDT general procedures and part-specific techniques are required to be reviewed by a Level III prior to production testing. After initial approval, any changes to subject documents must be re-submitted to a Level III for approval. (NDI certs include acceptance criteria. Welds include certified visual inspection)

Suppliers using sub-tier suppliers for NDT shall ensure that the selected NDT sub-tier has M7 approval for the NDT procedure/technique used. Where required, the supplier shall have Nadcap accreditation.

4.12 Part Marking Requirements

Supplier shall mark all deliverable products as required by the purchase order, engineering drawing, specifications and manufacturing planning.

As a minimum, parts manufactured for M7, shall be identified with the following information, but are not limited to:

- a. Part Number
- b. Drawing Revision
- c. Date of Manufacture
- d. Purchase Order Number
- e. Indication of acceptance by the supplier's quality system (inspection stamp)
- f. FAA-PMA for all PMA parts

NOTE: Refer to the "Raw Material" section of this document for marking requirements specific to raw materials.

4.13 Special Processes

Processors, and suppliers, including sub-tier suppliers, providing process services (such as; welding, brazing, heat treatment, plating, chemical conversion coatings, chemical cleaning and stripping, prime and paint, NDT processes, structural adhesive bonding and abrasive/mechanical blast cleaning), will be subject to special approval conditions when required by the process specification, regardless of specification ownership (M7 or its customers).

4.13.1.1 M7 Designed Product

Suppliers and sub-tier suppliers/processors performing special processes to M7 Standard Process Specification (SPS) must be approved by M7. Supplier/processor must comply with any special conditions regarding the methods for the approval of itself and sub-tier suppliers to perform certain M7 Standard Process Specification (SPS) work, if so flowed-down on M7 purchase order. The primary supplier is responsible for ensuring that the requisite approvals exist before releasing materials to the sub-tier.

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Some SPS require submittal of coupons or other special conditions before performing the process controlled by the SPS. Therefore, approval to perform special processes without prior submittal of coupons or other special conditions may be granted to processors who hold third-party certification or accreditation. Exemptions may be considered by M7 QA on a case-by-case basis, according to the following criteria:

- a. Nadcap accreditation in the appropriate process category, as evidenced by copy of certificate and approved site/location listing in eaudit.net.
- b. Current approval by, and process work being delivered to, at least one aerospace or defense “prime” OEM.
- c. Third-party certification to Mil-Spec or DoD standard in the appropriate process category, as evidenced by copy of certification or official letter of approval.
- d. Training - Table 1, Training Classification column contains two Training Classifications, Basic and Specific, which define M7's training requirements for its special processes, as outlined below.
 - i. Basic - Processors accredited in a Nadcap commodity for the process being performed are considered trained to perform the SPS listed in the Table 1, Training Classification, and Basic column.
 - ii. Specific - The processor shall submit proof of training for all SPS's identified in Table 1, Training Classification, Specific column regardless of Nadcap accreditation. The proof of training must demonstrate compliance to the training requirements outlined in the Table 1, Certification or Qualification Requirements column.

4.14 Miscellaneous Requirements

4.14.1 Age-Sensitive Materials

M7 requires that age-dated materials be delivered with shelf life range compliant to the following criteria.

- a. Items with 24 months or greater can be accepted with shelf life no less than 9 months.
- b. Items with 12 to 24 months shelf life can be accepted with shelf life no less than 6 months.
- c. Items with less than 12 months shelf life shall have no more the 20% of shelf life range expired.

NOTE: Exceptions to this clause must be arranged with M7 buyer, and accepted by M7 Quality Assurance, prior to shipment. Chemicals received on a consignment basis as a result of a “Chemical Replenishment program are exempt from this requirement. “

Provide original manufacturing/cure date, lot number(s), batch number, expiration date or length of shelf life (if indefinite, so state). In addition, forward any special storage/handling instructions. Supplier and sub-tier are responsible to determine if acceptance test report submittal is required in accordance with applicable material specification.

The supplier and sub-tier shall physically identify the shelf life expiration date on the deliverable product or the unit packaging according to the applicable standard. Elastomeric material with “No Shelf Life” requirement or “Unlimited Shelf Life” shall be marked as such.

