

Supplier Quality Requirements

Rev 04, Effective May1, 2011



SUPPLIER QUALITY REQUIREMENTS, Rev 4 ACKNOWLEDGEMENT

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SUPPLIER SITE NO: _____

COMPANY NAME: _____

Printed Name

Title

Authorized Signature

Date

Email Address

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USCS SUPPLIER QUALITY REQUIREMENTS

Part 1 - GENERAL REQUIREMENTS

This document defines the general, administrative, pre-production, and quality requirements with which Suppliers must comply when providing material and services covered by this Purchase Order.

All communications relative to the requirements of the Purchase Order, the drawings, the specifications, or this document shall be directed to the appropriate USCS Authorized Purchasing Representative.

As used in this document, the term "Supplier" shall have the same meaning as the term "Seller". Similarly, the term "Purchase Order" shall have the same meaning as "Subcontract".

This document shall apply in its entirety to every Purchase Order where specified. These requirements apply to all items, including those items normally supplied under Federal Acquisition Regulation (FAR) 52.246-2, 52.246-3, or 52.246-11 distributor or commercial quality systems.

Part 2 of this document contains information on specific Contract Deliverable Requirements (CDRs).

Acronyms

ADCN	Advance Drawing Change Notice
AISI	American Iron and Steel Institute
AQL	Acceptable Quality Level
ASN	Advanced Shipping Notification
ASTM	American Society for Testing Materials
C1ODS	Class 1 Ozone Depleting Substances
CAGE	Commercial and Government Entity
CDR	Contract Deliverable Requirement
CSS	Customer Source Surveillance
DCMA	Defense Contracts Management Agency
DIN	Deutsches Institute für Normung eV
DOD	Department of Defense
ESD	Electrostatic Discharge
FAT	First Article Test
FOD	Foreign Objects, Debris & Damage
GSS	Government Source Surveillance
M&TE	Measuring and Test Equipment
MSDS	Material Safety Data Sheet
NADCAP	National Aerospace Defense Contractors Accreditation Program
NDE	Nondestructive Examination
NIST	National Institute of Standards and Technology
NN	Nonconformance Notification
NOR	Notice(s) of Revision
OQE	Objective Quality Evidence
QAP	Quality Assurance Provision(s)
QAR	Quality Assurance Requirement(s)
QPL	Qualified Product List
RFID	Radio Frequency Identification
SCAR	Supplier Corrective Action Request
SQA	Supplier Quality Assurance
SQAP	Supplementary Quality Assurance Provision(s)
SQC	Statistical Quality Control
SQR	Supplier Quality Requirements
TDP	Technical Data Package
TOC	Table of Contents
TSCA	Toxic Substance Control Act
UID	Unique Identification
USCS	U.S. Combat Systems
VIR	Vendor Information Request
VOC	Volatile Organic Compounds
WCAR	Written Corrective Action Request

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1. ORDER OF PRECEDENCE FOR TECHNICAL DOCUMENTS

In the event of a conflict in requirements between technical documents, the following order of precedence shall prevail:

- Purchase Order
- SQR
- Supplements to drawing/QAPs within the Purchase Order in the following order:
 - Configuration Notes
 - NORs/Attachments/ADCNs
- Drawings
- QAPs/SQAPs/QARs (may modify inspection/test requirements of specifications)
- Specifications cited on the drawings

Contact the USCS Authorized Purchasing Representative regarding any questions or concerns. The Configuration Requirements specified in the Purchase Order will contain applicable drawings.

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2. SPECIFICATION REVISION LEVELS

Unless the Purchase Order specifies usage of an earlier version, the latest revision of specifications/standards referenced in the data package applies. Written approval by USCS is required prior to using other than the latest revision. The Supplier shall submit requests to their USCS Authorized Purchasing Representative using VIR form UA-111. The VIR is the only appropriate request process.

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3. SUPPLIER QUALITY PROGRAM/SYSTEM REQUIREMENTS

The Supplier shall develop, document, implement and maintain a quality system which ensures compliance to all contract requirements. The quality system shall be patterned after or in accordance with ISO 9001-2008 (or latest version), AS 9100, or TS 16949. Certification to ISO 9001/AS9100/TS 16949 by a registered third party is preferred. Objective evidence shall be on file verifying that such a system exists and is being maintained and complies with the standard requirements. Procedures and records shall be made available for examination by authorized USCS representatives upon request. USCS may audit the Supplier at any time.

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4. SAMPLING PLANS

The Supplier shall adhere to the AQL defined by the TDP.

The order of precedence shall be:

- Purchase Order
- Performance Specification
- Drawing
- QAR or QAP
- SQR

Where Critical, Major, and Minor characteristics are not defined by the TDP, the following definitions shall apply:

Critical: Total tolerance \leq .001 (.025 mm) or identified as a safety critical item

Major: Total tolerance $>$.001 (.025 mm) and \leq .010 (.25 mm)

Minor: Total tolerance $>$.010 (.25 mm)

If no AQL is defined by the TDP, the following AQL shall apply:

Critical = 100% inspection

Major = 1.0 AQL

Minor = 4.0 AQL

Note: Reference to AQL is only to be used for determining sample size.

The Supplier shall, in all instances where lot sampling is utilized, inspect characteristics in accordance with the following inspection plan:

C=0 SAMPLING PLAN:

LOT SIZE	AQL						
	.65	1.0 Major	1.5	2.5	4.0 Minor	6.5	10
2-8	ALL	ALL	ALL	5	3	2	2
9-15	ALL	13	8	5	3	2	2
16-25	20	13	8	5	3	3	2
26-50	20	13	8	5	5	5	3
51-90	20	13	8	7	6	5	4
91-150	20	13	12	11	7	6	5
151-280	20	20	19	13	10	7	6
281-500	47	29	21	16	11	9	7
501-1200	47	34	27	19	15	11	8
1201-3200	53	42	35	23	18	13	9
3201-10000	68	50	38	29	22	15	9
10001-35000	77	60	46	35	29	15	9
35001-150000	96	74	56	40	29	15	9
150001-500000	119	90	64	40	29	15	9
500001&OVER	143	102	64	40	29	15	9

**Note: Accept lot on 0 (zero) defects
Reject lot on 1 (one) or more defects**

The following situations shall not utilize this C=0 Plan:

- Visual weld inspection shall be 100% or per applicable specification requirements
- Non-Destructive Evaluation (NDE) / Non-Destructive Testing (NDT)
- Frequency-based testing such as sample/quantity or sample/time period
- Fastener quality assurance requirements

Use of an alternate sampling plan is allowed with prior approval from USCS. Submit requests for use of an alternate sampling plan to the USCS Authorized Purchasing Representative utilizing VIR form UA-111.

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5. STATISTICAL QUALITY CONTROL (SQC)

USCS supports Suppliers who are using statistical quality control techniques in place of batch sampling plans.

- Statistical data must indicate the process is in control and all quality requirements are satisfied
- Reaction to out of control conditions must be documented and available for review
- Written approval by USCS Supplier Quality Assurance is required prior to implementation; submit requests for use of SQC to the USCS Authorized Purchasing Representative utilizing VIR form UA-111

- Documentation related to SQC shall be maintained as specified in Paragraph 8

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6. MEASURING AND TEST EQUIPMENT

The Supplier shall establish and maintain a documented calibration system for all measuring and test equipment (M&TE) such as gages, tools, jigs, fixtures and dies used to verify conformity to requirements. The program shall be in accordance with a recognized standard such as ISO 10012, ANSI/NCSL Z540, or ISO 17025 and shall address the criteria described in the selected standard.

All equipment in the calibration system shall have unique identifiers traceable to the calibration report. Calibration standards shall be traceable to NIST.

Calibration reports shall:

- Be maintained for all equipment used in the acceptance of product
- Include the actual measurement data made during the process
- Identify the person performing the calibration

Material specifications, such as those addressing heat treatment (e.g., AMS2750), may impose specific calibration requirements in addition to those identified in the preceding paragraph. When imposed, the Supplier must include the requirements in the calibration system.

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7. FASTENER QUALITY REQUIREMENTS

The Supplier shall have a system which controls threaded steel fasteners Grade 5 and higher as defined in SAE-J429 and metric fasteners with strength designations of 8.8 and higher as defined by SAE-J1199, or DIN standards with equivalent strength designations. This applies both to fasteners supplied in bulk quantities and fasteners supplied as part of a subassembly.

The system shall ensure the traceability of fastener lots back to the manufacturer and provide objective evidence that the fasteners meet all technical requirements. Note that Grade 8.1 or 8.2 fasteners are not acceptable.

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8. RECORD RETENTION

The Supplier shall maintain records documenting product compliance to all applicable procurement documents, drawings, specifications, and standards for a period of seven (7) years after order completion. At the end of this period, the Supplier shall request, in writing, disposition instructions from the purchasing site. USCS reserves the right to request that all records be forwarded to a designated USCS facility or record retention site at the conclusion of the seven (7) year period. Requested records shall be indexed, at a minimum, by the USCS Purchase Order number and part number.

When requested by USCS, the Supplier shall provide documentation in a commonly readable (MS Word, PDF, etc.) electronic format via email. It is the Supplier's responsibility to verify that scanned documents are legible. It is the expectation of USCS that documentation will be supplied electronically to the requesting facility within 48 hours of the request being made.

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9. CERTIFICATE OF COMPLIANCE

A Certificate of Compliance shall be completed for each end item manufactured and maintained on file for each shipment. Certifications to support down level components and sub-tier processes shall be maintained and must be readily available when requested by USCS. The Supplier shall certify that the materials and processes used in performance of the Purchase Order meet all applicable specification requirements and that inspection/process control/test data necessary to substantiate the Certificate of Compliance are on file and available for USCS to review. The Certificate of Compliance, signed by an authorized individual, certifies that a product or service has met all requirements of the Purchase Order including drawings and specifications at the prescribed revision level.

