



**SCD**  
**Part Certifications and Conformances**  
**SEAKR**

---

**RELEASED**  
08/26/24 015

Doc Number: 10237  
Revision: D

Author: K. Breitenstein  
Approver: S. Smith

SEAKR® Engineering, LLC  
Cage Code: 0LB42

Contract Number:  
SEAKR

WARNING: This document may contain proprietary and export-controlled information. Usage in whole or in part is bound by the restrictions detailed on the following page.



## **SEAKR ENGINEERING, LLC PROPRIETARY**

This document contains information that is the proprietary property of SEAKR Engineering, LLC. (SEAKR) and third parties to whom SEAKR owes an obligation of confidential handling. The information contained herein shall not be published, disclosed to others, duplicated in whole or in part, or used for any purpose other than the intended purpose.

Copyright 2024 SEAKR Engineering, LLC

## **VERIFY REVISION**

Printed copies are for reference only. Verify latest document revision in the IFS database.



## REVISION/CHANGE RECORD

Rev.	Release Date	Author	Revision/Change Description	Pages
-	04/02/15	G. Vialle	Initial Release	N/A
A	05/17/18	T. Robinette	Update paragraphs 4.1, 4.2, 5.1.1, 5.1.2, 5.2, added sections 8 & 9 with minor edits throughout.	4-11
B	07/02/18	T. Robinette	Minor updates to TOC, paragraphs 2.3, 3, 4.3, 5.1.1.1 & 9. Deleted 4.1.1 & 4.1.2.	4-11
C	04/08/22	J. Shonts	Revise prohibited materials requirements to be more explicit in regards to pure tin and tin alloys	6-7, 10-11
D	08/26/24	K. Breitenstein	Remove export controlled markings on page and minor updates	2, 6, 9,-11



## TABLE OF CONTENTS

---

1	Introduction.....	5
1.1	Scope .....	5
1.2	Process Inputs.....	5
2	Applicable Documents .....	6
2.1	SEAKR Documents .....	6
2.2	Industry Documents .....	6
2.3	Order of Precedence .....	6
3	Definitions/Acronyms .....	7
4	Certification Requirements .....	8
4.1	Certificate of Conformance (CofC).....	8
4.2	Certificate of Analysis (CofA) .....	9
4.3	Defense Acquisition Regulations Supplement (DFARS) Certification .....	9
5	Inspections .....	9
5.1	Mechanical Part Inspections .....	9
5.1.1	General .....	9
5.1.2	First Article Inspection.....	10
5.2	Sub-Tier Supplier Approval .....	10
6	Prohibited Materials .....	10
7	Surveillance.....	11
8	Nonconforming Product .....	11
9	Serialization.....	12



# 1 INTRODUCTION

---

This specification establishes the requirements to suppliers for certifying parts as conforming to SEAKR quality management system requirements.

## 1.1 Scope

This document is intended for SEAKR suppliers. Applicable supplier documents include Certificates of Conformance (CofC), Certificates of Analysis (CofA), DFARS Certification. This specification also details the basic requirements for Inspections and Prohibited Materials.

## 1.2 Process Inputs

The requirements of this specification may be invoked in part or in whole through purchase order notes and/or SEAKR drawings and specifications. Only the sections invoked by purchase order or specification are applicable.



## 2 APPLICABLE DOCUMENTS

---

### 2.1 SEAKR Documents

SCD 10232 Specification for Painting, Coating and Markings

### 2.2 Industry Documents

AS9102 Aerospace First Article Inspection Requirement  
DFARS 252.225.7009 Specialty Metals Clause  
ASTM E-595 Standard Test Method for Total Mass Loss and Collected Volatile, Condensable Materials from Outgassing in Vacuum Environment  
ANSI-ASQ Z1.4-2008 Sampling Procedures and Tables for Inspection by Attributes

### 2.3 Order of Precedence

When the requirements of this specification or applicable subsidiary documents are in conflict, the following order of precedence shall apply:

- a) Purchase Order (PO)
- b) SEAKR specification/Statement of Work (SOW), as applicable.
- c) This specification.
- d) Other reference (e.g. military standard, etc.) specifications or standards referenced herein.

The latest released revision of this document at the time of the PO is effective.



