

# MEGGITT DEFENSE SYSTEMS, Inc

## SUPPLIER PRODUCT ASSURANCE REQUIREMENTS

### I. PURPOSE

This Document established requirements applicable to items ordered under the Purchase Order which this Form 4707A is a part, to assure that such items are of the required quality and reliability. It contains General Requirements for product assurances which are applicable unless expressly excluded in the Purchase Order and Special Product Assurance Requirements (SPARS) which apply as designated.

### II. DEFINITIONS AND ABBREVIATIONS

- A. The term "purchase order" means the written agreement with the Seller (supplier) in which this Form 4707A is incorporated by reference.
- B. The term "Buyer" means Cartwright Electronics acting as the legal entity which is issuing the purchase order.
- C. The term "Seller" means the legal entity which is the contracting party with the Buyer with respect to the purchase order.

### III. GENERAL REQUIREMENTS

Unless otherwise specified in the purchase order, the following general requirements apply to this purchase order.

#### A. PROHIBITED PRACTICES

1. Unauthorized Repairs: Without Buyer's approval Seller may not repair by welding, brazing, soldering or adhesives, parts damaged or found to be faulty during fabrication. Defects in casting or forging shall not be repaired by any method unless authorized by the Buyer in writing.
2. Change in Approved Processes, Materials or Procedures: Seller shall not change any process, material or procedure without prior Buyer approval if such process, material or procedure was originally subject to approval by the Buyer. As to any product which has been subjected to Buyer or Government specified qualification procedures to qualify the product or to permit the Seller to become a qualified source for the product, the Seller shall not change any process, material or procedure from that used to qualify without prior notification to Buyer and approval by Buyer or the Government, as appropriate.
3. Improper Resubmittal: Articles rejected by the Buyer and subsequently resubmitted to the Buyer shall be clearly and properly identified as resubmitted articles. Seller's shipping document shall contain a statement that articles are replacement or rework articles and shall also refer to Buyer's rejection document.
4. Unauthorized Submittal or Production Parts: When the purchase order requires Buyer acceptance of a first article. Seller shall not submit parts from a production run for Buyer Inspection prior to Buyer's acceptance of such first article.
5. Notification of Facility Change: Seller shall not relocate any production, manufacturing and/or processing facilities during performance of the purchase order, without promptly notifying Buyer and affording Buyer an opportunity to examine such facilities for compliance with Quality Assurance requirements, including any necessary approvals.

#### B. RESPONSIBILITY FOR CONFORMANCE

Neither surveillance, inspection and/or tests made by the Buyer or his representatives at neither the Seller's or Buyer's facility, nor the Seller's compliance with all applicable Product Assurance Requirements shall relieve the Seller of the responsibility to furnish items which conform to the requirements of the purchase order.

#### C. DOCUMENTATION

The Buyer may refuse to accept items delivered under the purchase order if Seller fails to submit the certification, documentation, test data or reports specified in the purchase order. Documentation includes MDS-CE source inspection record when such source inspection is performed.

#### D. CERTIFICATE OF COMPLIANCE AUDIT

Certification furnished under the terms of the purchase order shall be supported by test records and data and are subject to audit by the Buyer.

#### E. LOT SAMPLING

The Buyer reserves the right to use MIL-STD-105 or equivalent sampling plan for the acceptance or rejection of supplies.

### F. CORRECTIVE ACTION REQUESTS

When a quality problem exists, Quality Assurance will request corrective action from the Seller. Such requests require timely responses and should include the following information: Analysis of the cause of the problem and statement of preventative action taken, with its affectivity. When corrective action is required for Government Source Inspected items, the supplier shall coordinate such action with the Government Quality Assurance Representative assigned to his plant.

### G. ACCESS TO FACILITIES

Seller must identify (without disclosing proprietary information) the intended use (by Seller or Seller's suppliers) in performance of the Purchase Order of an item, material, component or process with respect to which access by Buyer or Government representatives for purpose of quality assurance by inspection, test or process surveillance is proposed to be restricted. Such identification shall be made in writing to Buyer along with Seller's quotation or offer to Buyer or if the proposed restricted access involves a supplier not known to Seller prior to award of the purchase order, such written identification shall be made as soon as Seller actively considers award to such supplier. The written identification shall state generally the basis for such proposed restricted access (e.g. that the process involves proprietary information), and shall include a proposed method of quality control/inspection by Buyer or Government representative which Seller (or the supplier) considers acceptable. The absence of such written identification is a representation by Seller that all items (including end items), materials components, and processes are subject to inspection/test and quality control surveillance at all places and at reasonable time prior to acceptance. If such written notification is given, Seller agrees to negotiate promptly and in good faith with Buyer for agreement on acceptable arrangements such inspection/test and quality control surveillance.