The certificate of compliance shall include the following:

- Supplier's name and address
- USCS Purchase Order number
- USCS Item Number and Description (as they appears on the Purchase Order)
- Quantity shipped
- Authorized signature and date
- Statement of compliance, indicating that documents supporting compliance are on file for review
- Reference to tracking numbers (i.e. lot, heat/lot, batch) for all applicable CDR requirements

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10. SOURCE CONTROLLED ITEMS

A source controlled drawing provides a list of approved sources of supply and the Supplier's item identification for the item(s) that have been qualified and approved for use. Any change in form, fit, function or testing requirements must be submitted for approval in writing to the USCS Authorized Purchasing Representative, using VIR form UA-111, prior to implementation.

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11. QUALIFIED PRODUCT LIST

Any items furnished on this Purchase Order applicable to a Government Qualified Products List/Database as defined by the specification(s) (i.e. paint products, pre-treatment chemicals, electrical connectors, etc.) must be manufactured by a Government-approved source.

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12. NONCONFORMING MATERIAL

The Supplier is responsible for establishing controls to ensure that products not conforming to the Purchase Order are identified, segregated, dispositioned and controlled to prevent inadvertent use.

Under no circumstances shall known nonconforming material be shipped to USCS without written approval. Approval to ship nonconforming material must be requested through the Authorized Purchasing Representative using VIR form UA-111. Written approval must be received prior to shipping any nonconforming material. Shipments received without written approval shall be rejected and may be returned at the Supplier's expense.

Handling of Returned Items:

When it becomes necessary for USCS to return a purchased part, either a new Purchase Order will be issued or the part will be returned on the original Purchase Order. Reworked/replacement parts may only be shipped to USCS on the Purchase Order on which they were returned. The Supplier shall document the root cause and corrective/preventative actions taken for all returned parts. When requested by USCS, the Supplier may be required to provide a formal documented root cause analysis and corrective/preventative action plan in accordance with Paragraph 15 of this document.

USCS may return nonconforming items to the Supplier for appropriate rework, repair or replacement. These nonconforming items returned to the Supplier will be identified with a nonconformance report (NCR) and instructions for returning the material to USCS. A "Defective/Nonconforming Material Tag/Report" will be attached to these items when returned to the Supplier.

When returning the product to USCS, the Supplier shall clearly state the condition of the returned item(s) (REWORKED, REPAIRED or REPLACED) on the packing slip and/or ASN and shall label the package with the same. It is important that all "Defective/Nonconforming Material Tag(s)/Report(s)" and any other documented evidence of defect or rejection are removed from all items being returned as acceptable product.

If the items are being RETURNED "AS IS", clearly identify "RETURNED AS IS" on the packing slip and/or ASN and label the package with the same. The Supplier shall state on the packing slip the justification for returning items "AS IS". If the product has been inspected/tested and no defects were found then this should be stated on the Packing Slip/ASN and handled like all shipments of acceptable material (See Above). If the item is determined to be beyond economical rework/repair, stop and contact the Authorized Purchasing Representative for direction.

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13. MATERIAL REVIEW BOARD

Material review authority is not delegated for use-as-is or repair dispositions except where CDR 044 is applied to the item number on the Purchase Order. Products which do not conform to all applicable specifications must be adequately controlled as specified in Paragraph 12.

The following dispositions are authorized only when CDR 044 is invoked:

- **Repair**
- **Use-As-Is**

The following dispositions may be utilized by the Supplier as required:

- Rework
- Scrap
- Return to Vendor (RTV)

Definitions/dispositions:

- **Rework** - The correction of a nonconformance resulting in full compliance to the TDP requirements; this disposition is authorized to be used as required
- **Repair** - The correction of a nonconformance resulting in a functional product, but where the product does not meet all requirements of the TDP; this disposition **requires MRB approval or approval to use USCS SRP's (Standard Repair Procedures for welding)**
- **Scrap** - Disposing of the subject material; this disposition is authorized to be used as required
- **Use-As-Is** - Acceptance of the identified nonconformance as-is; this disposition **requires MRB approval**
- **RTV** - Return the product to the vendor; this disposition is authorized to be used as required

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14. VENDOR INFORMATION REQUEST (VIR)

Requests for the following shall be submitted by use of the "Vendor Information Request" (USCS Form UA-111) and forwarded to the USCS Authorized Purchasing Representative:

- Notification to USCS for a deviation to specified requirements for Material Review Board (MRB) review
- Clarification of drawing, specification or Purchase Order requirements
- Requests for changes to a drawing, specification, or Purchase Order requirements

When a VIR is used to notify USCS of deviations from specification or drawing requirements or to request repair approval, the VIR must include:

- A clear, complete, and concise description of the deviation including full dimensional and location details

- The point in the manufacturing cycle where the deviation occurred or will occur
- The quantity and identity of the applicable items or material
- The rationale for why the approval should be granted by USCS and/or the Government (to include any advantages to be realized by USCS and/or the Government through approval of the request)
- Clear definition of the root cause and the action taken to prevent recurrence

If a VIR is used to request information or a change to the requirements of the Purchase Order, the USCS response to the VIR constitutes a contractually binding interpretation of, or change to, the requirements of the Purchase Order.

When a VIR is used to document deviation approval, the USCS approval document number shall be included on a tag and attached to appropriate parts.

A dispositioned VIR applies only to the item(s) for which it was submitted; the resolution may not be extended to any other item or piece on the same Purchase Order or to any other Purchase Order.

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15. CORRECTIVE ACTION

The Supplier is responsible for implementing quality systems capable of resolving problems adversely affecting quality and correcting those conditions. Suppliers shall contain discrepant parts in stock or in process, determine root cause (primary reason which caused product nonconformance or quality system deficiency), institute measures to prevent recurrence and implement corrective action. Nonconforming material or quality system deficiencies detected by USCS may require the Supplier to respond to a Supplier Corrective Action Request (SCAR). Failure to adequately respond to a SCAR may impact the Supplier's performance rating.

In the event that the Supplier receives a SCAR, USCS will contact the Supplier to discuss the product or process nonconformance and determine an expected response due date. The Supplier is expected to provide a Root Cause Statement and Corrective Action Plan, preferably using a "5-Why" form which is provided alongside the SCAR document. After USCS approves the response, a measure of effectiveness will be determined and a date will be determined to review the adequacy of the Corrective Action. Only after this follow-up is completed will the SCAR be closed.

The Supplier may also receive a Nonconformance Notification (NN), which is a document that informs the Supplier of a nonconformance discovered by USCS. Nonconformance Notifications are primarily used in instances where a nonconformance has been discovered but product is not being returned to the Supplier. While Root Cause and Corrective Action statements are not required to be provided to USCS, the Supplier is expected to resolve any issues that allowed the nonconformance to occur and to document that resolution as per their

internal processes. Documentation of the resolution of a nonconformance notification is subject to audit by USCS.

In the event that the Supplier receives a Written Corrective Action Request (WCAR) from the Defense Contract Management Agency (DCMA), the Supplier is required to notify USCS of the WCAR record and scope of the issue, regardless of the perceived impact to parts or services supplied to USCS. Notifications should be sent to both the Authorized Purchasing Representative and to Supplier Quality Assurance (email address: pqayork.landa@baesystems.com).

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16. QUALITY DOCUMENTATION

It is the Supplier's responsibility to comply with all applicable requirements specified on the Purchase Order. The Supplier shall develop the appropriate objective quality evidence necessary to demonstrate compliance to the requirements of the Purchase Order for each item being procured including sub-components and special processes (i.e., welding, painting, plating, NDE, etc.) and in support of the Certificate of Compliance. Measurements shall be recorded in the units specified in the TDP. The following definitions and Supplier responsibilities apply:

A. First Piece Inspection

First Piece Inspection (FPI) is a required inspection performed on the first part produced for the respective manufacturing lot to verify conformance to all drawing requirements.

Previous FPI reports may be utilized to satisfy the FPI requirement provided that:

- There has been continuous production with no breaks greater than 12 months
- The manufacturing process has not changed (i.e. moved the product line, introduced new manufacturing techniques, etc.)
- The manufacturing facilities are the same

When a drawing is revised, any changed or added characteristics shall require re-inspection.

While First Piece inspection may not be specifically called out within the Purchase Order, QAP, or Specification, it remains the Supplier's responsibility to be able to produce objective evidence of compliance to all drawing requirements.

When specified on the Purchase Order in the form of a Contract Deliverable Requirement (CDR), documentation showing actual results (where appropriate) from measuring equipment shall be submitted along with the first piece sample. The Supplier shall identify this sample and all associated documentation as "First Piece." First Piece inspection reports for castings and

forgings shall indicate numeric values obtained and a material test report per the applicable specification.

B. First Article Test/First Article Inspection

First Article Tests (FATs) involve testing and evaluating an item for conformance to performance requirements before or in the initial stages of production. First Article Inspection (FAI) involves inspecting and evaluating an item for conformance to all drawing requirements before or in the initial stages of production. It typically includes material verification processes, first article inspection, acceptance testing, control testing (where applicable), performance and environmental testing, marking, and packing verification. First Article is a formal test/inspection which may require USCS and/or Government witnessing. This formal test/inspection is invoked only **when First Article is specified in the Purchase Order via a CDR.**

Prior to the Supplier's start of fabrication of any production lot of items covered by this Purchase Order, the Supplier shall perform a First Article Test/Inspection on part(s) utilizing the same processes planned for use on the production lot. The Supplier shall identify this sample as the "First Article." It is the responsibility of the Supplier to coordinate with USCS for witnessing of the First Article Test/Inspection process.

Product will **NOT** be accepted at USCS without a letter of approval of FAT/FAI from USCS. In the event the Supplier purchases parts or components which require FAT/FAI, it is the Supplier's responsibility to coordinate this activity and obtain all approvals from USCS. Documentation of this activity shall be made an integral part of the end item documentation package. If the First Article procedure/report is rejected by USCS, resubmittal of the procedure/report is required until formal written approval is given.

