



Meggitt Safety Systems

1915 Voyager Avenue
Simi Valley, CA 93063

VENDOR QUALITY REQUIREMENTS (VQRs)

Standard VQRs

Unless otherwise specified on the Purchase Order, the following VQRs apply to all Purchase Orders issued by MSSI:

1G, 2C, 3, 9A, 11, 12, 13A, 13B, 14, 15A, 15B, 18, 19A, 22, 24.

Any addition VQRs that apply will be listed by number on the face of the Purchase Order.

The latest revision of all specifications in effect at the time of award of the Purchase Order shall be noted on the Purchase Order.

When the supplier uses sub-tier suppliers, the supplier shall flow the identified requirements down to those sub-tier suppliers.

1.0 QUALITY SYSTEM REQUIREMENTS

The Supplier's Quality system shall comply with the requirements of one of the following:

- A) ISO 9001
- B) ISO 9002
- C) ISO 9003
- D) NQA-1
- E) 10CFR50, Appendix B
- F) 10CFR 21
- G) MIL-I-45208 or equivalent
- H) Other: _____
- I) AS 9100

2.0 SOURCE INSPECTION

- A) MSSI SOURCE INSPECTION:

All items on this Purchase Order require inspection and/or test, by a MSSI Quality Representative, at the Seller's facility prior to shipment. MSSI Quality Assurance shall be notified forty-eight (48) hours in advance of the time articles are ready for inspection.

- B) MSSI SOURCE SURVEILLANCE:

All items on this Purchase Order are subject to surveillance by MSSI and MSSI's customer, during the period of manufacture, processing, inspection, and/or testing. Upon receipt of this order, and prior to commencement of performance, contact MSSI Quality Assurance or the Field Representative servicing your facility to arrange scheduling of such surveillance.

- C) GSI / CUSTOMER / MSSI RIGHTS:

The Government, Customer and/or Meggitt Safety Systems Division reserve the right to inspect any or all of the work included in this order at the Seller's plant.

- D) GOVERNMENT SOURCE INSPECTION:

D.1 Government Inspection is required prior to shipment from your plant. Upon receipt of this order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government Inspection can be accomplished.

D.2 On Receipt of this order, promptly furnish a copy to the Government Representative (none, Army, Navy, Air Force, or Defense Supply Agency inspection office). In the event the representative or office cannot be located, our Purchasing Office should be notified immediately.

- E) GOVERNMENT INSPECTION:

During performance of this order, your Quality Control or Inspection system and manufacturing processes are subject to review, verification, and analysis by authorized Government representatives. Government Inspection prior to release of product for shipment is not required unless you are otherwise notified. You shall provide a copy of this order to your Government Representative upon his request.

3.0 FIRST ARTICLE INSPECTION

- A) The Seller shall furnish a full First Article Report (FAIR) in accordance with AS9102 using an AS9102 form, with the first shipment of each item and under the following conditions:

- It is the first time the seller has made / supplied the item (new supplier or old supplier with new part number)
- It there has been a production gap of greater than two years or more since the last FAIR was submitted.
- A seller makes a change in the seller's or major sub-tier support infrastructure i.e. relocation, work transfer, etc.

- B) A Delta FAIR in accordance with AS9102 using an AS9102 form, with the first shipment of each item, and under the following conditions:

- A drawing Revision (to the change only).
- A seller makes a process change from the original FAIR.

Note: Actual impacted dimensions must be provided and impacted note attributes must be identified. A delta

FAIR can only be performed if there is a previously existing full FAIR. COTs items do not require a FAIR.

4.0 TEST PROCEDURE APPROVAL

- A) ACCEPTANCE TEST PROCEDURE:

Seller shall obtain MSSI approval of his acceptance test procedure prior to conducting tests on items to be delivered under this order.

- B) QUALIFICATION TEST PROCEDURE:

Seller shall obtain MSSI approval of his qualification test procedure prior to conduction tests on items to be delivered.

- C) INSPECTION & TEST PLAN:

The Seller shall prepare an inspection and test plan covering the material on this Purchase Order. The plan may be in any form appropriate to the circumstances but shall include, as a minimum, a description of the general and sequential controls in effect to maintain quality requirements throughout the manufacturing cycle. The plan shall be maintained under change control by Seller. Two (2) copies of the

plan shall be submitted to the Buyer for approval two (2) weeks prior to the start of manufacturing.