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4.14.2 Preference for Domestic Specialty Metals

Reference the Defense Federal Acquisition Regulations (DFAR) Sect. 252.225-7014, and the Federal Acquisition Regulations (FAR) Part 25. Unless otherwise specified on M7 purchase order, shipments of metallic raw material meeting the Specialty Metals definition in DFAR 252.225-7014 are subject to the Qualifying Country Source restrictions, found in DFAR Supplemental Clause 225.872.

4.14.3 Control and Use of Digital Datasets

When digital datasets are required to manufacture product, the supplier shall comply with agreed Digital Data and Product Definition Plan. This includes all requirements of M7 and its customers. Please contact the M7 Buyer for a copy of this requirement.

4.14.4 Foreign Object Debris/Damage (FOD)

Supplier shall maintain good housekeeping and where applicable a Foreign Object Debris/Damage (FOD) prevention program, to preclude introduction of foreign objects into any deliverable item. Supplier shall employ appropriate housekeeping practices to assure timely removal of residue/debris generated during manufacturing operations or tasks. Supplier shall determine if sensitive areas that have a high probability for introduction of foreign objects should have special emphasis controls in place for the manufacturing environment.

4.15 Nonconforming Material Control

Nonconforming material shall be identified, documented, evaluated, segregated (where practical), and dispositioned to prevent its unintended release or use. Material not in compliance to drawing(s) or specification(s) requirements shall not be shipped without prior M7 approval. Supplier may request it by notifying M7 Quality Assurance by email of actual discrepancy, reason for discrepancy and action taken to prevent recurrence. If authorization is given to ship, nonconformance items shall be identified and segregated from conforming supplies. Acceptance will depend upon verification of discrepancy and final approval at M7.

4.15.1 Disposition Authority

The supplier's disposition authority of nonconformance is limited to:

- a. Rework to Specification: Restore material to specification compliance in accordance with required process(es) and addressed by governing process specification(s). Parts subject to subsequent processing not authorized by specification shall be submitted to the M7 Material Review Board (MRB) for disposition. Specific rework instructions shall be provided with rework dispositions.
- b. Return to Supplier: Return of subcontractor product found to be discrepant for subsequent rework or replacement.
- c. Scrap: Permanent removal from production and destruction of product found to be unfit for use. Scrapped product shall be quarantined until destroyed (mutilated).
- d. All other dispositions: material shall be submitted to M7 MRB.

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4.15.2 MRB Dispositions

Suppliers do not have MRB / concession / design deviation authority for items designed by M7, or items designed by the supplier in compliance with an M7 Source/Specification Control Drawing (SCD) or any of M7's customers (e.g., DoD, primes, other OEM's, etc.) unless delegated in writing by M7. The supplier MRB shall not perform any disposition on any nonconformance requirements that affect form, fit, function, weight, interchangeability, maintainability, reliability, safety, or any key characteristic of the product. Nonconformance affecting these parameters shall be submitted to the M7 MRB.

4.15.3 Notification/ Disclosures

The suppliers system shall provide for timely reporting of nonconformities that may affect already delivered product, including any continuing airworthiness actions. Notification to the buyer shall include a clear description of the discrepancy, which includes as necessary; parts affected, customer and/or supplier part numbers, quantities, and date(s) delivered.

4.15.4 Exception to Rejections

In the event a supplier does not accept the responsibility for a discrepant condition, the supplier shall initiate a letter of exception to the M7 buyer. The letter shall make full reference to applicable documents, and be specific and clear in defining the area of exception.

4.15.5 Notification of adverse action

The supplier shall notify M7 in writing of any adverse action taken by the supplier's customers, Government, FAA or Foreign Equivalent, or changes to the process or procedures that affect conformity of any product.

4.15.6 Nonconforming Material

Supplier manufactured product rejected at M7 shall require a response from the supplier documenting actions taken to correct the product (if applicable) and actions taken to prevent recurrence of the nonconformance. M7 may issue a formal Supplier Corrective Action Request (SCAR) containing a timeframe for supplier response and completion; refer to the "Corrective and Preventive Action" section of this document.

4.16 Corrective and Preventive Action

The supplier shall respond to all buyer requests for corrective action on or before the requested response due date. Supplier shall maintain a documented system for determining root causes of documented defects and obtaining corrective action both internally and from its suppliers. The supplier is accountable for effectiveness of corrective and preventive actions taken.