Following First Article approval, the Supplier shall notify the USCS Authorized Purchasing Representative to determine if testing must be repeated when any of the following occurs:

- A change in manufacturing process (i.e. manufacturing line is moved, introduction of a new manufacturing technique, etc.)
- A change in any drawing configuration, component, or sub-component parts
- Manufacturing location changed
- A break in production or process in excess of twelve (12) months, unless otherwise specified

C. Control Test

The Supplier shall schedule Control Tests based on specification/QAP's frequency of test and test requirements. The Supplier is responsible for determining the test schedule based on the production and delivery schedule for the Purchase Order. If any failures occur, regardless of whether it is test equipment or sample failure, the Supplier shall immediately notify the USCS Authorized Purchasing Representative for further instructions prior to continuance of testing.

Where Control Testing is required by QAP or specification, documentation supporting compliance shall be retained on file and be available upon request.

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17. PART MARKING

All parts shall be identified as per the drawing and Purchase Order requirements. Parts shall be marked in a clear, legible, and non-injurious manner. Additional requirements beyond those specified in the drawing may be imposed through the application of CDRs to the Purchase Order.

The Supplier may be required by the drawing/Purchase Order to mark their CAGE Code on the parts. If your company does not have a CAGE Code, go to <http://www.ccr.gov> or call 1-866-606-8220 to register for one.

Products received by USCS that do not contain the appropriate part marking may be rejected, and returned to the Supplier at their expense. In addition, the Supplier's quality performance measure would be impacted.

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18. CHEMICAL AND PHYSICAL (MECHANICAL) TEST REPORTS

The Supplier shall maintain all Chemical and Physical (Mechanical) Test Reports as objective evidence of material compliance to the referenced specification(s).

Unless otherwise specified in the Purchase Order, carbon, alloy, and armor steel plate in Federal Supply Class 9515 or described by specifications of the American Society for Testing Materials (ASTM) or American Iron and Steel Institute (AISI) shall be melted and rolled in the United States or Canada.

Aluminum plate 1 inch or greater in thickness shall be mechanically stress relieved by standard industry method of stretching to remove residual stress. In addition, all other specification requirements shall be met.

Supplier shall maintain all stress relief documentation. These shall be provided to USCS upon request.

For materials with proprietary recipes, chemical comparison to the specification is not required so long as physical (mechanical)/performance compliance can be demonstrated.

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19. BEARINGS

The Supplier shall adhere to the requirements of DFAR 252.225-7016 for all ball and roller bearings supplied under this Purchase Order.

DFAR 252.225-7016 Restriction on Acquisition of Ball and Roller Bearings

As prescribed in 225.7009-5, use the following clause:

RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS (MAR 2006)

(a) Definitions. As used in this clause

- (1) "Bearing components" means the bearing element, retainer, inner race, or outer race.
- (2) "Component," other than bearing components, means any item supplied to the Government as part of an end product or of another component.
- (3) "End product" means supplies delivered under a line item of this contract.

(b) Except as provided in paragraph (c) of this clause, all ball and roller bearings and ball and roller bearing components delivered under this contract, either as end items or components of end items, shall be wholly manufactured in the United States, its outlying areas, or Canada. Unless otherwise specified in this contract, raw materials, such as preformed bar, tube, or rod stock and lubricants, need not be mined or produced in the United States, its outlying areas, or Canada.

(c) The restriction in paragraph (b) of this clause does not apply to ball or roller bearings that are acquired as-

- (1) Commercial components of a noncommercial end product; or
- (2) Commercial or noncommercial components of a commercial component of a noncommercial end product.

(d) The restriction in paragraph (b) of this clause may be waived upon request from the Contractor in accordance with subsection 225.7009-4 of the Defense Federal Acquisition Regulation Supplement.

(e) The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts, except those for

- (1) Commercial items; or
- (2) Items that do not contain ball or roller bearings.

(End of clause)

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20. PRESERVATION, PACKAGING, PACKING AND HYDRAULIC CLEANLINESS

Unless otherwise specified, all uncoated or unprotected ferrous and nonferrous metal surfaces (internal and/or external) shall be protected against rust and corrosion for a minimum of sixty (60) days from the date of shipment.

Technical information for the material providing the corrosion protection shall be made available to USCS upon request. This information is required to assure safe removal and disposal during the next process step, i.e., painting, plating, welding, etc. If a corrosion-protected ferrous or nonferrous metal is to be

imported into the United States, the corrosion protection substance must be certified to be in compliance with the Toxic Substance Control Act (TSCA) prior to leaving U.S. Customs. Parts shall be suitably packed to prevent shipping and handling damage. All openings (i.e., fuel, hydraulic, electrical connections, etc.) shall be adequately protected by closures to prevent contamination or damage. All fuel system and hydraulic components shall be free from visible contaminants, foreign material, rust or burrs. Internal cleaning of components shall be performed by flushing with a suitable solution or dry filtered air. Fuel system components shall be protected with corrosion-protective compound compatible with DF-1, DF-2 and JP8. Hydraulic components shall be protected with corrosion-protective compound compatible with standard hydraulic oils.

When high-level hydraulic component cleanliness is specified on the drawing/specification, the following shall apply:

- A. Supplier of items requiring the removal of fine particulate and foreign elements shall develop and maintain a system for assuring cleanliness quality complies with contract requirements.
- B. Items such as tubes and hoses, if not otherwise stated on the drawing, shall be protected against contamination by using screw-on caps for assemblies and push-on caps for bulk hose and tubes after cleaning.

The following note shall be permanently affixed to the shipping container either through labeling or stenciling:

"CAUTION: Do not remove screw-on or push-on caps except in a controlled environmental condition. Prior removal will violate cleanliness requirements."

ESD Packaging:

All Class 1, Class 2 and Class 3 parts, assemblies, and equipment, as defined by MIL-STD-1686, are to be packaged in accordance with Paragraph 5.8 of MIL-STD-1686 (MIL-E-17555). External shipping packaging for Class 1, Class 2, and Class 3 devices shall be identified with the ESD symbol. All other components with solderable leads and which are considered non-ESD sensitive per MIL-STD-1686 shall be packaged in material that meets the requirements of MIL-B-81705, Type II or Type III. Bare printed wiring boards are to be packaged in heat-sealed non-static-generating poly bags that meet the requirements of MIL-B-81705 and MIL-HDBK-263.

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21. PRETREATMENT

USCS encourages use of phosphate coaters from the recommended list. When using a coater that is not on the list, the Supplier must obtain written approval through USCS from Authorized Purchasing Representative before pretreating any USCS product.

- A. Supplier providing phosphate-coated parts in accordance with MIL-DTL-16232 shall, prior to production and after contract award, submit a proposed procedure for review/approval to the Authorized Purchasing Representative. The procedure shall include the following details:
1. Exact designation of all chemicals proposed for use, together with the names of the manufacturers, shall be stated.
 2. Detailed method of control, with limits for time, temperature, pH levels, test methods with frequencies and all other pertinent details that will ensure compliance with the requirements of the specification.
 3. The procedure approval request must list all part numbers, top level and/or sub-components that require phosphate coating.
 4. Stress Relief/Hydrogen Embrittlement bake out temperature and time, including pre-process per AMS 2759/11 and post process baking for hydrogen embrittlement relief per AMS 2759/9. Maximum stress relief/embrittlement relief temperature shall not exceed the final tempering temperature of the part.

Note: The processes or materials approved, the phosphate coatings shall conform to all the applicable requirements of the specification MIL-DTL-16232, unless otherwise specified in the USCS technical data package

Note: Deviation from the approved procedure is not permitted without written approval from the USCS Authorized Purchasing Representative using the VIR form UA-111

- B. Supplier providing chemical conversion coatings and pretreatments to parts in accordance with TT-C-490 Types I and V shall, prior to production, submit a detailed written procedure identifying the following:
1. Tempering temperature defined and sent to the plater
 2. Cleaning processes
 3. Pretreatment processes
 4. Painting Processes
 5. Process Time (Process time from plate to bake and bake time)
 6. Stress relieve temperature and/or Hydrogen Embrittlement bake temperature
 7. Chemical concentrations
 8. Process controls
 9. Acceptance criteria/frequency
 10. Manufacturer and exact proprietary designation of any material used.
 11. Any equipment used in the application of the procedure.
 12. Any other pertinent details shall be listed for each step of the application process.
 13. Copy of the drawing/design criteria.

Note: The complete procedure should demonstrate ability to pass the performance tests within the TT-C-490 specification.

Note: Deviation from the approved procedure is not permitted without written approval from the procuring agency, using the VIR form UA-

111. Phosphate Coating Procedures other than specification MIL-DTL-16232 or chemical conversion coatings and pretreatments to specification TT-C-490 Types I and V shall be retained on file at the Supplier's facility and available for review upon request.

C. Additional information:

1. When test panels/coupons or specimens are used in lieu of actual parts (preferred), they shall be made of the same material, alloy, and hardness and be representative of the manufacturing process.
2. Parts coated to MIL-DTL-16232 having a hardness of Rockwell C39 or greater shall be tested for hydrogen embrittlement on a frequency of no less than every 90 to 120 days. Unless otherwise specified in the USCS technical data package.
3. TT-C-490 is not only a phosphate coating specification, but also a paint specification; therefore, it is the Supplier's responsibility to assure all aspects of the phosphate and paint procedures are not only included in the procedure but also followed.
4. Notes applicable to specification TT-C-490 is as follows:
 - a. Lot size for salt spray testing per MIL-C-53072 shall be defined within the contractor's procedures based on historical performance. In no case shall testing be performed less than once every two weeks. Salt spray testing shall be performed per ASTM B117 (5% salt) for 336 hours.
 - b. Salt spray test panels shall be 4 X 6 inches minimum.
 - c. Salt spray test panels shall be pretreated (if applicable) and prime coated.
 - d. Salt spray panels shall have a single vertical scribe (as positioned in the salt spray cabinet) exposing the base metal.
5. Phosphate Coating Procedures other than MIL-DTL-16232 or TT-C-490 (Type I) shall be retained on file at the Supplier's facility and available for review upon request.

When the Supplier providing phosphate-coated parts in accordance with MIL-DTL-16232 or TT-C-490 (Type I) is not previously approved by USCS, they shall submit their process for approval per Part 1 Item 21 Pretreatment to the USCS Authorized Procurement Representative.