5.0 TEST DATA / REPORTS (Signed and Dated)

- A) ACCEPTANCE TEST DATA:

Each shipment against this order must be accompanied by a copy of Seller's acceptance test(s) data to provide evidence of compliance with all acceptance test requirements.

- B) CERTIFIED MATERIAL TEST REPORT:

A physical / chemical test report must accompany all shipments made against each item of this Purchase Order, which indicates the percentage of each element that makes up the chemical composition and physical properties of all raw materials. The report shall specifically identify the material by reference to the number of the melt, cast, heat, drop, lot, or other similar designation, and must indicate the applicable specification, revision, and Purchase Order designation.

- C) PHYSICAL / CHEMICAL ANALYSIS:

Seller shall supply results of chemical and physical analysis performed on raw materials, which are employed on fabrication of articles purchased on this order.

- D) INSPECTION DATA:

One (1) copy of Seller's inspection acceptance data, identifiable to the material submitted, must accompany each shipment.

- E) DIMENSIONAL DATA:

A dimensional check sheet shall be furnished with each part submitted for inspection. All check sheets shall include the heat, batch or lot number (as applicable), traceable to the raw material used, and shall specify the characteristics inspected and shall indicate acceptance by Seller's Acceptance Stamp. Unless otherwise specified, recording of actual dimensions is not required. Whenever fixtures or tooling are used in lieu of inspection gages, fixture or tool numbers must be so referenced on the check sheet.

F) LABORATORY MATERIAL ANALYSIS:

A test report, report of analysis, spectrum analysis, chemical analysis, etc., as applicable, shall be supplied for each item of this purchase order. The report shall also include reference to the purchase order number, part number(s) being analyzed and traceability information provided

G) CATALOGS:

The initial shipment of items on the Purchase Order shall be accompanied with drawings and/or catalog for receiving inspection purposes.

H) PCB RAW MATERIAL CERTIFICATION:

All PCB laminate raw material certifications, identifying materials used by applicable specification, shall be provided. Certifications shall have evidence of traceability to submitted lot to MSSI.

6.0 MERCURY FREE

Part(s) shall be free of all mercury contamination. During the processing, the part(s) shall not come into direct contact with mercury, any of its compounds or with any mercury containing devices. The Supplier shall certify that the part(s), when shipped, are free from mercury contamination.

7.0 RADIOGRAPHIC INSPECTION

The radiographs and a copy of the laboratory x-ray report must accompany the material to the Buyer's facility.

8.0 DFARS 252.225-7008 & DFARS 252.225-7009

The order for this part is issued pursuant to a U.S. Department of Defense Prime Contract. DFARS 252.225-7008, Restriction on Acquisition of Specialty Metals, and DFARS 252.225-7009, Restriction on Acquisition of Certain Articles Containing Specialty Metals, are applicable for this part. Specialty Metals used in making this part must comply with the requirements of this clause. This requirement shall be included in all subcontracts for items containing specialty metals.

9.0 LOT TRACEABILITY

A) TRACEABILITY SYSTEM:

All items on this order are subject to traceability at the Seller's facility; which is defined as the ability to trace the history, application, use and location of an individual item or characteristic lot of items through the system assignment, recording and correlation of control identification numbers.

B) LOT IDENTIFICATION:

The Supplier shall assign a lot identification for each batch or manufactured lot. A lot is defined as a quantity that has been blended, mixed, or fabricated during an uninterrupted manufacturing run. Each item in each lot shall be properly identified with the assigned lot number. Unless otherwise specified, the Purchase Order number is the lot traceability number.

C) SINGLE LOT:

All items furnished in accordance with this Purchase Order shall be of the same manufacturing lot. The manufacturing lot number shall be marked on the shipping papers.

D) SERIALIZATION:

The Supplier shall assign and permanently identify each unit manufactured, inspected, tested, and shipped with an individual serial number. The Supplier's method for assigning serial numbers shall be such that the same number cannot be used more than once. The Supplier's inspection and test records for each item furnished shall be identified by the assigned serial number.

E) IDENTIFICATION:

The Seller shall legibly and permanently identify each part, assembly, and material in the methods, and with the information, prescribed by the detail document. For example: purchase order number, gage, or tool number, etc., as required. Parts, assemblies and materials not having sufficient space for, or which could be damaged by marking shall be identified by a tag attached to the part or container.