Buyer requests for corrective and preventive action will be issued to the supplier's representative in the form of, but not limited to, Supplier Corrective Action Request (SCAR), and failure analysis reporting, as required by engineering specification or contract data item requirements.

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M7 retains the right to conduct corrective action verification at the primary supplier and/or sub-tier supplier facility to assess effectiveness of implemented corrective action.

NOTE: Material currently undergoing corrective action investigation processing up to and including verification of corrective action shall not be shipped without the authorization of M7 Quality Assurance.

5.0 Relevant Records:

Record Number	Record Name
None	

6.0 Related Procedures & Instructions:

Procedure Number	Procedure Title
None	

7.0 Document Revision History:

Paragraph(s)	Description of Change(s)	Revision Level	Date
All	Initial Release of M7Supplier Quality Assurance Requirements	IR	12/3/2004
4	Clarified calibration supplier requirements.	A	2/25/2005
12	Revised part marking requirements.	A	2/25/2005
12	Clarified sub-tier approval requirements.	A	2/25/2005
13	Added Calibration Requirements section.	A	2/25/2005
All	Changed section-numbering convention from letter to number format.	B	4/21/2006
3	Added section references to Index.	B	4/21/2006
4	Deleted/moved calibration requirements statement.	B	4/21/2006
4	Clarified statement of minimum quality system requirements.	B	4/21/2006
5	2.2.1, Removed redundant text, added definitive text. 2.2.2.1, added for clarification of supplier designed product topic. 2.2.2.2, added for clarification of proprietary, customer designed product topic.	B	4/21/2006
6	2.2.5, added statement concerning corrective action request.	B	4/21/2006
7	2.4, edited for clarity and definition of subjects "conformance" and "test reports".	B	4/21/2006
8	2.5.4, edited for general clarity and definition; added note to provide test report with metallic fastener shipment. 2.5.5, added paragraph for requirement of <20% shelf life cycle expiration.	B	4/21/2006
9	2.5.6, edited for definition and clarity; corrected references to FAA documents.	B	4/21/2006
10	2.5.9, added DFAR 252 Specialty Metals requirements & ref. to FAR 25.	B	4/21/2006
11	2.5.10, added paragraph with specification call out for sheet stock identification. 2.5.11, added for definition of certification and approvals of processes.	B	4/21/2006
11	2.10, edited for clarification, and inserted reference to Sect 2.1.	B	4/21/2006
12	2.11, added reference note to 2.5.10 for marking of raw materials. 2.13 removed redundant text for C-of-C (stated elsewhere in document).	B	4/21/2006
13	2.14, clarified requirements for calibration service providers.	B	4/21/2006
14	2.15, added for standard process approvals and conditions.	B	4/21/2006
7	2.3.4; added conditions and requirements of and for source inspection.	C	10/20/2006
7	2.4; added reference to process subcontractors	C	10/20/2006
8	2.5.2; added reference to digitally represented data, and annotations concerning process certifications and test results data for FAI reporting.	C	10/20/2006
15	2.16; added requirements for the control of tooling located at supplier facility.	C	10/20/2006
15	2.17; added requirements for M7 Proprietary Parts.	D	4/9/2007
15 ,16	2.18; added requirements for Drug and alcohol abuse program.	E	5/24/2007
9	2.5.2; added requirement to use AS 9102 First Article Forms and formats for First article requirements.	F	5/26/2009