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22. CLASS 1 OZONE DEPLETING SUBSTANCES (C1ODS)

The Buyer's customer, the Department of Defense, has an obligation under Public Law 102-484, Section 326 of the 1993 Defense Acquisition Authorization Act, not to allow the award of a contract that requires the use of Class 1 Ozone Depleting Substances (C1ODS).

The Government has conducted a best efforts review of the technical requirements, standards, and specifications of the Buyer's contracts to see if the TDPs contain requirements for C1ODS. Those requirements have been identified along with a suggested alternative to eliminate C1ODS. For a copy of the most current list, contact your USCS Authorized Purchasing Representative.

In an effort to assist our customer in their obligation, USCS asks for your input. If you have any special knowledge regarding C1ODS required by Government specifications in the technical data packages, whether directly or indirectly, or if you know about potential substitutes for any C1ODS required by the Government specifications, USCS and its customer would appreciate that information. It should be understood that you are not obligated to forward the information requested, and that neither USCS nor its customer can provide any special or separate payment for this information.

This request for information and the elimination of Class 1 Ozone Depleting Substances is strictly voluntary on your part. USCS hopes that you will join our customer and us in our efforts to reduce and eliminate environmentally harmful substances.

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23. CHEMICALS

In order to assure the proper storage, handling, use, and disposal of hazardous or potentially hazardous materials, every container shall be clearly marked with the following, as a minimum:

- Product Name
- Manufacturer's Name
- Manufacturer's Part Number
- Manufacturer's Batch Number or Lot Number
- Date of Manufacture
- Expiration Date, per manufacturer's specification
- Federal Hazardous Chemical Label (OSHA 1910, 1200 Compliant)
- USCS Purchase Order Number
- USCS Part Number
- Applicable DOT/UN Placard/Labels

In addition, all products containing Volatile Organic Compounds (VOCs), such as paint, must be labeled by the manufacturer in accordance with applicable state and/or federal codes.

A copy of the Material Safety Data Sheet (MSDS) shall accompany each shipment.

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24. BALLISTIC REQUIREMENTS FOR METALS AND COMPOSITE MATERIALS

The Supplier shall maintain, and make available upon request, the Government approval letter, including the firing number, for each heat/lot of material requiring ballistic testing. The heat/lot data and related Government approval letter shall be traceable to the USCS Purchase Order under which it was purchased.

Suppliers of armor castings or extrusions shall maintain a listing of the Government-approved firing numbers for all material supplied to USCS.

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25. CUSTOMER SOURCE SURVEILLANCE (CSS)

USCS reserves the right to perform surveillance/inspection, witness testing, and/or review manufacturing and inspection processes/procedures at the Supplier's facility or at the facility(s) of any sub-tier Supplier(s) without cause at anytime throughout the period of performance at no additional cost to USCS.

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26. GOVERNMENT SOURCE SURVEILLANCE (GSS)

The Government, through contract with USCS, reserves the right to perform surveillance/inspection, witness testing, and/or review manufacturing and inspection processes/procedures at the Supplier's facility or at the facility(s) of any sub-tier Supplier(s) without cause at anytime throughout the period of performance at no additional cost to USCS.

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27. MERCURY OR MERCURY CONTAINING COMPOUNDS

Mercury or mercury containing compounds shall not be added to or come in direct contact with hardware or supplies furnished.

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28. AGE CONTROL

Deleted; the requirements of this paragraph have been moved to CDR – 023 and CDR - 046.

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29. SPECIAL PROCESSES

Suppliers providing products that require special processes such as painting, plating, heat-treatment, etc., must have objective quality evidence on file and available for USCS review. Evidence shall support that all requirements of the purchase order, drawings, and specifications are being performed, compliant, and documented.

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30. WELDING

When welding or using welded subcomponents that are not supplied by USCS, a weld procedure shall be submitted for approval by USCS Weld Engineering.

- Approval is required **PRIOR** to any parts being welded together
- Approval is granted by purchase order part number. If the drawing revision or weld process changes, the weld procedure shall be resubmitted for approval

Regardless of whether CDR-007 or CDR-008 is assigned, it is the Supplier's responsibility to comply with this policy whenever welded components or subcomponents are involved.

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31. PAINTING

Painting of USCS parts should only be performed by USCS recommended painters. Recommended painters are those who appear on the USCS "recommended painters" list, as well as sub-tier Suppliers that USCS has evaluated. The recommended painters list is available on the Purchasing website under Quality or from the Authorized Purchasing Representative. To become a recommended painter or request a sub-tier Supplier for approval, submit a configuration controlled process defining cleaning, pretreatment, and paint requirements along with results of the applicable required qualification tests to the Authorized Purchasing Representative using VIR for UA-111.

All painting/coating materials on the QPL (Qualified Products List) shall be purchased from approved sources of supply and maintained within the specified shelf life and recommended pot life per the manufacturer's directions.

The Supplier/Subcontractor to USCS shall be responsible for the compliance of their sub-tier painter to all requirements.

Objective Quality Evidence - Paint

A. Data

The following data shall be recorded and maintained for all parts painted for USCS:

1. USCS part number and revision with Purchase Order and batch/lot number
 - a. Sub-tier painters may use the Supplier's Purchase Order number however, parts and processes shall be traceable to the USCS part number and Purchase Order
2. Cleaning method
3. Pre-treatment method
4. Prime coat process
 - a. Primer batch number
 - b. Date painted
 - c. Prime coat start & stop times
 - d. Temperature, dew point, RH
 - e. Accelerated drying if applicable
 - f. Operator
 - g. Dry film thickness
5. Top coat process
 - a. Top coat batch number
 - b. Date painted
 - c. Top coat start & stop times
 - d. Temperature, dew point, RH

- e. Accelerated drying if applicable
- f. Operator
- g. Dry film thickness

B. Tests

The specification-defined lot conformance tests shall be performed, and the results shall be documented and maintained by the Supplier/subcontractor and made available to USCS upon request.

The specification required process qualification tests shall be performed as a minimum when no other specified qualification tests are defined in the applicable technical data package. The results shall be maintained by the Supplier/subcontractor and made available to USCS upon request.

All test reports shall include digital photographs of the test panels.

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32. SOLDERING AND SOLDER TYPE

All electronics and electronic assemblies shall be manufactured to IPC J-STD-001 and IPC-A-610 Class 3.

The Supplier shall notify USCS of all instances where lead-free solder is being utilized in the manufacture of electronics and/or electronic components. This notification shall include any data available regarding potential loss of performance or reliability as a result of the use of lead-free solder. Notification to USCS shall be provided using the Vendor Information Request (VIR) process and shall be made to the Authorized Purchasing Representative.

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33. FOREIGN OBJECTS, DEBRIS & DAMAGE (FOD) PREVENTION

The Supplier shall establish and maintain an effective Foreign Objects, Debris & Damage (FOD) Prevention Program to reduce FOD using NAS412 as a guideline.

Inspection will include a thorough visual check of all exposed areas specifically for foreign objects. This includes metal or wire clippings, solder balls, loose hardware, or other debris. Emphasis shall be placed on the following:

- Connectors, PWB, connector areas, barbed wire, terminations, moving parts, friction-fit assemblies, etc
- All foreign objects (FOD) found during inspection shall be reported on an inspection record and reworked as necessary. Re-inspection must be documented

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34. COUNTERFEIT PARTS PREVENTION

The Supplier is responsible to prevent fraudulent materials from being provided to USCS. To that end, the Supplier shall:

- Purchase all electronic components from the Original Component Manufacturer (OCM) or their authorized/franchised distributors
- Purchase certified Grade 8 fasteners, preferably from the manufacturer or their authorized distributors
- For Suppliers providing electronics, electronic components, or fasteners (SAE Grade 5 and higher as defined in SAE-J1429 or metric fasteners with strength designations of 8.8 and higher as defined by SAE-J1199 or DIN standards with equivalent strength designations), develop and maintain a Counterfeit Prevention Plan using DI-MISC-81832 as a guide (available at <https://assist.daps.dla.mil/quicksearch>)
- The Supplier shall maintain on file and provide upon request certification that the supplied material was purchased from the original manufacturer or their authorized/franchised distributor
- All requirements of this paragraph shall be flowed to all sub-tier suppliers/subcontractors

Where the Supplier is unable to comply with the above requirements due to obsolescence or availability, the Supplier shall submit a request to use alternate sources using VIR form UA-111.

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35. PROHIBITION ON ACQUISITION OF MATERIALS FROM CHINA

It is mandatory that the Supplier adhere to the following DFAR requirement.

DFAR 252.225-7007 Prohibition on Acquisition of United States Munitions List Items from Communist Chinese Military Companies.

As prescribed in 225.1103(4), use the following clause:

PROHIBITION ON ACQUISITION OF UNITED STATES MUNITIONS LIST ITEMS FROM COMMUNIST CHINESE MILITARY COMPANIES (SEP 2006)

(a) Definitions. As used in this clause-

"Communist Chinese military company" means any entity that is:

- (1) A part of the commercial or defense industrial base of the People's Republic of China; or
- (2) Owned or controlled by, or affiliated with, an element of the Government or armed forces of the People's Republic of China. "United States Munitions List" means the munitions list of the International Traffic in Arms Regulation in 22 CFR Part 121.

(b) Any supplies or services covered by the United States Munitions List that are delivered under this contract may not be acquired, directly or indirectly, from a Communist Chinese military company.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in all subcontracts for items covered by the United States Munitions List.

(End of Clause)

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36. PRODUCT SAFETY CRITICAL ITEMS (CSI)

Items marked as CSI shall be inspected by 100% Full Visual Inspection (FVI) or Fully Automated Inspection (FAI) means. Actual results, to include pass or fail, shall be recorded and provided prior to shipment to the Authorized Purchasing Representative. Summary data may be included.

Note: Sample inspection is not acceptable for these features.