### IV. SPECIAL PRODUCT ASSURANCE REQUIREMENTS

The following Special Product Assurance Clauses, hereafter referred to as SPAR(S), are requirement of this purchase order when specified by number in the purchase order.

#### SPAR 1 – BUYER SOURCE INSPECTION

Items to be delivered under this purchase order require inspection tests or surveillance by the Buyer's Quality Representative at the Seller's plant. Sufficient advance notice (two working days for local travel plus travel time for distance location) must be given the Buyer to permit scheduling of source inspection. The Seller shall notify the Buyer's Purchasing Department when the product is ready for source inspection. Source inspection does not relieve the Seller of the responsibility for compliance with all requirements of this purchase order. Evidence of Buyer source inspection must accompany or be shown on the shipping documents (see III-C above). The buyer reserves the right of final acceptance at Buyer's facility. Items submitted under this clause shall have passed Seller's inspection.

- A. In-process and final inspection or tests or both are required. Parts assemblies, processing and tests are subject to detailed inspection by the Buyer's Quality Representative prior to assembly, test and/or delivery.
- B. Final inspection or tests or both, by Buyer's Quality Representative are required prior to delivery.
- C. In-process inspection or tests, or both, by Buyer's Quality Representative are required prior to delivery.

#### SPAR 2 – NOTIFICATION OF PRODUCT CHANGE

Prior to delivery, Seller shall notify the Buyer of any significant changes in product design fabrication methods, material or processing from those used by Seller at time of Seller quotation or offer to Buyer which resulted in the Purchase Order.

#### SPAR 3 – REPORT DISCREPANCY

All departures from drawing, specifications or other purchase order requirements must be reported to the Buyer for approval prior to shipment.

#### SPAR 4 – CERTIFICATION OF CONFORMANCE

With each shipment of items covered by this purchase order, Seller shall submit a Certificate of Conformance, signed by an authorized representative, which constitutes a representation that the items as delivered comply with all specification and requirements of this purchase order. Drawings, specification and revision letters

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shall be listed. By making shipment under this purchase order, the Seller automatically certifies that the materials (except when the materials are finished by the Buyer) used in the articles shipped and the processes and services applied to such articles comply with the applicable drawing and specifications. The Seller agrees to retain objective evidence, including records of inspections and tests performance in the course of manufacturing, tests, inspecting, preserving, packaging and packing of such articles. The records shall be made available to Buyer for review upon request.

In case of drop shipment, a copy of the above certificates shall be submitted direct to Buyer at time of shipment.

### SPAR 5 – GOVERNMENT INSPECTION REQUIREMENTS

- A. The Government reserves the right to inspect any or all of the items included in the order at Seller's facility.
- B. Government reserves the right to inspect any or all of the items included in the order at Seller's facility.
- C. On receipt of this order, promptly furnish a copy to the Government Representative who normally services your plant or, if none, the nearest Army, Navy, Air Force, or Defense Supply Agency Inspection Office. In the event the representative or office cannot be located our purchasing agent shall be notified immediately.

### SPAR 6 – QUALITY SYSTEMS

Seller will provide and maintain a system that complies with:

- A. ISO 9001:2000
- B. AS9100
- C. MIL-Q-9858A
- D. MIL-I-45208

Compliance with all section of the applicable specification is required unless specifically excluded or stipulated in the purchase order.

### SPAR 7 – SELLER'S CONTROLLED PRODUCTS

The Initial shipment on this purchase order must be accompanied by three (3) legible copies of applicable specifications, drawings and/or catalogs for Buyer's receiving inspection.

### SPAR 8 – SOLDERABILITY REQUIREMENTS

Seller shall provide and certify material that complies with:

- A. Solderability of semiconductors per MIL-STD-750 Method 2026.
- B. Solderability of microelectronics per MIL-STD-883 Method 2003.
- C. Solderability of printed circuit boards per MIL-P-55110 and MIL-P50884.
- D. Solderability of all other parts per MIL-STD-202 Method 208.

