

Meggitt Defense Systems Inc. - Quality Terms for Purchase Orders

Applicable to All Purchase Orders:

All items delivered shall be fabricated in accordance with general industry standards for good workmanship. Packaging shall protect the item from shipping damage. Electrostatic sensitive items shall be packaged to prevent static damage and conspicuously marked as static sensitive.

The supplier shall use the following guidelines to determine the quality code and documentation submittal requirements for **each shipment**. Applicable requirements must be flown-down to all sub-tier suppliers. In the event any item cannot be met, notify the Meggitt Defense Systems, Inc. (MDSI) Buyer immediately.

Quality Code Commodity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Commercial Off the Shelf (COTS)	Applies when indicated on the face of Purchase Order	Applies when indicated on the face of Purchase Order	Applies when indicated on the face of Purchase Order	Applies when indicated on the face of Purchase Order	Applies when indicated on the face of Purchase Order	✓	✓				✓		b	Applies when indicated on the face of Purchase Order			✓			Applies when indicated on the face of Purchase Order		✓		✓	✓		
Machined/ Sheet Metal/ Fabricated Parts						✓	✓	✓	✓	✓	✓		a,b		*	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Printed Wiring Board (Bare Board)						✓	✓	✓					a,b				✓				✓	✓	✓	✓	✓	✓	✓
Circuit Card Assembly						✓	✓					✓	a,b		*	✓	✓				✓	✓	✓	✓	✓	✓	✓
Cable Harness						✓	✓			✓	✓	✓	a,b		*	✓	✓					✓	✓	✓	✓	✓	✓
Raw Material						✓	✓		✓				b				✓					✓		✓			✓
Outside Processing						✓	✓	✓					a,b			✓	✓					✓		✓	✓	✓	✓
Controlled Drawings (CD)						✓	✓	✓	✓	✓	✓		a,b		*	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Source Controlled Drawings (SCD) and or Spec Control						✓	✓		✓	✓	✓		a,b		*	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Vendor Item Control Drawing Per MDSI Spec or Customer Spec						✓	✓		✓	✓	✓		a,b		*	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Vendor Item Control Drawing Catalogue Items (COTS)						✓	✓						b		*		✓					✓		✓			✓
Limited Shelf Life Materials	†					✓	✓				✓		b				✓					✓		✓			✓
Custom Castings, Forgings, Extrusions, Injection Moldings						✓	✓			✓	✓		a,b			✓	✓		✓			✓	✓	✓	✓	✓	✓

In the event any item cannot be met, notify the Meggitt Defense Systems, Inc. (MDSI) Buyer immediately.

† Exception: Although not indicated on the face of the purchase order, Code 3 applies to custom castings, forgings, extrusions, injection moldings if parts are produced from new or revised tooling.

* Add when identification in accordance with MIL-STD-130 is specified on the drawing.

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Department of Defense Government/Customer Source Inspection

Code 1

Government inspection is required prior to shipment from your plant. Upon receipt of this order, promptly notify and furnish a copy of the Purchase Order to the Government Representative who normally services your plant so that appropriate planning for Government inspection can be accomplished. In addition, the supplier shall notify the Government Representative at least forty-eight (48) hours prior to testing or inspection of items and/or processes.

Note: MDSI reserves the right to waive source Government and/or customer source inspection at any time. However such a waiver or acceptance by source inspection shall have no effect whatsoever on the supplier's responsibility to fully comply with all of the drawing and specification requirements and all other terms and conditions of the purchase order.

Meggitt Defense System Inc Source Inspection

Code 2

All work performed under this order requires Meggitt Defense Systems Inc. inspection and/or test verification at the supplier's facility. Notify the MDSI Buyer at least seventy-two (72) hours in advance of the item being ready for source inspection.

Note: MDSI reserves the right to waive source inspection at any time. However such a waiver or acceptance by source inspection shall have no effect whatsoever on the supplier's responsibility to fully comply with all of the drawing and specification requirements and all other terms and conditions of the purchase order.

First Article Part Inspection

Code 3

The supplier must provide a sample first article (including inspection report) for dimensional and functional approval prior to making production item(s). The supplier is to notify MDSI seventy-two (72) hours in advance for approval examination. Such examinations may be conducted at the supplier's facilities or at the Meggitt Defense Systems Inc. receiving inspection area at MDSI discretion.