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Part 2 - CONTRACT DELIVERABLE REQUIREMENTS

The following Contract Deliverable Requirements (CDRs) identify Purchase Order deliverable documentation to be supplied to USCS or actions required by the Supplier to demonstrate compliance to Purchase Order requirements.

The assignment of a CDR to the Purchase Order does not relieve Supplier from complying with all requirements of SQR Section 1, the Purchase Order, drawing, and associated specifications.

CDR - 001 - Inspection/Test Data Reports

All of Supplier's actual inspection/test data for the specified item shall be submitted by the Supplier to USCS on a suitable form. The data shall be submitted with the shipment of the item. As applicable, the data shall include the following information:

- Part Number
- Serial Number
- Quantity of parts
- Identification of each characteristic inspected/tested to include but not limited to: dimensional coordinates, drawing notes, (e.g., protective coatings, chemical and physical properties), etc
- Actual Inspection/test results
- Date of inspection/test
- Inspector's signature, stamp or initials
- Indication of First Piece (when applicable)

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CDR - 002 - Detailed Inspection Test Procedure

The Supplier shall prepare and maintain a written, detailed inspection/test procedure for the subject item. Prior to the start of inspection, the Supplier shall submit the procedure(s) to the USCS Authorized Purchasing Representative for approval. Each procedure shall contain the following information:

- Part Number
- Procedure Revision
- Identification of each characteristic to be submitted to inspection/test, its requirement, and drawing and/or specification requirement reference and their respective acceptance criteria
- Sequence of each inspection/test
- Equipment to be used for each inspection/test and for complex operations, the setup of the inspection/test equipment
- The inspection/test environment
- Definition of the test/inspection report documenting the test/inspection results

Changes to this procedure shall be submitted to USCS for approval prior to conduct of inspection/test.

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CDR - 003 - First Piece Inspection

A single item from the first production lot shall be selected for inspection of all drawing characteristics.

First Piece documentation shall include the following:

- Actual dimensions for all dimensions on drawing
- Verification of all drawing notes
- Material Certifications
- Certifications for all special processes, to include but not limited to
 - Welding
 - Plating
 - Heat Treating
 - Painting
- Certificate of Compliance per Paragraph 9
- In-process/Final Test Reports

The first piece inspection report shall be submitted to the USCS Authorized Purchasing Representative.

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CDR - 004 - First Article Test (FAT)

The Supplier shall submit a FAT plan to the Authorized Purchasing Representative within thirty (30) days after receipt of the Purchase Order. The FAT plan shall include dates for submittal of the FAT procedure, dates and location for all testing with anticipated completion date, and date for submittal of the FAT report. The procedure and test reports may be prepared using MIL-HDBK-831 as a guide.

If requested by USCS, the Supplier shall ship a sample item produced with the same processes planned for use on the production lot for approval prior to the Supplier's start of fabrication of any production lot of items covered by Purchase Order(s). Supplier shall identify this sample and all associated documents as the "First Article."

Following First Article approval, the Supplier shall notify the USCS Authorized Purchasing Representative to determine if testing must be repeated when any of the following occurs:

- Receipt of new purchase order or contract
- Significant change in manufacturing process (introduction of a new manufacturing technique, etc.)
- Change in any drawing configuration, component, or sub-component parts
- Change in manufacturing location
- A break in production or process in excess of twelve (12) months, unless otherwise specified

If source inspection (CDR 005) is required by Purchase Order(s), the Supplier need not ship the First Article sample to USCS but shall notify the Authorized Purchasing Representative of the date of the FAT for witnessing purposes.

If Government Source Surveillance (CDR 006) is required by the purchase order, the Supplier shall provide sufficient notice to the local government representative servicing their company of the pending FAT and the location and times of the tests for witnessing purposes.

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CDR - 005 - Customer Source Surveillance (CSS)

Source Surveillance, inspection, and/or test by a USCS source inspection representative is required for the products and/or services to be supplied under this Purchase Order. In order to accommodate USCS source inspection representatives, the Supplier shall make all facilities, equipment, inspection records, and assistance readily available.

Suppliers shall provide ten (10) working days advance notification of requests for source inspection. Requests submitted with less than ten (10) working days notice may impact the Supplier's delivery rating. Written requests for source inspection must be submitted to the USCS Authorized Purchasing Representative. Failure to notify USCS of a source inspection cancellation in writing 48 hours prior to the scheduled date could result in a charge to the Supplier for costs incurred.

All Suppliers, regardless of status, are required to submit Source Inspection requests per CDR-005.

Unauthorized shipment of product without USCS source inspection may result in the shipment being rejected and returned to the Supplier at the Supplier's expense.

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CDR - 006 - Government Source Surveillance (GSS)

Government surveillance is required prior to shipment from your plant and cannot be waived by USCS. Upon receipt of the Purchase Order, promptly notify the Government representative who normally services your plant so that appropriate planning for Government inspection can be accomplished.

Notification to the local Government representative of pending inspections shall be made in accordance with FAR 52.246-2(i)(2), which can be found at https://www.acquisition.gov/far/current/html/52_246.html. As of this revision, the FAR requires two (2) working days notification for resident representatives and seven (7) working days for all other instances; however the latest revision of the FAR shall apply. In the event the representative or office cannot be located, the USCS Authorized Purchasing Representative shall be notified immediately.

Government inspection must be made prior to shipment. Unauthorized shipment of product without Government Source Surveillance may result in rejection and subsequent return of your shipment at the Supplier's cost, and withholding of your invoice payment. GSS shall not replace Supplier inspection nor relieve the Supplier of its responsibility for furnishing an acceptable end item.

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CDR - 007 - Welding and Brazing for Ground Combat Vehicles

- **PRIOR** to implementation of the proposed process, procedure approval is required by USCS Weld Engineering
- Supplying product to USCS without an approved Welding Procedure Specifications (WPS) is cause for rejection
- The WPS shall include the Procedure Qualification Record (PQR) for the process
- If the Supplier has completed the USCS Weld Training, they may use the USCS procedures for which they are qualified
- Use of USCS WPS still requires approval prior to use for each individual part number. If the Purchase Order Part Number is changed through configuration, the WPS shall be resubmitted even if nothing is changed within the weld process/procedure
- The Supplier is responsible for the performance and maintenance of all supporting documentation required to demonstrate compliance with Purchase Order requirements
- Forms are available on the USCS Purchasing website or through the appropriate USCS Authorized Purchasing Representative. Access to the forms on the Purchasing website can be gained as follows:
 - www.gsd-purchasing.udlp.com
- User name: supplierlink
- Password: supplierinfo
 - Follow "Supplier Weld Information" link
 - Select "#9. Forms- Supplier Forms – Welding - Brazing"

Aluminum and Steel Arc Welding; Resistance Welding and Brazing

Procedure submittal requirements for aluminum, steel, resistance, and brazing weldments are addressed on the following forms/ procedures:

Form Number/ Procedure	Document Title
12472301	Ground Combat Vehicle Welding Code - Aluminum
12479550	Ground Combat Vehicle Welding Code - Steel
LAA-5128	Welding Procedure Extension Request
LAA-5130	Brazing or Braze Welding Procedure - Cover Sheet
LAA-51301	Brazing or Braze Welding Procedure
LAA-5131	Recorded Joint Welding Procedure for Resistance Welding - Cover Sheet

LAA-51311 Recorded Joint Welding Procedure for Resistance Welding
LAA-5272 Welding and Brazing Submittal Requirements and Instructions

Forms are available on the USCS Purchasing website or from a USCS Authorized Purchasing Representative.

Aluminum Welding Code 12472301 replaces these specifications (reference page 4, Table P.1):

- MIL-STD-1946
- MIL-STD-372
- MIL-W-45205
- MIL-W-45206

Steel Welding Code 12479550 replaces these specifications (reference page 4, Table P.1):

- MIL-STD-1261
- MIL-STD-1941
- MIL-STD-1185
- MIL-W-46086

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CDR - 008 - Welding and Brazing (including Weld Repairs) for Naval Programs

- Prior to the Supplier's start of fabrication (or repair to raw material, casting, forgings, etc.), the Supplier shall submit procedure(s) and supporting qualification test data in accordance with the applicable specifications (including weld personnel certifications) and form KA-021 to the USCS Authorized Purchasing Representative
- Supplying product to USCS without an approved Welding Procedure Specifications (WPS) is cause for rejection
- The WPS shall include the Procedure Qualification Record (PQR) for the process when applicable
- If the Supplier has completed the USCS Weld Training, they may use the USCS procedures for which they are qualified
- Use of USCS WPS still requires approval prior to use for each individual part number
- The Supplier is responsible for the performance and maintenance of all supporting documentation required to demonstrate compliance with the Purchase Order requirements
- Changes/revisions to previously approved weld procedures must be submitted for re-approval

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CDR - 009 - Soldering

- The Supplier shall submit soldering plans to the USCS Authorized Procurement Representative thirty (30) days after receipt of the Purchase Order

- Procedures shall be submitted for all subcontracted soldering operations
- USCS reserves the right to disapprove the plan or to require changes in the plan, which it deems necessary to ensure the product conforms to IPC J-STD-001, Class 3 and Purchase Order requirements
- A new Purchase Order number with the same prime contract number as previously approved does not require extension of approval
- The plan shall include, as a minimum, detailed procedures to be followed and utilized throughout all areas of performance
- The Supplier must have approval from USCS prior to beginning production. This approval will be in the form of a letter notifying you that your facility has satisfactorily completed a High-Reliability Audit. The approved program must be utilized in the performance of Purchase Order(s)
- Any and all records required by the approved program may be requested at any time and must be immediately available for review
- USCS must approve changes to this program following approval

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CDR - 010 - Solderability

Material supplied shall meet the solderability requirements of the product fabrication specification. When no solderability test is specified, the test shall be performed in accordance with MIL-STD-202, Method 208.

Note: One hour steam aging is required for wire.

With each shipment, the Supplier shall provide a written certification stating that the components provided were tested and meet the applicable solderability requirements as stated above.