### SPAR 9 – REPORTS

- A. Seller shall furnish three (3) legible copies of actual chemical and physical test report identifiable with the items/materials submitted.
- B. Seller shall furnish three (3) legible copies of actual test results identifiable with parameters defined as operational, mechanical, electrical, environmental, etc. of material submitted.

### SPAR 9 – REPORTS (CONT.)

- C. Seller shall furnish (3) legible copies of process certifications and include the specification and process used including revision letters, identifiable to the material submitted.
- D. Seller shall furnish three (3) legible copies of nondestructive test reports identifiable with the acceptance requirements of material submitted.
- E. Seller shall furnish three (3) legible copies of X-ray certification reports identifiable with the material submitted.
- F. Seller shall furnish three (3) legible copies of detailed analysis report and physical test results of raw material supplied.

### SPAR 10 – AGE CONTROL

The Seller shall have an effective system of age control of items whose acceptability is limited by the age of the item. The system must include a method of identifying the age of such items and provisions for the rotation of stock. Age control of rubber goods shall conform to the requirements of MIL-STD-1523 unless otherwise specified in the purchase order.

- A. Seller shall show on each container of materials having a limited or specified shelf life (both Seller's in-plant containers and containers in which material is delivered to Buyer) the cure or manufacture date, expiration date, lot or batch number and special storage and handling conditions applicable to the contents; this information shall be in addition to the normal identification requirements

of name, part or code number, specification number, type, size, quantity, etc. Special handling conditions shall be recorded on certifications and shipping documents covering the material as delivered to Buyer, in addition to normal identification information.

- B. Time lapse between cure or manufacturing date and date of scheduled receipt by Buyer under the Purchase Order shall not exceed one-third of the shelf life for the material without prior written waiver of Buyer as to each shipment.

### SPAR 11 – FIRST ARTICLE

First article inspection by Buyers quality representative is required. Production articles will not be accepted, unless specifically authorized by the Buyer, until compliance with applicable engineering drawing and/or specifications have been established. First articles must be uniquely marked and identified with appropriate part number.

### SPAR 12 – ACCEPTANCE OF PRODUCTION TOOLING

Acceptance of production tooling on this order shall be contingent on inspection and acceptance by Buyer. This inspection shall be under the cognizance of an authorized Buyer representative at the Seller's facility or as directed by Buyer. This inspection shall be under the cognizance of an authorized Buyer representative at the Seller's facility or as directed by Buyer. Samples must be identified with Buyer tooling number and name.

### SPAR 13 – TRACEABILITY

- A. All items on this purchase order shall be traceable to the raw materials used. All traceability and inspection records must be identifiable and shall be available upon request or audit by Buyer representatives.
- B. Each part, component, or assembly furnished under this purchase order shall be identified with a distinct serial number. Serial numbers shall not be duplicated for one part, component or assembly number when manufactured in sequential lots. Marking shall be per MIL-STD-130 or the applicable specification.
- C. Each part, component, or material quantity furnished shall be identified by lot or batch, traceable to the actual manufacturing process. The lot or batch number may be date or Supplier shop order code, but must provide the capability for a lot or batch purge in the event a discrepant condition is established. Identification marking shall be per MIL-STD-130 or applicable specification.

### SPAR 14 – SPECIAL PROCESS

Special processes together with equipment, material, and personnel utilized therewith shall, require review, approval and certification by Buyer prior to commencement of production. Special processes specifications which do not require review, approval and certification may be subject to same at Buyer's discretion. When required, process procedures and any changes/modifications made thereto during performance of the purchase order, will require Buyer's approval prior to implementation. Seller shall perform systematic, periodic evaluation of personnel, equipment, methods, and material required in these special processes to assure positive control at all times. Objective evidence of these evaluations shall be maintained and made available to Buyer's representative upon request. Certification, approval and control of special processes performed by a lower tier supplier are the responsibility of the Seller and shall be subject to Buyer approval. Objective evidence of certification and control of all lower tier supplier performance shall be maintained by Seller. Buyer reserves the right to accomplish surveillance, review or audit of all aspects of Seller's special process certification and control prior to and/or during fulfillment of this purchase order.