Note: MDSI first article inspection or acceptance by source inspection shall not waive whatsoever the supplier's responsibility to fully comply with all of the drawing and specification requirements and all other terms and conditions of the purchase order.

Critical Product Control Plan

Code 4

Due to the critical application of the article/material under this purchase order, the supplier shall deploy a Product Control Plan for Manufacturing. The plan shall provide documentation of the controls in place to ensure manufacturability, quality and compliance. The plan shall delineate the sequence of production operations to be performed, the points where quality controls will be performed, and the types of inspections or verifications performed. The plan shall include reference to the control methods, procedures and inspection instructions used in manufacturing of procured article(s). The plan shall be submitted to MDSI's Buyer for approval by Quality Assurance prior to production of the article. Supplier shall not change, add, or delete any process, material or procedure used in manufacturing of articles under this purchase order without prior approval by MDSI Quality Assurance.

Electrical Test Screening

Code 5

All Electrical items delivered will undergo additional electrical screening at MDSI. Parts shall conform to applicable requirements as defined in the purchase order and any other applicable requirement(s).

Product Nonconformance

Code 6

- a. Items, products or materials not conforming to requirements of this Purchase Order/subcontract, drawing, specification, test, etc. shall not be shipped to MDSI without prior written approval of MDSI Quality Assurance by submitting a Supplier Request for Material Review (SRMR), MDSI form QAF-1000-003-4. This form may be obtained from MDSI Quality Assurance or the Buyer. The SRMR shall describe the nonconformance in detail, the quantity, and the cause and corrective action to preclude a recurrence. Failure to comply will result in return of the shipment at the supplier's expense and will affect supplier rating. The SRMR form is to be submitted via email to MDSI-PURCH-ALL@MEGGITT.COM
- b. There shall be no material review board (MRB) (repair, use as is, product substitution) activity conducted by the supplier and/or supplier's sub-tier suppliers under this purchase order. Non-conforming supplies which cannot be reworked to print or scrapped shall not be shipped prior to MDSI approval of SRMR.

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c. When a nonconformance is determined to exist or suspected to exist, on goods or services already provided to MDSI, supplier shall provide a post delivery Notification Letter or Letter of Disclosure (Notification of Escapement - NOE) to MDSI immediately. Supplier shall provide the letter and all required NOE information within 24hrs after investigations have confirmed the nonconformance, unless otherwise mandated by contract when nonconformance was determined. However, if the nonconformance affects safety of flight or is mission critical; Supplier shall immediately provide the letter and all available information.

At a minimum, Supplier shall include the following NOE information:

- Date(s) goods and/or services were shipped under the Purchase Order.
- Buyer's Purchase Order number and line item number.
- Part number(s) and when applicable, the associated serial number(s) and/or lot number(s).
- Quantity
- Date of manufacture and any other pertinent information
- Specific description of nonconformance (i.e., "should be" and "is" condition) with reference to applicable engineering documentation.
- Statement declaring whether the nonconformance was determined to exist or suspected to exist.
- Preliminary root cause and corrective action.
- Name of supplier's Quality personnel involved in the collection and reporting of the NOE information.

d. Seller shall notify MDSI if Seller or Seller's sub-tier suppliers receive a U.S. Government Corrective Action Request (GCAR) related to goods, services, or systemic non-conformances provided or associated with this Purchase Order within five (5) working days of receipt. Upon MDSI request, Seller shall provide:

1. Copy of the GCAR and any related documentation.
2. Reasonable opportunity for MDSI Quality to review Seller's and/or Seller's sub-tier Supplier proposed draft response, as relevant, to the GCAR prior to submission of the response to the U.S. Government.
3. Copy of the final GCAR response submitted to the U.S. Government.

Certificate of Conformance/Record Retention/Traceability

Code 7

Supplier shall provide a C of C listing all special processes performed in house and as applicable, supporting documentation with each shipment. Supplier shall maintain on file all quality data/records such as; certificates of material and/or processes, acceptance test reports, inspection records, and other applicable quality control data, for a minimum of ten (10) years from completion of Purchase Order. These records shall provide objective evidence of the quality assurance operations performed to permit traceability from the delivered item back through its manufacture and inspection to the procurement records and its constituent parts and materials and must be readily retrievable and made available to MDSI and/or its customer upon request.

Traceability shall be provided by serial number/lot number/heat number of the material/parts provided. Traceability of Commercial of the Shelf and Standard Parts shall be provided upon request.