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CDR - 011 - Printed Wiring Boards

The Supplier shall provide with each shipment a written certificate stating that the boards were fabricated to the relevant specifications identified within the TDP. Test coupons and microsections must be maintained for a period of two (2) years and available for examination by USCS.

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CDR - 012 – Deleted

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CDR - 013 - Nondestructive Examination Procedures

When the Purchase Order specifies Nondestructive Examination such as radiography, magnetic particle, liquid penetrant, or ultrasonic inspections, the Supplier shall submit the procedure to the USCS Authorized Purchasing

Representative for approval. The procedure shall be submitted within thirty (30) days after receipt of the Purchase Order. If the submittal is requested during performance of the Purchase Order, the Supplier shall submit the procedure within three (3) days of receiving the request.

All changes to the approved procedure shall require re-submittal and approval. The revised procedure shall not be implemented until written approval is received from USCS.

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CDR - 014 - Nondestructive Examination Inspection Report

The Supplier shall furnish a certified test report stating that Nondestructive Examination(s) required per the TDP have been performed in accordance with an approved test procedure as required by the referenced specification and that the material is acceptable. The certification shall also include:

- Type of test and coverage
- Applicable procedure specification (title, number and revision)
- Applicable acceptance criteria (title, number and revision)
- Name and address of the company that actually performed the testing
- Certificate of process compliance

A test plan shall be developed detailing the Nondestructive Examinations to be performed (including test equipment to be used, angles to be captures in radiographic testing, etc.) and shall be made available to USCS upon request.

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CDR - 015 - Control Test

The Supplier shall schedule Control Tests based on the specification/QAP's frequency of test and test requirements. The Supplier is responsible for determining the test schedule based on the production and delivery schedule for the Purchase Order. The Supplier shall submit for approval to USCS a control test procedure within thirty (30) days after receipt of the Purchase Order. The Supplier shall notify the USCS Authorized Purchasing Representative of the projected test schedule and any changes as they occur. If any failures occur, either through defect of the test equipment or of the test sample itself, the Supplier shall immediately notify the USCS Authorized Purchasing Representative for further instructions prior to continuance of testing.

Following the completion of testing, the test report shall be submitted to the USCS Authorized Purchasing Representative for approval.

MIL-HDBK-831 should be used as a guide in developing the test report format. As a minimum, the test report shall include:

- USCS Part Number
- USCS Purchase Order Number
- Prime Contract Number (the USCS contract with its customer)
- Applicable drawings/specification and revision level

- Type of test (i.e., Group "C," Group "D," etc.)
- Tests performed and results
- Test completion date
- Sample size
- Sample identification, if applicable
- Production interval (or Purchase Order line number deliverable)
- Signature and title of Supplier's representative
- Report date

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CDR - 016 - Plating

The Supplier shall provide written certification documenting that the plating was performed in accordance with drawing and Purchase Order requirements. The facility actually performing the plating shall prepare the certification. When baking for hydrogen embrittlement relief is required, the certification shall define the required bake time at temperature and contain a statement that the items were baked at the required temperature for the required minimum time specified in accordance with the required revision level of the specification.

Certification **MUST** include as a minimum:

- Part number
- Purchase Order number
- Plating process specification used
- Baking temperature
- Baking time
- A statement that the baking operation was started within 4 hours of plating completion
- Complete lot traceability to all certifications related to the USCS purchase order
- Signature/title of the Supplier's representative
- Report date

A. Electroplated Coating of Cadmium or Zinc:

All fasteners which are electroplated in cadmium or zinc shall be hydrogen embrittlement relieved by baking at 375°F ±25°F for 23 hours minimum. This baking process shall be initiated within four (4) hours of completion of the plating process.

Components requiring electroplated coating of cadmium or zinc, which are incorporated in equipment to be delivered under this Purchase Order, shall allow the use of ASTM B 633, Type 2, of equivalent thickness, except salt spray test per ASTM B 633 is not required. An alternate coating for ASTM B 633 shall be Ion Vapor Deposited (IVD) Aluminum MIL-DTL-83488, Type II, of equivalent thickness. For components requiring non-electroplated coatings of cadmium or zinc, the alternate coating shall be MIL-DTL-83488, Type II, of equivalent thickness.

B. Solid Film Lubricant, MIL-PRF-46010:

When performing solid film lubricant on steel products, the parts shall receive a solid film bake cure at 300° F, unless the drawing specifies a specific temperature.

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CDR - 017 - Painting

The Supplier shall provide a copy of the written certification documenting that painting was performed in accordance with all drawing, specification, and Purchase Order requirements. The facility actually performing the painting shall prepare the certification, which shall include:

- Part number
- Purchase Order number
- List of specifications used in the processing of the paint
- Paint thickness of a sample of actual parts for the primer
- Paint thickness of a sample of actual parts for the top coat
- Material lot/batch number(s)
- Material expiration date(s)
- Signature/title of the Supplier Representative
- Certification date

All test and inspection documentation shall be available for USCS review.

Items requiring painting in accordance with MIL-STD-1303 (Cancelled) shall instead be painted in accordance with NAVSEA Drawing 7250920 and associated paint photographs (if applicable) to define masking.

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CDR - 018 - Physical and Chemical Test Reports

With each shipment, the Supplier shall provide all actual chemical, mechanical, and/or physical test results pertaining to the material shipped under this Purchase Order with traceability to the original mill/manufacturer, heat lot, and country of origin, as applicable. This data shall be provided in a commonly readable electronic format via email to the USCS Authorized Purchasing Representative.

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CDR - 019 - Test Samples - Tensile Testing

With each shipment, the Supplier shall provide a set of two un-machined test bars suitable for the mechanical testing required by Purchase Order or referenced specification. Both bars shall be made from the same melt and heat treated in the same lot as the supplied parts.

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CDR - 020 - Heat Treat

With each shipment, the Supplier shall provide a written certification that heat treatment was performed in accordance with drawing and Purchase Order requirements. When the drawing specifies a hardness range for materials due to quench and temper or other practices, actual results shall be recorded on the certification. When heat treating is performed by a facility other than the Supplier shown on Purchase Order, the name of that subcontractor and a copy of the certificate furnished by the subcontractor for the heat treatment shall be furnished to USCS. When specified on the drawing and/or the Purchase Order, test samples shall be provided to USCS for evaluation.

A. Visual Metal Graphic Inspection

Visual inspection at a magnification of 5X shall be performed on heat treated items. Cracks, seams, laps or other injurious defects shall not be allowed. For steel carburized parts, the heat treat condition prior to carburizing shall be either quench and tempered or normalized and tempered. Heat treat process and atmosphere control shall be such that no decarburization occurs on the surface as detectable by metal graphic sectioning under magnification at 100X, method specified on drawing or appropriate specification. Exceptions are stress-proof, fatigue-proof, precipitation hardening grades of steel, maraging steels and structural steel such as HY-, HY-100, Cor-ten, etc. This will minimize distortion and assure that proper hardness is achieved.

B. Quench and Temper (Core Hardness Specified)

A test specimen (or additional part) of the same alloy and same size, within 20% of the largest cross section thickness, shall be heat treated with each heat treat lot. The test sample shall have a length at least one inch longer than the section thickness or two times the diameter. The specimen or sample part shall be cross sectioned at mid-length of the largest cross section thickness plus or minus 3/8 inch. The Supplier shall submit a report including the actual surface hardness and core hardness at 1/2 radius (core hardness measured on cut surface).

C. Quench and Temper (Core Hardness Not Specified)

The report shall include a statement of the surface hardness findings for each heat treat lot. Testing shall be done in areas identified on the drawing or in such a manner as to not damage the critical surface finish as defined by the drawing.

D. Case Hardening - Carburizing

A test specimen of the same alloy and similar configuration as the part shall be processed with each heat treat lot to verify case depth, surface and core hardness requirements, and microstructure. The Supplier shall submit a report with the required case depth hardness actual results obtained and microstructure per specified standard. Certification shall be submitted with each heat treat lot.

E. Case Hardening - Nitriding

A test specimen of the same alloy, same hardness, and similar configuration as the part shall be processed with each heat treat lot to verify case depth, hardness requirements, and to monitor thickness of white layer. The Supplier shall submit a report with required case depth, hardness, process temperature, and actual results obtained. Certification shall be submitted with each heat treat lot.

F. Surface Hardening - Flame or Induction

The Supplier shall provide certification with each lot reporting the actual case depth, surface and core hardness values obtained. First Article proof tests with pattern, equipment power setting, quench media, and other critical process parameters shall be maintained by vendor.

G. Stress Relief

Certification shall report the actual processing time, temperature and number of cycles for each lot as defined in the drawing or specification.

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CDR - 021 - Mercury

With each shipment, the Supplier shall provide certification that the material shipped under this Purchase Order does not contain functional mercury in any form and that no mercury-bearing instruments and/or equipment that might cause contamination have been used in the manufacture, fabrication, assembly, or testing of any material shipped under this Purchase Order.

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CDR - 022 - Material Traceability and Identification

All material traceable to a heat/lot number shall maintain its traceability throughout the entire manufacturing process. Likewise, all material maintained in inventory shall be traceable to its heat/lot number. It is the Supplier's responsibility to maintain on file, and provide to USCS upon request, all documentation associated with the material including, but not limited to, the purchase order under which the material was procured, the physical and chemical test reports, and the ballistic test certificate.

In cases where USCS provides the Supplier with traceable material, the Supplier shall use that material only as specified by USCS and shall maintain traceability of the material throughout their manufacturing process. The Supplier shall be responsible to contact the USCS Authorized Purchasing Representative for disposition of any excess/salvaged material.

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CDR - 023 - Age Control

The item associated with this CDR is age sensitive and subject to age control marking in accordance with CDR – 046D.

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CDR - 024 - Non-Manufactured Coniferous Wood Products

All wooden pallets and wood containers produced entirely or in part of non-manufactured softwood species shall be constructed from heat-treated coniferous material. This material must be certified accordingly by an accredited agency recognized by the American Lumber Standards Committee (ALSC) in accordance with Non-manufactured Wood Packaging Policy and Non-manufactured Wood Packaging Enforcement Regulations. The Supplier shall maintain on file at their facility a certificate of conformance from the accredited heat treat facility.