### 3 DEFINITIONS/ACRONYMS

---

The following terms and acronyms are used throughout this document:

CAGE	Commercial and Government Entity
CofA	Certificate of Analysis
CofC	Certificate of Conformance
CVCM	Combined Volatile Condensable Material
DFARS	Defense Federal Acquisition Regulation Supplement
DLA	Defense Logistics Agency
DPD	Digital Product Definition
FAI	First Article Inspection
LDC	Lot Date Code
MRB	Material Review Board
NAS	National Aerospace Standard
OEM	Original Equipment Manufacturer
PO	Purchase Order
SEAKR	SEAKR Engineering, LLC
Supplier	Company directly receiving SEAKR purchase order
TML	Total Mass Loss
Traceability	Ability to trace specific parts and material back to source



## 4 CERTIFICATION REQUIREMENTS

---

When specified by PO or drawing, ordered parts must be accompanied by the relevant certification(s). It is acceptable to combine certifications into a single document, provided it meets all of the individual requirements for each certification.

Compliance is not technically the same as Conformance. Compliance is for people/services, Conformance is for goods/parts. Note, however, that SEAKR does not enforce wording as long as it meets other requirements.

Parts and/or packaging shall be marked with part number and lot date code consistent with certification documentation.

The Supplier shall flow these requirements to its subcontractors and suppliers at any tier to assure compliance with the requirements of the PO.

### 4.1 Certificate of Conformance (CofC)

When specified by PO or drawing, delivered parts must be accompanied by a CofC from manufacturer or authorized/franchised distributor though manufacturer's CofC is strongly preferred. SEAKR reserves the right to require a manufacturer's CofC for all federal, standard, military-specified, and DLA controlled parts as well as any other high reliability parts. When a distributor's CofC is provided, it shall clearly state that the distributor is authorized/franchised distributor of the OEM parts.

The CofC document provides traceability of parts and conformance and must include the following:

- Manufacturer name with location or CAGE code
- A manufacturer's or SEAKR part number (PN) that matches the PO including the drawing revision if called out per the PO. CofC PN must match part markings. Part markings may be directly labeled on the part itself or on the bag/container containing the part.
- Full traceability to the lot and/or date code for all parts, assemblies, and subassemblies as required by engineering drawing/specification.
- If multiple lots or lot date codes are delivered simultaneously, the paperwork must show this, and the parts shall be segregated or marked per lot.
- Serial numbers (if applicable) of all parts delivered.
- Signature and date of an authorized representative (electronic signature is acceptable).
- Title of authorized representative is optional but encouraged.





## 4.2 Certificate of Analysis (CofA)

When specified by PO or drawing, ordered parts must be accompanied by a CofA.

A CofA is a supplier document showing test results (usually to a defined specification). Each certification must be specific to that material/component and lot date code. The requirement may indicate either chemical-physical test to a material specification, or a characteristics test to a standard specification (electrical performance, adhesion, etc.). This report may come from an authorized third party competent to perform the requisite tests and analysis on behalf of the supplier. The CofA shall contain the following (as a minimum):

- Test results
- Statement of conformance to relevant full specification(s) and revision
- Lot Code / Batch Code / Serial Numbers for full traceability (as applicable)
- Signature and date of an authorized representative (electronic signature is acceptable).
- Title of authorized representative is optional but encouraged.

## 4.3 Defense Acquisition Regulations Supplement (DFARS) Certification

When specified, ordered parts must be accompanied by manufacturer's certification of conformance to DFARS 252.225.7009, *Special Metals Clause*. This documentation certifies the lot of parts as specialty metals conforming to this requirement.

# 5 INSPECTIONS

---

When specified by engineering drawing or PO, ordered parts must be accompanied by inspection data.

## 5.1 Mechanical Part Inspections

### 5.1.1 General

For features other than helicoils, the vendor shall use acceptance sampling to determine whether to accept or reject a lot of parts. Sampling shall be in accordance with ANSI Z1.4-2008 (*Sampling Procedures and Tables for Inspection by Attributes*), Table II-A, Level II, AQL=0.015. No rejected parts may be delivered to SEAKR without written authorization per Section 8.

#### 5.1.1.1 Helicoil Inspection

Threaded inserts on delivered parts shall be 100% fit tested with the appropriate NAS1352 or NAS1351 fastener to seat the insert and verify proper function after installation. Fasteners shall be free-running and installed and removed using finger pressure only. Sampling is not allowed. First Article Inspection (FAI)



### 5.1.2 First Article Inspection

When required by the engineering drawing or PO, the supplier shall perform a First Article Inspection in accordance with the requirements of AS9102, *Aerospace First Article Inspection Requirement*. The FAIR will report all engineering drawing characteristics, tolerance limits, and the actual dimensions measured.