NOTE: Meggitt drawings calling out superseded or obsolete specifications shall reference both the original specification and latest specification on the C of C.

Nadcap Certification

Code 8

Special processes shall only be performed by sources that are accredited and approved by the National Aerospace and Defense Contractors Accreditation Program (NADCAP).

This requirement applies whether the process is performed by the Supplier or by the Supplier's sub-tier sources.

Use of sources not accredited by NADCAP shall result in return of product to the Supplier at the Supplier's expense.

Processes required to be performed by NADCAP Accredited sources include: Brazing, Chemical Processing, Coatings, Heat Treating, Materials Testing, Nonconventional Machining, Non-destructive Testing, Shot Peening, and Welding.

Material Test Reports

Code 9

The supplier shall submit a chemical and/or physical test report per the applicable specification for the materials shipped under this order with actual test results from samples of this specific lot of material.

Article Inspection & Acceptance Test Reports

Code 10

The supplier shall submit evidence of part inspection and acceptance test data representing the actual data captured during the verification/validation process per the applicable specification for the items shipped under this order. The CMM report must accompany shipment when CMM is used for verification/validation.

Parts from Solid Model/RDD drawings with .STEP files see Code 19.

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Shelf Life Materials

Code 11

The supplier shall state, in writing, the manufacturing date, shelf life, and expiration date for all limited shelf life items supplied under this order. All items shall have 80% or more of their shelf life remaining at the time of shipment to MDSI. All items shall be packaged, labeled and transported per applicable regulatory requirements.

Soldering Requirements

Code 12

All soldering operations, including inspection, shall be performed in accordance with IPC J-STD-001 current revision. The use of pure tin solder material is strictly prohibited. Any Tin solder material used shall contain not less than 3 percent lead content. Supplier shall also maintain an electrostatic discharge (ESD) control program.

Supplier Notice of Change

Code 13

- a. Supplier shall not implement any change to their internal drawings, processes or any other changes associated with the parts or services provided under this purchase order without prior MDSI approval.
- b. Supplier shall provide written notice to MDSI's Buyer prior to implementation of changes to supplier's ownership, design, manufacturing operations and plant location.

Higher Level Quality management System

Code 14

Supplier shall maintain an AS9100/ISO9001 certification or equivalent Quality Management System (QMS). The QMS/ certification shall be employed by the supplier throughout all purchase order/contract phases. The QMS and QA Program may be subject to review and approval by MDSI.

Marking Requirements

Code 15

Marking on product will be in accordance with drawing requirements. When requirement is for ink stamping, apply clear lacquer over marking per table II of MIL-STD-130. "Bag & Tag" articles shall have the marking applied to the packaging as applicable. Laser Engraving may be performed in lieu of Electro-chemical etch.

*Cage code, FSCM, & Code Ident No. are all obsolete terminology, and are replaced with Design Activity Identification (DAI) in accordance with the Engineering Drawing Practices standard ASME Y14.100-2017

<u>Company Name</u>	<u>Design Activity Identification (DAI)</u>
MDSI.....	62228
<u>MDSI Legacy Company Names</u>	
Meggitt North Hollywood.....	58163
Western Design.....	59027
Pneu Devices Inc/Howden Fluid System.....	33654
Fluid Control Division (FCD).....	80293
Cartwright Electronics.....	51462
PDA.....	55794
Hayes Target.....	34761
Walter Kidde.....	33525
Davey Aerospace.....	16004

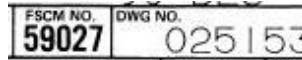
1. Marking requirements when MDSI **is** the current design authority (CDA) and the Title block contains

CAGE CODE	DWG NO.
62228	701754

Then ID example is: 62228-701754-X (MDSI's DAI #, P/N including applicable dash number)
MFR-XXXXX (Vendor's DAI)
POLH-0232-02.12 (P/O #, Mfr. date in "Mo.Yr" format)

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2. Marking requirements when a MDSI Legacy company was the original design authority (ODA) and MDSI is the current design authority (CDA) and the Title block contains one of the Legacy Design Activity Identification shown below.