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CDR - 025 - Special Packaging

Material is to be packaged in accordance with the packaging instructions provided in the body of or attached to this Purchase Order. A statement that the packaging is in accordance with the specified requirements will be included in the Certificate of Compliance (reference Part 1, Paragraph 9).

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CDR - 026 - Quality Requirements

The Supplier shall maintain on file, and provide to USCS upon request, objective quality evidence demonstrating compliance to all of the requirements of this Purchase Order. When documentation is requested by USCS, the documentation shall be provided in a commonly readable electronic format and shall be emailed to the authorized USCS representative requesting the information.

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CDR - 027 - Certificate of Compliance (C of C)

A copy of the Supplier's Certificate of Compliance shall be submitted with each shipment of material. The Certificate of Compliance, signed and dated by an authorized individual, certifies that a product or service has met all requirements of the contract including drawings and specifications at the prescribed revision level. This certificate of compliance shall include the following:

- Supplier's name and address
- USCS Purchase Order number
- USCS Item Number and Description (as they appears on the Purchase Order)
- Quantity shipped
- Authorized signature and date
- Statement of compliance, indicating that documents supporting compliance are on file for review

- Reference to tracking numbers (i.e. lot, heat/lot, batch) for all applicable CDR requirements

When requested, an electronic copy of the C of C shall be emailed to the authorized USCS representative requesting the information.

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CDR - 028 - Unique Identification (UID)/Radio Frequency Identification (RFID)

Part must be UID marked per MIL-STD-130.

If the UID marking is already present, verify that it is intact and scannable. If the scan fails, replace with a new marking.

It is acceptable to add the UID mark to an existing data plate as long as the following human readable information (HRI) is present:

Cage Code:

Part Number:

Serial Number:

UID data plate drawing 12496537 references marking material types and methods for dot peen, laser and thermal marking methods. Any equivalent marking media or method per MIL-STD-130 is acceptable as long as the marking lasts for the usable life of the component being marked.

In the event the print location for the UID mark cannot be met, it is acceptable to locate the UID mark in an area close to the desired location.

USCS utilizes the construct #2 2D matrix per MIL-STD-130. Linear bar-coding is not required. Machine readable information (MRI) shall be applied as a data matrix ECC 200 symbol encoded as a Construct #2 data set comprised of the following information:

- Cage Code
- Part Number
- Serial Number of the component being marked

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CDR - 029 – Deleted

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CDR - 030 - Key Characteristics and Variation Management

A. USCS Designs

When a USCS drawing, specification, and/or Purchase Order include “key characteristic” requirements, the Supplier shall utilize Variation Management to ensure key characteristic integrity. Key characteristics are identified by the “KEY” symbol or word on the drawing, specification and/or Purchase Order.

The Supplier shall develop control plans for applicable key characteristics and shall have a Cpk goal of 1.33 or better. Variation Management data shall be

retained by the Supplier and shall be provided to USCS as part of their quality metrics. For more information regarding VM guidelines, see standard SAE AS9103.

B. Supplier Designs

When the Suppliers' design includes "key characteristics," the Supplier shall utilize Variation Management to ensure key characteristic integrity. Key characteristics are defined as the features of a material, process or part whose variation has a significant influence on product fit, performance, service life, or manufacturability. The Supplier shall document a Variation Management system that emphasizes control of identified key characteristics and mitigates or eliminates them during the design effort. The Supplier shall submit the identified key characteristic(s) to USCS for concurrence. For more information regarding key characteristics and Variation Management guidelines, see standard SAE AS9103. Variation Management data shall be retained by the Supplier and shall be provided to USCS as part of their quality metrics. The Supplier shall develop control plans for applicable key characteristics and shall have a Cpk goal of 1.33 or better.

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CDR - 031 – Deleted

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CDR - 032 - Transparent Armor Ballistic Requirements

A ballistic first article test shall be performed and accepted prior to any production of transparent armor. All drawing and specification requirements shall be met as required for the ballistic FAT and ballistic lot testing. The Supplier shall identify the samples and all associated documents as the "First Article Sample" or "Lot Sample." Marking requirements of the ballistic samples shall meet the purchase order and or drawing requirements. The FAT and lot acceptance test request (form USCS 6024) shall be submitted through the procuring agent for acceptance by USCS SQA. Customer Source Surveillance shall be requested for all ballistic test samples. A completed Source Surveillance Request Form (form USCS 5930) shall be submitted with the test request.

Following Ballistic First Article approval, the Supplier shall notify the USCS Authorized Purchasing Representative to determine if testing must be repeated when any of the following occurs:

- Receipt of new purchase order or contract
- Change in manufacturing process (introduction of a new manufacturing technique, etc.)
- Change in any drawing configuration, component, or sub-component parts
- Change in manufacturing location
- A break in production or process in excess of twelve (12) months, unless otherwise specified

The response from USCS shall be in writing and retained as quality evidence.

It shall be the Supplier's responsibility to adhere to the lot acceptance testing schedule as specified in the appropriate Ballistic Acceptance Criteria drawing.
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CDR - 033 – Deleted
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CDR - 034 - Ballistic Materials

The Supplier shall provide a copy of the material certification and Government approval letter, including firing number, for each heat/lot of ballistic material to their Authorized Purchasing Representative.

For armor castings and extrusions, the Supplier shall maintain a listing of Government-approved firing numbers for all material recipes supplied to USCS.
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CDR - 035 – Deleted
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CDR - 036 - Phosphate and Pretreatment Coating Procedure

Preproduction Government Approval of the phosphate coating procedure is required through USCS.

A. MIL-DTL-16232/TT-C-490, Types I and V

Supplier providing heavy manganese or zinc base phosphate coated parts in accordance to MIL-DTL-16232 or to the chemical conversion coatings and pretreatments for ferrous surfaces to TT-C-490, Types I and V shall have their procedure approved through USCS prior to phosphate coating. The procedure shall be submitted to the USCS Authorized Purchasing Representative using VIR form UA-111. Once written approval has been received, a copy is to remain on file with the Supplier and shall be available upon request. Any change to an approved procedure requires resubmitted preproduction approval for the parts affected.

B. Weight of Phosphate Coatings

The weight of phosphate coatings, prior to application of any supplementary treatment shall conform to the specification, per the following outline:

1. Type M shall be a minimum of 16 grams per square meter (g/m^2) (11 g/m^2 when specified on purchase order, and/or print).
2. Type Z shall be a minimum of 11 g/m^2

C. Stress Relief/Hydrogen Embrittlement

To prevent a reduction in hardness as a result of stress relief, the following applies:

1. Stress relief/hydrogen embrittlement baking temperature is not to exceed tempering temperatures of the final heat treat process (i.e., carburizing and temper, quench and temper, normalize and temper, flame or induction hardening)
2. When the tempering temperature is less than 400°F, stress relieve at a temperature 25°F lower than the tempering temperature, with a tolerance of +20°F
3. Minimum stress relief times as referenced in MIL-DTL-16232 apply as stated

D. Supplementary Treatments

To prevent the corrosion of parts during shipping and handling, a supplementary treatment shall be applied to all MIL-DTL-16232 coatings provided by USCS Suppliers when specified by the Purchase Order or drawing.

E. Workmanship

Workmanship shall be as per the specification requirements.

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CDR - 037 - Production Part Approval Process (PPAP)

The Supplier shall submit a Level 4 PPAP per the latest edition of the Automotive Industry Action Group (AIAG) PPAP manual. The package shall be submitted to the USCS Authorized Purchasing Representative.

The Supplier shall receive written approval of the PPAP from USCS prior to beginning production.

The submittal package shall include the following:

- Part Submission Warrant (PSW)
- Process Flow Diagram
- Process Control Plan
- Process Failure Mode Effect Analysis (Process FMEA)
- Dimensional Reports/First piece inspection results
- Material, Performance Test Results
- Records of Compliance to Performance Specification Requirements

Additional requirements, i.e., Appearance Approval Report (AAR), Capability Study, MSA, may be added to this requirement in the body of the purchase order or configuration notes.

The forms and test reports should be prepared using AIAG PPAP manual as a guide.

If requested by USCS, the PPAP samples shall be available for review/inspection.

Following PPAP approval, the Supplier shall notify the USCS Authorized Purchasing Representative when any of the following occurs:

- Receipt of new purchase order or contract
- A change in the manufacturing process (introduction of a new manufacturing technique, etc.)
- Change in any drawing configuration, component, or sub-component parts
- Change in manufacturing location
- A break in production or process in excess of twelve (12) months, unless otherwise specified

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CDR - 038 - Deleted

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CDR - 039 – Deleted

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CDR - 040 - Services and Engineering Evaluation Parts/Assemblies

The requirements of Part 1 of the SQR are waived for this order and no deliverables are required to be provided.

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CDR – 041 – Deleted

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CDR – 042 - Commercial Off the Shelf Parts (COTS)

These types of parts are typically ordered out of a catalog and if there is a drawing, it typically references the catalog part number, i.e. Fuel filters, standard hydraulic fittings, light bulbs, etc. These parts are not designed for a specific vehicle and are typically acquired from manufacturers that supply the same part to a variety of markets. These parts are commercially available products that are not specifically designated for an application. In most cases, for COTS type parts drawings and/or specifications are not available. These types of parts are typically ordered and controlled by part number only.

COTS items will require a certificate of conformance and/or a packing slip as the objective quality evidence where no other objective evidence is available.

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CDR – 043 – Altered/Modified COTS

The Supplier shall provide a Certificate of Conformance and any applicable inspection data documenting actual dimensions of the altered/modified feature(s) and/or coating certifications as defined on the USCS Purchase Order/Drawing.

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CDR – 044 - Packaging Instructions for Hardware Kits

All hardware and small components kits shall be packaged, marked, and packed as follows unless other requirements are provided through the purchase order.