10.0 AGE CONTROL / CURE DATES

A) AGE-SENSITIVE MATERIAL:

The articles furnished in accordance with the Purchase Order are subject to Age Control. Seller shall mark articles with batch or lot number, date of manufacture, cure date, storage environment, and/or shelf life as applicable. Unless otherwise specified in the Purchase Order, articles subject to age deterioration shall not be supplied when more than 20% of the shelf life has been expended.

B) RUBBER CURE DATE:

Seller shall mark the cure date on all shippers, containers, packages, and parts/raw stock. Assemblies shall be marked with cure date of rubber parts contained therein. Unless otherwise specified in the Purchase Order, cure date at time of receipt shall not exceed four (4) quarters. Rubber and/or synthetic material or parts not having sufficient space for marking, shall be identified by a tag, bearing the cure date and attached to the part or part container.

11.0 CERTIFICATE OF CONFORMANCE

The Seller shall submit with each shipment of material a signed and dated material statement that identifies A.) The MSSI part number for MSSI drawings and/or B.) The catalog part number for COTS items on the Seller's stationary that certifies as a minimum the following: All material and/or services supplied are in conformance with the referenced technical data, purchase order, test reports, inspection results and any additional requirements as noted on the PO and/or drawing.

All quality documentation is to be maintained at the point of manufacture for a minimum of 10 years and shall be available for review by the Buyer and/or Government Representative. MSSI will be notified prior to disposal of the above stored documents.

12.0 RIGHT OF ENTRY

The Buyer's Quality Assurance representative, MSSI's customer and/or their customer and any regulatory agency may perform audits and maintain surveillance of the seller's facility to assure compliance with the Quality Program, and evaluate the degree of capability and the continuing application of such ability to comply

with these requirements. This function may also apply to sub-suppliers with the seller's cognizance. The seller shall provide such facilities and assistance as may reasonably be required by the Buyer's Quality Assurance representative in the performance of their functions.

13.0 CHANGE CONTROL

- A) The Seller specifically agrees that no changes are made in design, configuration, material, manufacturing process, manufacturing location, testing method, or testing sequence without the prior written approval of the buyer.
- B) Seller's drawings, specifications, process documentation, manufacturing location, and test procedure, which have previously been approved by the Buyer, shall be resubmitted to the Buyer for evaluation and approval prior to the Seller effecting changes to the product or data. Changed articles shall be identified so as to segregate them from the unchanged articles.

14.0 FOREIGN OBJECT DEBRIS / DAMAGE/SAFETY

The material supplied on this purchase order shall be manufactured in an environment that is free of foreign objects. Material supplied shall be free of foreign objects and foreign object damage. The Supplier shall utilize effective FOD prevention practices in accordance with NAS-412 (NAS standard for FOD) as applicable to the product being supplied. The program shall be proportional to the sensitivity of the design of the design of the product(s) to FOD, as well as, to the FOD generating potential of the manufacturing methods. Whenever and/or wherever FOD entrapment or foreign objects can migrate seller's FOD prevention efforts shall, as appropriate, consider the following elements Design & Manufacturing Process Review, Performance Measurement, Training, Material Handling and Parts Protection, Housekeeping, Tool Accountability, Hardware Accountability, Lost Items, Physical Entry Control into FOD Critical Areas, and FOD Focal Point(s). The Seller shall maintain an ESOH (Environmental, Safety and Occupational Health) management program.

15.0 REJECTED MATERIAL

- A) FAILURE ANALYSIS:

Seller shall conduct failure analysis on returned products, and furnish documented report of results to the Buyer. Each failure analysis report shall contain the basic identification information as to the type of hardware that failed, type or description of the failure, a description of the analysis that was conducted on the failed part, the conclusions derived as a result of this analysis and the corrective action taken to prevent a recurrence of the failure. Buyer reserves the right to witness the failure analysis.

B) RE-SUBMISSION:

Re-submittal of previously rejected items, including those lot rejected on the basis of sampling inspection, shall be accompanied by the statement "Re-submittal Lot" on the Seller's shipping document and shall reference the MSSI rejection report number. Such re-submittal shall be made on a separate Seller shipping document.