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Paragraph(s)	Description of Change(s)	Revision Level	Date
9	2.5.4; added language exempting chemicals supplied on a consignment basis, from the 80% shelf life requirement.	F	5/26/2009
11	2.5.9; added language requiring Burn Test reports with Interior non metallic materials and requirement for physical and chemical heat lot test reports for metallic raw materials requirement.	F	5/26/2009
10	2.5.4; clarified requirement for Age Sensitive Materials.	G	7/14/2010
13	2.8 added referral to M7 SQAR-DD.	G	7/14/2010
All	All sections were rewritten and sections redesigned to conform to format.	H	05/21/2011
Appendix A	Added Appendix A	H	05/21/2011
All	Revision "I" has been skipped per documented procedure.	I	06/28/2011
Header / Footer	Replaced with new approved logo and changed Manager to Director of ASM QC in footer	J	06/28/2011
4.3	Added a new section 4.3 on Counterfeit Parts Prevention and all subsequent numbers were changed as necessary.	J	06/28/2011
4.2.4	Included adverse actions taken by supplier's customers, etc.	J	06/28/2011
All	All references to section numbers have been changes to section titles. Removed all references to M7 Aerospace LP and replaced with M7 Aerospace.	K	08/26/2011
4.9	Reference to M7 SQAR-DD has been replaced with the reference to MSP-CP 7.1.3.	K	08/26/2011
4.17.3	Included a new section on Customer Supplied Tooling	K	08/26/2011
4.18	Included a new section on Government Owned Property, remaining numbering in this section will be renumbered as necessary.	K	08/26/2011
4.3	Included new requirements on counterfeit parts delivered to M7 or its customers.	L	11/20/2011
4.13	Removed quality and added the M7 website reference.	M	03/28/2012
All	Document has been reorganized for a continuous flow in the process.	N	06/21/2012
All	The revision "O" has been skipped per our document requirements.	O	07/09/2012
4.12.1	Section 4.12.1 (Special Processes) has been changed to 4.13, it is a separate section not a part of Part Marking Requirements. All remaining sections will be renumbered as necessary.	P	07/09/2012
Footer & 3.0	Administrative change to update titles due to organizational changes.	Q	02/18/2017
4.2	Replaced website reference www.m7aerospace.com with http://www.elbitsystems-us.com/supplier-portal .	Q	02/18/2017
4.4	Added Special Processors/Defined Suppliers		
4.13	Remove DPD reference document	Q	02/18/2017
6.0	Remove DPD reference document	Q	02/18/2017
Appendix A	Revised checklist to common mistakes	Q	02/18/2017
Appendix B	Added SPS 2-11 and added reference SPS's at footer	Q	02/18/2017
4.2	Updated website address to http://www.elbitsystems-us.com/suppliers	R	07/27/2017
4.10.3	Clarification for Standard Parts and COTS C of C requirements	R	07/27/2017
4.10.10	Clarification for Calibration certificates	R	07/27/2017

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Appendix A – First Article Inspection Report (FAIR) AS9102 Checklist – Common Mistakes

Requirement	Yes	No	N/A	Comments
AS9102 current IAQG revision used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS 9102 Sheet 1 – Part name and revision correct (Additional changes list EO, and PO deviations) – Customer PO included in package.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 1 – Index of part numbers include fasteners/hardware not modified by drawing. Use block 18 FAIR Number to enter PO numbers to serve for traceability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 1- Signature blocks used has printed name (or unique identification) and signature (all AS9100 Sheets signature blocks).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 2 – All material and special processes are identified- including specification's full revision status (i.e. amendments/changes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 2 – Supplier's Name and Address is entered for material and where customer approval is required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 2 – Customer Approval Verification –“Yes” means SPS or specification requires customer approval and has been approved. “No” is a nonconformance. “N/A” does not require customer approval. Request ASL if not sure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 2 – C of C block entry matches certs traceability in FAIR package. Intercompany processes should be same as Sheet 1 Manufacturing process unless unique C of C is issued defining each and same as Sheet 2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 3 – All Drawing dimension requirements plus tolerance and measurement results have been recorded in drawing units of measure. Include Part List material thickness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 3 –Typical dimensions are recorded and identified representing amount inspected. (e.g. Typ X4, 0.25 +/- 0.03”)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS9102 Sheet 3 – All applicable drawing notes and also specification required dimensions are entered. Record attribute result (e.g. Accept).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All Nonconformance have customer acceptance documented and included in FAIR package.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All Material Certification /Test Reports included (Sheet 2 primary part materials, i.e. “made from” and also Sheet 1 metallic fastener/hardware)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All Processing Certifications included	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NDI certs have acceptance criteria stated (welds have certified visual inspection in addition to NDI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Parts properly identified per Drawing and applicable specification sheet (ref. SPS 21-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bubble Drawings – required when the drawings do not provide clear characteristic locations. (DPD use screen prints)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FAI documentation – Assembly FAIR package includes all detail FAIR packages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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Appendix B - Table 1 - M7 Aerospace Standard Process Specification (SPS) Training Requirements