Full and Partial FAIs will be performed when the trigger events of AS9102, paragraph 4.6f occur.

All FAI measurements are to be made in the unconstrained state, unless otherwise specified. All FAI measurements shall be performed on the completed product, after all processing, plating, and finishing with exception of the following:

- Passivate
- Chromate/Chem Film/Iridite/Alodine

Any measurements performed before all processes are complete shall be noted as such in the FAI data pack.

Digital Product Definition (DPD) requirements, taken from SEAKR supplied 3D solid model files shall be measured as part of the FAI. Reporting compliance to the applicable drawing note calling out the solid file and its tolerances and the method of measurement is sufficient for the FAI data pack.

SEAKR shall be notified of any discrepancies found between CAD files and drawings. Written direction shall be provided by SEAKR for disposition.

First article samples shall be tagged or otherwise identified, and segregated from bulk of production order

### 5.2 Sub-Tier Supplier Approval

For processes as defined in SEAKR SCD 10232, *Specification for Painting, Coating and Marking*, SEAKR, section 4, the use of NADCAP approved suppliers is strongly encouraged. Suppliers may use non-NADCAP approved suppliers provided that the sub-tier supplier has been audited for conformance to the process(es) being performed within the last three years. Audit records shall be made available to SEAKR upon request.

## 6 PROHIBITED MATERIALS

---

This section and subsections are applicable when specified on PO or drawing.

The construction and surface finish of all hardware shall exhibit no evidence of the following prohibited materials:



- Pure, unalloyed cadmium or alloys containing greater than 5% by weight cadmium, not over-plated by an approved material.
- Pure, unalloyed zinc or zinc alloys (including brass) containing greater than 10% by weight zinc, not over-plated by an approved material.
- Pure, unalloyed tin or tin alloys containing greater than 97% tin by weight.
- Pure, unalloyed selenium or selenium alloys containing greater than 15% selenium by weight, not over-plated by an approved material.
- Tin/Lead (Sn/Pb) alloys or plating shall contain at least 3% minimum Pb by weight.

The most typical materials for over-plating are gold, nickel, or tin-lead solder. However, approved materials for over-plating include any alloy that does not contain zinc, cadmium, pure tin, or selenium.

All components as well as their individual subcomponent materials must meet the acceptance criteria of < 1.0% total mass loss (TML) and < 0.10% collected volatile condensable material (CVCM) when tested per ASTM E-595, *Standard Test Method for Total Mass Loss and Collected Volatile, Condensable Materials from Outgassing in Vacuum Environment*.

## 7 SURVEILLANCE

---

SEAKR Engineering reserves the right to audit and/or survey the supplier's facility at any time during normal working hours to ensure proper implementation and compliance to this specification.

## 8 NONCONFORMING PRODUCT

---

Any discrepancies from drawings, specifications, or SEAKR requirements that cannot be returned to engineering requirements per rework must be submitted to SEAKR for consideration.

- **Rework:** A disposition process that eliminates the defect and returns a product to full conformance.
- **Repair:** A disposition process that reduces the defect but does not return the product to full conformance. This disposition requires a material review board (MRB) action.
- **Use-As-Is:** A disposition that allows for the use of the product in its existing condition. This disposition requires a material review board (MRB) action.

All Repair and Use-As-Is MRB dispositions shall be provided by the SEAKR Material Review Board to the supplier; SEAKR does not grant MRB Authority to the supplier. The disposition, including any alternative direction, must be approved in writing by SEAKR and provided to the supplier prior to shipment of product.



## 9 SERIALIZATION

---

When serialization is required per the controlling engineering documentation, the supplier shall assign a unique serial number for each required product. If the format is not specifically stated on the controlling document, the number format shall be comprised of the SEAKR Purchase Order Number and a sequential three digit number extension, i.e., for purchase order 23456 the first serial number would be 23456001, the second serial number would be 23456002, etc.

The supplier shall ensure that serial numbers for each discrete part and dash number are not duplicated. Serial numbers may be duplicated on the same PO amongst unique part numbers. For example, it is acceptable that part number 123456-009 has S/N 23456001 whereas part number 123456-010 has S/N 23456001. Subsequent purchase orders may reuse the three digit extension as long as the complete serial number is not repeated. For example, PO 23456 may use the 001 extension to create S/N 23456001 whereas PO 34567 uses the 001 extension to create S/N 34567001.

Serialization records shall be made available to SEAKR upon request.

The packing slip and CofC shall list all serial numbers included in the shipment.