Then ID example is: 59027-025153-X (Legacy's DAI #, P/N including applicable dash number)
CDA-62228 (MDSI's DAI #)
MFR-XXXXX (Vendor's DAI)
POLM-0027-05.06 (P/O #, Mfr. date in "Mo.Yr" format)

3. Marking requirements when a MDSI Legacy company was the original design authority (ODA) and the Government is the current design authority (CDA) and the Title block contains



Then ID example is: 59027-014424-X (Legacy's DAI #, P/N including applicable dash number)
CDA-58260 (MDSI's customer DAI #)
MFR-62228 (MDSI's DAI #)
POLN-2030-01.11 (P/O #, Mfr. Date in "Mo Yr" format)

NOTE: When space is limited, start removing lines from the bottom to the top. i.e, leave off line 4 then 3 then 2. The first line (with the ODA) is required.

4. Marking requirements when MDSI is the manufacturer but not the original design authority (ODA) & not the current design authority, may subcontract the manufacture of the product. MDSI manufactures a Build-To-Print part, the Design Activity Identification (DAI) number shall be as specified from the Title block on the drawing and MDSI MFR DAI as shown below.

Then ID example is: 18876-1234567-101 (DAI #, P/N including applicable dash number)
MFR – 62228 (MDSI DAI #)

Key Characteristics

Code 16

When Key Characteristics is part of the drawing requirements, supplier must obtain a plan from MDSI for monitoring and control of those features.

Counterfeit Parts Prevention

Code 17

a. Supplier (component distributors and/or custom assemblers) is hereby notified that the delivery of counterfeit parts is of special concern to MDSI. If counterfeit parts are furnished under this order or found in any of the custom assembled goods delivered hereunder, such items will be impounded by MDSI. The supplier shall promptly replace such counterfeit parts with parts acceptable to MDSI. To further mitigate the possibility of the inadvertent use of counterfeit parts, the supplier shall only purchase components directly from the Original Component Manufacturer (OCM) / Original Equipment Manufacturer (OEM) or through authorized distributors. Procurement through Independent Distributors or Brokers is NOT authorized, unless approved in writing by MDSI. Supplier shall maintain a documented counterfeit prevention program in compliance with AS5553 (electronic parts), AS6174 (mechanical parts) and DFAR 252.246-7007.

1. Seller shall obtain documentation and retain all documentation required to fully trace the distribution and sale of the goods delivered hereunder back to the relevant OM, and, on request of MDSI, shall provide such authenticating documentation.
- b. Seller and Seller's sub-tier suppliers that are allowed access to the U.S. Government Industry Data Exchange Program (GIDEP) shall participate in monitoring GIDEP reports and the Seller shall act on GIDEP reports that affect product delivered to MDSI.
 1. The Seller shall issue a GIDEP report when suspect or confirmed counterfeit item(s) associated with this Purchase Order are discovered and ensure suspect counterfeit items are not delivered to MDSI.
 2. Seller shall immediately notify MDSI with the pertinent facts if the Seller becomes aware or suspect that items delivered in accordance with the MDSI Purchase Order are or contain suspect or confirmed counterfeit items.

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Welding and Non-destructive Testing (NDT) Certification

Code 18

- a. When welding is part of the drawing or purchase order requirements, the person performing the welding must be currently certified to meet the certification requirements set forth in MIL-STD-2219 and/or AWS D17.1 or any applicable document in effect at the time of purchase order performance.
- b. When non-destructive testing is part of the drawing or purchase order requirements, either explicitly or implicitly stated, the person performing the NDT must be currently certified to meet the requirements set forth in MIL-STD-410 (AIA-NAS-410), ISO 9712, or any applicable governing bodies' requirements in effect at the time of the purchase order performance.

Verification of Product against Reduced Dimension Drawings (RDD)

Code 19

When a drawing package includes a .STEP file and the statement on the drawing that the "complete product definition is defined by the [...] drawing revision and solid model file", the completed part must be verified by a CMM capable of importing and applying dimensional schema to directly compare the completed product to the supplied virgin STEP file. There shall be no alterations of this original file allowed (i.e. conversion to a different unit of measurement, saving in a different file format, etc.). A sufficient amount of measurement points shall be taken to appropriately define ALL features of the product IAW best measurement practices and show conformance of ALL features to the noted surface profile tolerance UOS in the notes or body of the drawing. CMM reports for RDD shall accompany each shipment. Measurements not taken by CMM shall be taken by alternate/manual method and results recorded on report.

Note 1: The supplier may elect to subcontract the inspection of the product to a third party dimensional measurement facility if they do not have the capability or capacity to support these verification activities. The measurement facility must conform to Code 14 to be considered appropriate. This decision shall be shared with MDSI before being undertaken so proper risk analysis can be performed and approval granted.