16.0 INSPECTION AND/OR PRODUCTION TOOLING

Seller is held responsible for the control, protection, calibration and care (other than normal wear) of all production and inspection tooling and equipment furnished by the Buyer or paid for by MSSI for use in performance of Purchase Order requirements. All tooling shall be subject to Buyer surveillance and/or inspection upon notice. Said tooling, or replacement tooling of equal quality, shall be returned to the Buyer in an acceptable condition upon demand or notice.

17.0 SPECIAL PROCESSES APPROVAL / CERTIFICATION

A) APPROVAL AND CERTIFICATION:

Special processes, equipment and personnel utilized in performance thereof, shall be subject to approval or certification by MSSI Quality Assurance. Certification of special processes performed by a lower tier supplier is the responsibility of the Seller (first tier supplier). Objective evidence of special process certifications of the Seller's lower-tier supplier(s) shall be available to MSSI Quality Assurance at the facilities of the Seller and at any sup-

plier's facility utilized in the performance of this order.

B) APPROVAL:

Processes performed by the Seller or his subcontractors, such as welding, heat treating, cleaning, electro-plating, anodizing, chemical filming, nondestructive testing, etc., require MSSI Quality Assurance approval prior to fabrication under this order, and objective evidence must be available.

C) CERTIFICATION:

Process Certification must accompany all shipments to MSSI and shall identify the processor, process used, and the specifications to which they conform. When nondestructive tests are performed, the certification shall be accompanied by a legible copy of the report.

D) NADCAP CERTIFICATION:

Processes performed by the Seller or his subcontractors, such as welding, heat treating, cleaning, electro-plating, anodizing, chemical filming, nondestructive testing, etc., require NADCAP certification for items fabricated under this order. Objective evidence of certification must be available. The following statement shall be added to the C of C "All special processes which were performed under this PO were NADCAP certified processes."

18.0 NON-CONFORMING MATERIAL

Seller's items which are non-conforming to MSSI specified requirements including reliability are not to be submitted to MSSI without prior written approval. Supplier Request for Waiver/Deviation, Form QAD-2, must be dispositioned by MSSI Material Review Board (MRB) personnel prior to shipment. This completed form must then be shipped with the non-conforming material. This form can be issued by Quality Assurance through cognizant MSSI Buyer. MRB authority is not delegated to the Seller. Seller's shall immediately notify MSSI of any discovery of items which are found to be nonconforming to MSSI specified requirements including reliability that have been previously delivered to MSSI without prior written approval.

19.0 FRAUDULENT/COUNTERFEIT PARTS

A) In accordance with the SAE AS5553 REV. B and AS6174 standards, Fraudulent/Counterfeit Parts means suspect parts that are a copy or substitute without legal right or authority to do so, whose performance or characteristics are knowingly misrepresented. Seller agrees and shall ensure that Fraudulent/Counterfeit Parts, or any returned goods/parts/materials/electronic components, are not contained in the delivered products through the implementation of policies that include prevention, detection and risk mitigation methods to protect against their use. MSSI does not accept any returned goods/parts/materials/electronic components in Seller's delivered products. In the event that a Seller wants to procure material from an unauthorized distributor, it must disclose the request in writing to MSSI and receive approval from MSSI engineering and quality. In the event Seller suspects that it has furnished Fraudulent/Counterfeit Parts or any returned parts/goods/materials/electronic components, it shall immediately notify MSSI and report in writing whether such parts/goods/materials/electronic components should be replaced with genuine parts/goods/materials/electronic components. When requested by MSSI, Seller shall provide (if available) Authorized Supplier documentation that authenticates traceability of the parts/goods/materials/electronic components. Seller shall include this clause or reasonably equivalent provisions in all subcontracts for the delivery of items that will be furnished to or included in products furnished to MSSI. If the seller fails to comply with the requirements of this clause, such failure shall constitute a material breach and MSSI shall have the right to all available remedies in law and in equity.

B) In accordance with Counterfeit Parts Avoidance per DFAR 252.246-7007, Contractor Counterfeit Electronic Part Detection and Avoidance System and DFAR 252.246-7008, Sources of Electronic Parts the seller shall maintain a system or method of item traceability that ensures tracking of the supply chain back to the Original Component Manufacturer/Original Equipment Manufacturer (OCM/OEM) of all Electrical, Electronic, and Electromechanical (EEE) assemblies and subassemblies either contained in a product or being delivered as a product

under this order. Upon MSSI request, seller shall provide documentation acceptable to MSSI authenticating that an item is traceable to the OCM/OEM. A Seller will immediately notify MSSI in writing after Purchase Order placement if: (1) seller cannot purchase or acquire authentic components, subcomponents, parts, material, and supplies directly from the OCM/OEM or through an OCM/OEM authorized distributor chain; or (2) seller or any of its subcontractors at any tier cannot maintain tracking of the supply chain back to the OCM/OEM for EEE. The seller represents and warrants that only new and authentic components, subcomponents, parts, material, and supplies are procured, used, incorporated into, and/or delivered in performance of this order. No other material, part, or component other than a new and authentic part is to be used unless approved in advance in writing by MSSI.