The contents of this kit shall be packaged, identified, consolidated and packed per the instructions below. The USCS Purchasing Order and/or Engineering Drawing provide the part numbers and quantities required for each kit. Packaging of this kit is to be accomplished through good commercial practices, and is intended to provide adequate protection of the kit(s) and the kit components during transit and handling as well as for short-term storage.

A. Packaging

Cleanliness – Items shall be free of dirt and other contaminants that would contribute to deterioration of the item.

Preservation – Bare steel surfaces shall be provided protection such as preservative coatings. Zinc plating or cadmium plating is not considered bare and will not require preservative protection. Items made from stainless steel material do not require preservative protection. When rubber items are unit packaged in quantities of more than one, the items shall be dusted with talcum (soapstone).

Unit Package – The unit packaging shall consist of an item of the same part number and the specified quantity per kit. Place the required item quantity in a close fitting poly bag as to keep package cube to a minimum. Use multiple bags per part when applicable. The minimum size bag shall be 3 x 4 inches; the bag shall be a minimum of 3-MIL thick. The bag shall be heat-sealed in a manner to keep the items contained within the bag. The trapped air volume in the bag shall be kept to a minimum to reduce package cube.

Consolidation – Consolidate the required unit packages for each specified part number into a poly bag, 6-MIL thick, or a snug fitting fiberboard carton (a fiberboard carton is preferred method). If a poly bag is used for consolidation, the weight shall not exceed 10 lb. A Packing List will be enclosed in each consolidated package detailing the contents, to include; the kit part number, and the part number, description, and quantity for each component included. The bag and/or carton size used for the specified kit shall be identical throughout the contract.

B. Marking

Each package used in this kit, shall identify the contents with the applicable part number, nomenclature, quantity, and kit number. For unit packaging see Label Example A, and for consolidation packages see Label Example B. The markings for each pack can be printed on a label or applied directly on to the bag or carton. If a label is used it shall meet the requirements as outlined below, and if a label is used to identify a bag, the label may be heat-sealed in

the bag along with the item(s). If the label is placed in the bag, the label identification must be able to be read from the exterior of the package. If a Packing List is enclosed in the package, the package is to be marked with "Packing List Enclosed", and is to be located in the same area and adjacent to where the kit identification is applied.

Age Control – Shelf-life markings shall be shown as part of the item identification data on unit packs, intermediate containers, exterior containers, and unpacked items. Shelf-life markings shall include the manufactured, cured, assembled or packed date (apply one date), and the expiration or inspect/test date, as appropriate. This information must appear on the unit package unless it is visible through a clear plastic bag, and on the intermediate and exterior container (only when unit pack is exterior container). When two or more unit packs of identical items are marked with different dates, the earliest date should be shown on the intermediate container. Exterior containers and multi-packs containing age control items shall be marked "CONTAINS SHELF-LIFE ITEMS).

- a. Non-extendable shelf-life items: manufactured (MFD) date, cured date, assembled date, packed date (subsistence only) (apply one date, as appropriate), and expiration (EXP) date. For items that contain rubber or synthetic elastomers, the expiration date shall be calculated from the cured date of the rubber/elastomer.
- b. Extendable shelf-life items: manufactured date, cured date, assembled date, packed date (subsistence only) (apply one date, as appropriate), and inspect/test (INSP/TEST) date. For items that contain rubber or synthetic elastomers, the inspect/test date shall be calculated from the cured date of the rubber/elastomer.

EXAMPLE 1
(Non-extendable)
MFD DATE 10/10
EXP DATE 10/13

EXAMPLE 2
(Extendable)
ASSEMBLED DATE 10/10
INSP/TEST DATE 10/13

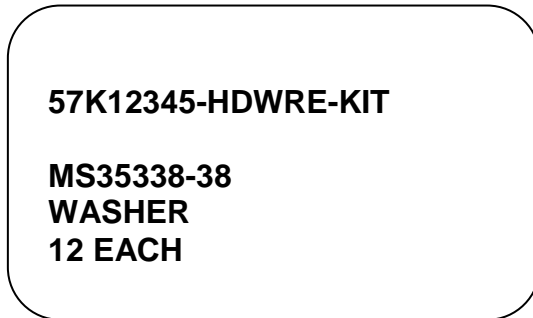
EXAMPLE 3
(Extendable)
CURED DATE 4Q09
INSP/TEST DATE 4Q11

C. Labels

All labels used shall meet or exceed the following requirements: pressure sensitive, water-resistant, size 2 x 2-1/2 inches (min). The part number, nomenclature, quantity, and kit number shall be in a stacked configuration, font size 12 to 14, black ink on white label, and upper case letters. Direct printing on the bag is also acceptable.

D. Packing

Palletize and/or consolidate required kit quantities per contract schedule. Before stretch wrapping or banding, place fiberboard on four sides and top to further protect cartons from damage. The palletized load(s) shall be marked with the appropriate shipping address as specified in the purchase order. Apply special handling marking "Do Not Stack".



**Example A
Unit Pack Label**



**Example B
Consolidation Pack Label**

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CDR – 045 – MRB Authority

MRB Authority is granted for the associated item number and the Supplier is authorized to perform repairs or disposition parts use-as-is so long as the disposition does not affect the form, fit, function, performance, or reliability of the part. The Supplier is required to keep records of all MRB activity related to this part for this Purchase Order and shall make those records available to USCS personnel upon request.

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CDR – 046 – Part Marking for Ground Combat Vehicles

The following marking requirements are included in this Purchase Order.

A. Customer Furnished Drawing Identification

1. When Marking and Method of Marking are identified on the drawing:
 - a. The part number shall be marked as indicated on the **Purchase Order line** using the options specified on the drawing.
 - b. When the drawing note states "NOTE- THE MFR CAGE CODE SHALL BE THAT OF THE MFR CONTRACTUALLY RESPONSIBLE FOR FURNISHING THIS ITEM TO THE GOVERNMENT." **the Supplier shall instead mark their CAGE code.**
 - c. The Supplier shall mark the Vendor Number as specified on the Purchase Order in addition to the above marking.
2. When No Marking or Method is identified on the drawing:

- a. All parts of sufficient size shall be permanently marked with the part number specified on the **Purchase Order line** and Vendor Number as specified on the Purchase Order using MIL-STD-130 as a guide. Marking shall be approximately .125" character height.
 - b. For all parts of insufficient size and/or shape to be individually marked, parts shall be bagged and/or tagged per MIL-STD-130 with the part number specified on the **Purchase Order line** and Vendor Number as specified on the Purchase Order. Containers shall be limited to 25 pieces.
3. Where the Supplier is unable to comply with the stated requirements, such as in cases where the marking height specified would not fit on the part, or the methods required would be injurious to the part, the Supplier shall request direction from USCS through the Vendor Information Request process described in this manual.

B. Commercial Product Identification

Commercial products will be identified with the manufacturer's part number and Name or Logo. Method of marking and marking height shall be in the manufacturer's format. The Supplier shall mark the shipping container with their Vendor Number.

C. CARC Paint Traceability Marking

All assemblies requiring CARC paint shall have a date or lot number stamped on the parts traceable to when and where the parts were finished and what materials (batch/lot numbers) were used. If the company applying the finish is different from the company providing the part(s) to USCS, they shall also be identified by the use of an ink stamp or other means of identification. A name, number or symbol can be used as identification. Adhesive labels are not acceptable. This marking shall be in the vicinity of the part identification marking. The Supplier to USCS is responsible to maintain the objective quality evidence to support who painted the sub assemblies. Sub assemblies or lower components to an assembly need not meet the painted product marking requirements as referenced above.

D. Age-sensitive Materials

Age-sensitive materials include, but are not limited to, paint, adhesives, rubber products, etc.

All age-sensitive materials and their respective shipping containers shall be permanently marked with the cure/manufacture and the expiration dates in addition to any other marking requirements. For parts delivered on a spool or reel, the marking must be applied to a visible location on the outside of the spool or reel. The cure/manufacture and expiration dates shall be in either Quarter/Year format or Month/Year format (see the definition of Cure Date below). The method of marking and the marking height shall be in the manufacturer's format, however the marking shall not affect the part's form, fit, or function.

Age-sensitive materials shall be delivered with a minimum of 75% of the shelf life remaining.

Example: CURE 4Q/2010
 EXP 4Q/2016

The following definitions should be referenced when marking age-sensitive materials:

- **Shelf Life** - The maximum period of time between the cure date and the date the elastomeric product is first removed or unpackaged for installation or fabrication into a component part of a subassembly, assembly, or system. During the shelf life time, the stored elastomeric product is expected to retain its characteristics as originally specified
- **Age Resistance** - Resistance to deterioration in storage by environmental factors, such as heat, light and ozone
- **Cure Date** - The date the rubber is fully cured. Two methods in expressing the cure date are as follows:
 - Shelf life to a maximum of 3 years. Cure date stated in terms of month of calendar year and the year, i.e., 6-83
 - Shelf life in excess of 3 years. Cure date stated in terms of the quarter of calendar year and the year, i.e., 2Q-83
- **Acceptance Life** - This is the maximum life at the age of acceptance. The age limit at acceptance for hoses and hose assemblies is 32 quarters. See SAE AS1933 for aerospace hoses
- **Service Life** - A general term used to quantify the average or mean life of an item once put in use. Service life, which is depicted in years, is the number of years of economical service reasonably expected of equipment as established in applicable DOD, Service, and/or Agency manuals, bulletins, regulations, instruction manuals, and/or the technical judgment of the item and/or equipment manager

Additional resources for age-sensitive materials are:

- **MIL-HDBK-695**: This handbook may be used for guidance only. This handbook establishes guidelines for time periods for the expected life of elastomeric products during shelf storage
- Aerospace o-rings and other molded seals. Refer to **SAE ARP5316** for recommended shelf lives
- Aerospace bulk hoses and hose assemblies. Consult **SAE AS1933A** for age control limits for acceptance of aerospace bulk hoses and hose assemblies
- Non-aerospace bulk hoses and hose assemblies (surface vehicle, industrial and marine application). Consult **SAE J517** for age control limits for acceptance of non-aerospace bulk hoses and hose assemblies

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