Note 2: Dependant on size of a fillet radius and the software package utilized, validation of radii with less than 180° of true arc length and/or smaller than 0.375" may be unreliable/unreadable on the CMM. Conformance of these features may therefore be validated through other quantifiable and traceable means. Due to the additional factors surrounding automated machining of products, validation of these radii shall not be allowed through verification of a CNC program or tooling used.

Cosmetic Critical

Code 20

When the purchase order specifies the part(s) as cosmetic critical, the part must be free of any defects in appearance. Machined features must be free of scratches, dings, gouges or other aesthetic workmanship issues. Paint and coatings must be uniform in color, free of runs, fisheyes, orange peel or other aesthetic issues.

Printed Wiring Board (Bare Board) Expectation

Code 21

Supplier shall provide: a Certificate of Conformance, Outside Process Certificate of Conformance, Raw Material Certificate, First Article Report including dimensions, Micro-section Report and picture with measurements, Netlist Test Certification, Artwork approval, and Impedance Report as required.

Foreign Object Debris/Damage (FOD) Prevention

Code 22

Supplier shall maintain an effective FOD prevention program that identifies potential problems, mitigates risk, promotes awareness, provides effective employee training and lessons learned for continued improvement per NAS412 and AS9146.

Definitions:

1. Foreign Object- A substance or article alien to a product or system that could potentially cause foreign object damage.
2. Foreign Object Damage- Any damage attributed to the presence of foreign object debris.
3. Foreign Object Debris- The condition where a foreign object has invaded a product or system. Examples include, but are not limited to dust, dirt, screws, nuts, inset tangs, wire clippings, flux, excess solder and manufacturing by-products such as metal chips.

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AS9102 FIRST ARTICLE REQUIREMENTS

Code 23

The supplier shall perform a First Article Inspection and provide documentation in accordance with specification SAE AS9102 when one of the following applies:

1. A first time supplier
2. New product representative of the first production run
3. A change in design
4. A change in location, process, inspection method, material, or tooling
5. A lapse in production for two years.

The First Article Inspection Report [FAIR] must include all blueprint notes and dimensions. The supplier must use the FAIR forms contained within the SAE AS9102 specification and an itemized drawing must be included. The complete FAIR must accompany the part[s] shipment.

NOTE: Supplier currently delivering product without lapse in production for two years, revision change, or changes in location, process, inspection method, material or tooling, are not required to provide MDSI with AS9102 First Article Report. Supplier needs to maintain record of completed First Article and provide to MDSI upon request.

Product Safety and Ethical Behavior

Code 24

Product Safety: The supplier/organization shall plan, implement, and control the processes needed to assure product safety during the entire product life cycle, as appropriate to the organization and the product.

Ethical Behavior: The supplier/organization shall ensure that person doing work under the organizations control are aware of the importance of ethical behavior.

Right of Entry

Code 25

- a. All items covered by this purchase order are subject to audit and/or on site surveillance by Meggitt Defense Systems Inc and/or government/customer representative. The supplier shall allow a Meggitt Defense Systems Inc representative and or government/customer representative the right to enter the suppliers and supplier's sub-tiers facility. The supplier shall furnish, at no cost, necessary facilities, and equipment, supply data, and performs tests as required by applicable drawings, specifications, and inspection instructions.
- b. Meggitt Defense Systems Inc. reserves the right to waive Meggitt Defense System Inc and or Government/customer source inspection at any time. However such a waiver or acceptance by source inspection shall have no effect whatsoever on the supplier's responsibility to fully comply with all of the drawing and specification requirements and all other terms and conditions of the purchase order.

Sampling Plan

Code 26

Unless otherwise specified in a sampling plan on the purchase order and/or supporting document(s), suppliers shall perform lot sampling inspection as a minimum, in accordance to ANSI-ASQ_Z1.4, AQL level 2.5 for the first 5 lots, and AQL level 4.0 if no defects are found, lot acceptance is C = 0. If a defect is found during lot sampling, then the supplier will move to previous AQL level 2.5 and begin the process again.

Calibration System Requirements (ANSI/NCSL Z-540-1, ISO 10012-1, ISO/IEC 17025)

Code 27

The supplier must maintain a calibration system in accordance with ANSI/NCSL, Z-540-1, ISO 10012-1, and ISO/IEC 17025. Calibration System Requirements are to be traceable to N.I.S.T.