Nadcap Commodity	Training Classification		SPS Title	Certification or Qualification Requirements
	Basic	Specific		
Chemical Processing				
CP - AC7108		SPS 2-3	Chem. Conversion	Per the SPS & SPA Requirements
		SPS 3-0	Brush Plating	Per the SPS Requirements
		SPS 3-1	Cad Plating	Per the SPS & SPA Requirements
		SPS 3-2	Cad Brush Plating	Per the SPS & SPA Requirements
		SPS 3-3	Zinc Nickel Alloy Plating	Per the SPS Requirements
		SPS 19-2	Surface Treat Stainless Steel	Per the SPS & SPA Requirements
		SPS 28-3	Anodic Coating Al & Al Alloy	Per the SPS & SPA Requirements
CP - AC7108/1 Prime & Paint		SPS 2-2	Application of Pretreatment	Per the SPS Requirements
		SPS 2-6	Prime and Paint Assemblies	Per the SPS & SPA Requirements
	SPS 2-7		Magnesium Protective Treatment	N/A
		SPS 2-11	Integral Fuel Tank Coating	Per SPS Requirements
		SPS 2-13	Prep of Plastic Part Surfaces	Per the SPS Requirements
		SPS 2-18	Polyurethane Top Coats	Per the SPS Requirements
		SPS 2-19	Interior Coatings	Per the SPS Requirements
CP - AC 7108/2 Pre Penetrant	SPS 19-1		Acid Cleaning	N/A
	SPS 19-5		Alkaline Cleaning	N/A
	SPS 19-7		Aqueous Alkaline Dgrease	N/A
CP - AC 7108/5 Chemical Milling	SPS 14-17		Chemical Milling	N/A
Composites				
Comp - AC7118 Composites		SPS 4-3	Nose Fairing Fabrication	Per the SPS Requirements
		SPS 4-11	Vacuum Formed Fiberglass	Per the SPS Requirements
Heat Treat				
HT - AC7102 /1 Brazing	SPS 1-5		Furnace Brazing of Oil Cooler	N/A
	SPS 1-6		Furnace Brazing of Exhaust	N/A
HT - AC7102/2 Aluminum		SPS 13-2	Heat Treating of Alum	Per the SPS & SPA Requirements
HT - AC7102/5 Hardness Test	SPS 13-2		Hardness & Conductivity Testing	N/A
	SPS 18-4		Hardness Testing Conversion	N/A
Nondestructive Testing				
NDT - AC7114/1 Inspection		SPS 18-2	Liquid Penetrant	ASTM E 1417 NAS 410 Level II
NDT - AC7114/2 Inspection		SPS 18-1	Magnetic Particle	ASTM E 1444 NAS 410 Level II
NDT - AC7114/4 Inspection		SPS 18-3	Radiographic	ASTM E 1742 NAS 410 Level II
NDT - AC7114/1/2/4 Inspection		SPS 27-1	Cast material Inspection	ASTM E 1742 NAS 410 Level II
Welding				
WLD - AC7110 Spot Weld		SPS 1-4	Spot Welding CRSS	AWS D17.1 Welder Performance Qual.
WLD - AC7110/5 Fusion Weld.		SPS 1-1	Fusion Welding	Per the SPS & SPA Requirements & AWS D17.1 Welder Performance Qual.
No Applicable Nadcap Commodity				
		SPS 6-5	Edge and Void Filling	Per the SPS & SPA Requirements
		SPS 8-1	Swaged fitting to cable	Per the SPS Requirements
		SPS 14-12	Instl. Hi-Lok fasteners	Per the SPS Requirements
		SPS 14-19	Roller staking of bearings	Per the SPS Requirements
		SPS 15-1	Tube Forming	Per the SPS Requirements

Reference:

- SPS 0-01 for Procedures and Requirements for ENGR Specifications
- SPS 0-02 INDEX for latest SPS revisions
- SPS 20-1 for Material Alternates and Substitutes
- SPS 21-1 for Marking, Identification of Equipment Assemblies & Parts
- SPS 22-1 for Process Specification Substitution List

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