### SPAR 15 – ELECTROSTATIC SENSITIVE DEVICES (ESD) HANDLING AND SHIPMENT REQUIRED

All items on the purchase order shall be handled, packaged, labeled (marked) and shipped DOD-STD-1686 (Electrostatic Discharge Control Program for Protection of Electrical & Electronic Parts Assemblies and Equipment) Ref DOD-HDBK-263 (Electrostatic Discharge Control Handbook for Protection of Electrical Parts, Assemblies and Equipment).

### SPAR 16 – FOUNDRY CONTROL OF CAST PARTS

Foundry control castings are required when new tooling (patterns or molds) is made, when a change is made in gates, risers, chills or as-cast shape, or when pattern is transferred to a different supplier. Foundry control castings shall be submitted to the Buyer for review and approval, as required below, prior to initiation or continuation of production. Foundry control castings are in addition to purchase order and item quantity requirements.

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- A. Radiographic film of foundry control castings and test reports shall be reviewed and approved by Buyer's Quality Representative at the Seller's radiographic department or agency. Applicable film and test reports will accompany foundry control casting delivered to Buyer.
- B. Seller will deliver to Buyer a minimum of one foundry control casting, heat treated and straightened to the casting drawing requirements, for examination and approval by the Buyer. Such casting(s) shall be representative of the foundry practices and processes to be used for the production castings.
- C. Seller will submit a certified statement of the test bar mechanical properties with each foundry control casting. The test bar(s) must be from the same melt and heat as the foundry control casting.
- D. Seller will submit a certified statement of chemical analysis of the material used in foundry control casting showing the percentage of each element contained in the specimen.
- E. Radiographic film of foundry control casting and test report shall accompany such castings when delivered to the Buyer for review at approval at Buyer's facility.

### SPAR 17 – CONTROL OF NONDESTRUCTIVE TESTING (NDT)

Items requiring NDT shall be submitted, complete with part drawing or document establishing NDT requirement, to a laboratory acceptable to Buyer. Test results shall be reported in writing to the Buyer, identifying the laboratory and the certified technician who performed and/or evaluated the tests, signed by responsible laboratory representative. An adequate method of identifying and cross-referencing each X-ray film exposure, report and item must be provided. When parts are serialized, serial numbers must appear on the report and film with the control number.

- A. Minimum radiographic requirements are included in this purchase order on attached sketch.
- B. Radiographic film of each lot and other NDT results, including foundry control NDT, shall be inspected by the Buyer at the laboratory performing the work. Prior to shipment, Seller shall notify the Buyer when the film is ready for review.
- C. NDT reports shall be submitted with each shipment to the Buyer and shall include X-ray film when radiographic inspection is required.

### SPAR 18 – PURCHASE TYPE PER MIL-STD-1535

- A. Group I Purchase: This group includes (a) purchases for products or services that are either complex or have critical application and for which conformance to contract requirements cannot or should not, for economical reasons, be fully determined upon receipt, and (b) purchases requiring direct shipment from the supplier to the government.
- B. Group II Purchases: This group includes purchases for supplies when conformance to contract requirements may be adequately determined by the purchasing contractor upon receipt.

### SPAR 19 – CONTROL OF FORGINGS

- A. The Seller shall furnish Buyer for destructive qualification testing from first production run, one sample forging representative of all processing used. This test forging is in addition to the production quantities required.
- B. With each shipment, the Seller shall submit two test samples from each heat of material used in the shipment. The samples shall be suitable to make specimens conforming to R-3 of Federal Test Standard No. 151, and be subjected to the same processing the forging receive, including working and heat treatments.
- C. The forgings shall be made with detachable tab. The tab shall not be removed until completion of all processing including heat treatment. The tabs shall be removed and shipped with the forgings to the Buyer. The tabs shall be identified to material heats and heat treat lots, and shall include serial numbers when serialization is required.

### SPAR 20 – INSPECTION AND TEST PLAN

The Seller shall prepare an inspection and test plan for the items delivered under this purchase order. Two reproducible copies of the plan shall be submitted for Buyer approval a minimum of thirty days prior to production.

- A. The plan shall include identification of the item to be inspected or tested, measuring or test equipment to be used, method of inspection (visual, test equipment, gage, etc.), and type of inspection (dimensional, functional, test, NDT, etc.).
- B. The plan shall contain the operation sequence and inspection/test points in relation to procurement, manufacture, assembly, checkout, and delivery.

