

# 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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22							
Commodity																													
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	✓	✓						c	Applies when indicated on the face of Purchase Order			✓			Applies when indicated on the face of Purchase Order		✓							
Machined/ Sheet Metal/ Fabricated Parts						✓	✓	✓	✓	✓	✓						c	*	✓		✓	✓	✓					✓	
Printed Wiring Board (Bare Board)						✓												c										✓	✓
Circuit Card Assembly						✓	✓											✓	c		*	✓	✓					✓	✓
Cable Harness						✓	✓								✓	✓	✓		c		*	✓	✓						✓
Raw Material						✓	✓						✓						c										✓
Outside Processing						✓	✓					✓							c			✓							✓
Controlled Drawings (CD) (Procurement CD, Vendor Item CD, Source CD)						✓	✓												✓					✓					✓
Limited Shelf Life Materials						✓	✓										✓		c										✓
Custom Castings, Forgings, Extrusions, Injection Moldings								†			✓	✓				✓	✓		c				✓			✓			✓

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 shall have no affect 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 shall have no affect 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 acceptance 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

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). 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.

**Note:** The only authorized material review board (MRB) activity conducted by the supplier under this purchase order is limited to only those non-conformances associated with supplier's internal drawings so long as there is no impact/violation

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to the MDSI drawings and specifications requirements for dimensions, functional and test performance or material requirements. Changes that **do** impact/violate these requirements require prior MDSI written approval as stated above.

## 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 seven (7) 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.

## Special Process Certification

### Code 8

Special process suppliers (welding, brazing, heat treating, NDT, plating, chemical filming, etc.) are responsible for compliance to the applicable specifications, whether the operation is performed within their facility or by subcontractors. Supplier's Process Certification must identify vendor performing special process, show actual data from verification of process, reference the applicable specification and be signed by authorized Quality Assurance personnel.

***When specified on the purchase order, NADCAP approved suppliers must be utilized unless a waiver (SRMR) is granted prior to the initiation of special process activities.***

## 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 Article 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.

**Note:** Although not required unless specified by the purchase order, the preferred first article inspection report format is SAE AS9102.

## 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 75% 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. Drawing changes conducted by the supplier under this purchase order is limited to only those changes associated with supplier's internal drawings so long as there is no impact/violation to the MDSI drawings and specification requirements for dimensions, functional and test performance or material requirements. Changes that **do** impact/violate these requirements require prior MDSI approval.
- b. Following first shipment of goods to MDSI, supplier will notify MDSI prior to any proposed change in configuration of supplier's product including components; if, in MDSI's judgment the proposed change might affect the product's use or performance in MDSI's assembly, the configuration change shall not be made without MDSI's written approval.

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c. Supplier shall provide written notice to MDSI's Buyer prior to implementation of changes to supplier's ownership, manufacturing operations and plant location.

d. The requirements established under this clause apply for future purchase orders for the same item(s).

**Higher Level Quality management System**

**Code 14**

a. Supplier shall maintain an ISO 9001 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.

b. Supplier shall maintain an AS 9100 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.

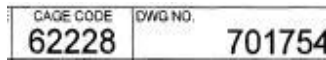
**Marking Requirements**

**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.

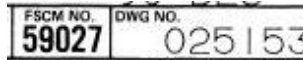
<u>Company Name</u>	<u>Cage Code</u>
MDSI.....	62228
 <b><u>MDSI Legacy Company Names</u></b>	
Western Design.....	59027
Pneu Devices Inc/Howden Fluid System.....	33654
Fluid Control Division (FCD).....	80293
Cartwright Electronics.....	51462
PDA.....	55794
Hayes Target.....	34761

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



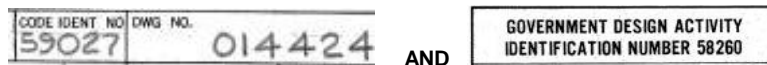
Then ID example is: 62228-701754-X (MDSI's FSCM #, P/N including applicable dash number)  
MFR-XXXXX (Vendor's FSCM / CAGE #)  
POLH-0232-02.12 (P/O #, Mfr. date in "Mo.Yr" format)

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 Cage Code's shown above



Then ID example is: 59027-025153-X (Legacy's FSCM #, P/N including applicable dash number)  
CDA-62228 (MDSI's FSCM #)  
MFR-XXXXX (Vendor's FSCM / CAGE #)  
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



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

## 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

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.

## Welding and Non-destructive Testing (NDT) Certification

### Code 18

- 1) 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.
- 2) 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.*

**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

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Supplier shall provide: a Certificate of Conformance, Outside Process Certificate of Conformance, Raw Material Certificate, First Article Report including dimensions, Microsection Report and picture with measurements, Netlist Test Certification, Artwork approval, 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 uses industry best practices (NAS412 for example) and lessons learned for continued improvement*

### **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.*