Seller agrees and shall ensure that counterfeit parts or counterfeit work are not delivered to or incorporated into MSSI or to MSSI designee and that the work contains no counterfeit parts or counterfeit work. The intentional or unintentional use, incorporation, or delivery of counterfeit parts or counterfeit work is strictly prohibited. This includes it being provided either as an end item deliverable or as a component or subcomponent of an end item deliverable under this subcontract/ purchase order/letter contract.

The seller shall maintain a system or method of item traceability that ensures tracking of the supply chain back to the manufacturer of all electrical, electronic, and electromechanical (eee) assemblies and subassemblies being delivered per this order.

Seller shall immediately notify MSSI in writing if it cannot purchase or acquire authentic components, subcomponents, parts, material, and supplies directly from the ocm/oem or through an ocm/oem authorized distributor chain.

Seller shall also immediately notify MSSI in writing if it or its subcontractors at any tier cannot maintain tracking of the supply chain back to the ocm/oem.

20.0 SAMPLE INSPECTION

A) MSSI APPROVAL:

Fourteen (14) days prior to the performance of any sampling inspection and/or test

(other than 100%) on materials to be furnished to MSSl, the Supplier shall submit these sampling plans to MSSl for review and approval by a cognizant Quality Engineer.

B) ANSI / ASQC Z1.4:

Any sample inspection performed on articles supplied on this Purchase Order shall be in accordance with the requirements of ANSI /ASQC Z1.4.

C) DISALLOWED:

Sample inspection of items furnished on this PO is not permitted. 100% inspection of all items is mandatory.

**21.0 ESD HANDLING AND PACKAGING
PROCEDURE REQUIREMENTS**

Electrostatic Discharge (ESD) protective handling procedures shall be established, documented, and implemented. Handling procedures are required for all areas where ESD items are manually or machine processed. ESD handling and protective packaging should be in accordance with current industry standards.

**22.0 PACKAGING & PACKAGING
REQUIREMENTS**

The Seller shall assure that all the supplies on the Purchase Order are packed and packaged using materials of a grade, size, and weight, which will provide adequate physical protection from damage and contamination during handling and transport to the point of delivery.

23.0 ECMP REQUIREMENT


This product must be compliant per the applicable areas of the IEC / TS62239-1 standard. This is in addition to all compliance requirements as specified within the drawing or Purchase Order.

24.0 Standard of Ethics and Safety

The supplier shall institute a culture that upholds practices related to Anti-Bribery, Ethics, Health and Safety, Cyber Security, Modern Slavery, Anti-Fraud, etc.

OBSOLETE

Change Record

Rev	Date	Description	Change by:	Signature
P	09-08-11	Added 12 as Standard. Added 17D Revised 3D, 11, & 14	R. Thompson	
Q		Not Used		
R	05-11-12	Revised 19-Added requirement to comply with AS-5553	S. Rahm	
S		Not Used		
T	10-21-14	Revised 19- Updated to comply with SAE AS5553A. Added 23- ECMP requirement	J. Krochmal	
U	06-29-15	Added ESOH program to 14	J. Krochmal	
V	07-13-17	Added AS6174 standard to 19.0	L. Paden	
W	04-19-18	Replaced AS5553 with AS5553 Rev. B	L. Echeverria	
X	04-24-18	Added 3D to standard VQRs	L. Paden	
Y	06-13-18	Added VQR 24 and VQR 9 as standard requirements. Revised VQR 23.	J. Mandrell	
Z	08-10-18	Added VQR 19B, 25 and 26. Updated standard VQR's to include 19A	A. Bullon/ D. Donovan	
AA	09-13-18	Revise VQAR 3, Remove VQRs 25, 26	Lina Paden	
AB	09-19-18	Revise VQAR 3	Lina Paden	 9/19/18