### SPAR 21 – MATERIAL IDENTIFICATION INSTRUCTIONS

- A. Apply part number and revision letter per applicable drawing note.
- B. Bag and tag parts.
- C. Tag Parts.
- D. Identify per procurement instruction requirements.
- E. Identify parts in accordance with MIL-STD-130 (latest revision as of the date of purchase order insurance).

### SPAR 22 – TEST SAMPLES

The Seller shall furnish to the Buyer the test samples required by this purchase order. The samples shall be identified as "Test Samples" with applicable part number. The test samples shall be processed simultaneously with each batch or lot of parts. Seller's shipping document shall indicate part number, process, processor, batch/lot number.

### SPAR 23 – DROP SHIPMENTS

The material ordered hereunder is to be shipped to other than the Buyer's facilities. Copies of the Product Assurance data required by this order shall accompany the shipment: in addition, one copy of such data shall be mailed to the Buyer on the same day that shipment is made.

### SPAR 24 – ACCEPTANCE TEST PROCEDURE

Seller shall prepare an acceptance test procedure for the items to be delivered under this purchase order, to include, as a minimum, the equipment, sequence, and steps necessary to perform acceptance test. The procedure shall contain a requirement for recording, the following data (for submission to Buyer): part number, part name, revision letter, purchase order number, serial/lot number, sequence number, criteria measured and tested, test results, test data, and signature of Seller's Inspection Representative. Two reproducible copies of the acceptance test procedure shall be submitted for Buyer's Quality Assurance approval at least thirty (30) days prior to performance of the initial acceptance test. Any subsequent change to the acceptance test procedure requires prior approval of Buyer's Quality Assurance representative.

### SPAR 25 – PRODUCT CHANGE APPROVAL

Items previously accepted by Buyer and provided to the supplier for further processing under this purchase order shall not be modified or altered in any manner that affects design, fit, form, function or interchangeability without Buyer's prior written approval. Seller shall flow down this requirement to sub-tier suppliers.

### SPAR 26 – CONTROL OF HAZARDOUS MATERIAL

Seller must identify all Hazardous material with the appropriate warning labels, suitable safety containers or packaging to meet all local, state and federal requirements. A Material Safety Data Sheet must be included with the material and/or attached to the packing slip.

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### RECEIVING INSPECTION CODES

#### Code 1 – No Inspection Required

This code is used for office supplies, maintenance, and janitorial supplies, tooling material, factory machinery, and equipment and other miscellaneous items not used in deliverable or customer furnished material and equipment.

#### Code 2 – Inspect for Identity and Damage

Determine that the parts are properly identified and identification agrees with purchase order. Check for proper packaging and damage. Review all certifications and test reports against the purchase order criteria.

#### Code 3 – Inspect to Specification/Drawing Requirements

In addition to the requirements of Code 2, parts will be mechanically inspected using the specifications and/or drawing as the acceptance criteria.

#### Code 4 – Inspection of Measurement and Test Equipment

Determine that the equipment identification agrees with the purchase order and check for damage. Review all certifications against the purchase order criteria.

#### Code 5 – Special Receiving Inspections Requirements

Review the inspection history record for specific inspection instructions.

#### Code 6 – First Article Inspection Requirements

Select one part at random and complete a First Article Inspection, listing all features inspected along with the actual measurements. Document results on First Article Inspection Report (QA-F-0007). Forward hardware and report to Quality Engineer.

#### Code 7 – Electrical Inspection

After mechanical inspection is completed, forward the material to the test department with an Electrical Inspection (QA-F-0013) for testing.

#### Code 8 – Hazardous Material

This material must be marked, handled, and stored to meet all applicable local, state and federal laws. The Material Safety Data Sheet (MSDS) shall be given to the Quality Receiving Inspector. Verification of a MSDS on file in the "Hazardous Communication Book: is required. A copy of the MSDS is forwarded to the Hazmat Coordinator.

#### Code 9 – 100% Inspection Required

The total lot quantity shall be inspected for purchase order/shop order compliance. Sampling is not allowed.

#### Code 10 – MDS Capital Asset Property

Equipment to be tagged with a MDS Asset number upon receipt and acceptance.