



Crane Electronics, Inc.

Document Title	PROCUREMENT DOCUMENT – QUALITY ASSURANCE REQUIREMENTS
Document Number	STO-QR-0310

Rev	Change Order	Checked by:	Date	Approved by:	Date	Safety*	Date
C	REVISED PER TR 0051-96	XXXX	XX	<i>M. Devoe</i>	3/28/96	---	---
D	REVISED PER DCO 98-0761	XXXX	XX	<i>M. Devoe</i>	11/9/98	----	---
E	REVISED PER DCO 01-0133	XXXX	XX	<i>S. St.Hilaire</i>	4/30/01	----	---
F	REVISED PER DCO 01-0370	XXXX	XX	<i>S. St.Hilaire</i>	3/8/02	----	---
G	REVISED PER DCO 03-0123	XXXX	XX	<i>B. Christie</i>	5/8/03	----	---
H	REVISED PER DCO 03-0209	XXXX	XX	<i>S. Francisco</i>	5/30/03	----	----
J	REVISED PER DCO 05-0371	XXXX	XX	<i>M. Culmone</i>	8/3/05	----	----
K	REVISED PER DCO 06-0014	XXXX	XX	<i>W. Eckel</i>	1/9/06	----	----
L	REVISED PER DCO 06-0025	XXXX	XX	<i>M. Culmone</i>	1/16/06	----	----
M	REVISED PER DCO 06-0126	XXXX	XX	<i>J. Anderson</i>	2/13/06	----	----
N	REVISED PER DCO 06-0213	XXXX	XX	<i>W. Eckel</i>	3/20/06	----	----
P	REVISED PER DCO 06-0512	XXXX	XX	<i>K. Olivieri</i>	9/6/06	----	----
R	REVISED PER DCO 06-0685	XXXX	XX	<i>S. St.Hilaire</i>	11/13/06	----	----
T	REVISED PER DCO 06-0736	XXXX	XX	<i>S. St.Hilaire</i>	11/30/06	----	----
U	REVISED PER DCO 07-0155	XXXX	XX	<i>M. Culmone</i>	2/27/07	----	----
V	REVISED PER DCO 07-0702	XXXX	XX	<i>M. Culmone</i>	10/29/07	----	----
W	DCO DATABASE SKIPPED REV. "W", THEREFORE IT CANNOT BE USED						
Y	REVISED PER DCO 09-0204	XXXX	XX	<i>S. St.Hilaire</i>	2/21/08	----	----
AA	REVISED PER DCO 09-0204	<i>D. Wadleigh</i>	5/19/09	<i>S. St.Hilaire</i>	5/18/09	----	----
AB	REVISED PER DCO 09-0428	<i>S. St.Hilaire</i>	10/21/09	<i>K. Olivieri</i>	10/21/09	----	----

*If procedure is an STO-MP (Manufacturing Procedure), the Facilities Safety Officer must also initial and date each revision.

(STO-F-1019 REV. E)

PROCUREMENT DOCUMENT
QUALITY ASSURANCE REQUIREMENTS

Reference should be made on the Crane Electronics, Inc. - purchase order or request for quote, which incorporated this attachment, to determine which of the codes listed below are applicable.

CODE A – SOURCE INSPECTION is required prior to shipment from your plant. Notify the cognizant Crane Electronics, Inc. buyer four (4) days in advance of date material is ready for our inspection/test.

CODE A1 – Supplier shall provide accessibility to their facility for Crane Electronics, Inc.'s customers, as well as their customer's.

CODE B - The supplier system shall have in place the requirements for an ESD control program in accordance with ANSI/ESD-S-20.20 to minimize the effects of ESD on parts, assemblies, and equipment.

CODE B1 – The supplier shall have in place the requirements and training for a "zero" ESD control program in accordance with ANSI/ESD-S-20.20 to eliminate the effects of ESD on parts, assemblies & equipment.

CODE C - CERTIFICATES OF CONFORMANCE - Required from the supplier stating that the shipment of articles on this order conform to applicable material and/or process specifications. Supplier must retain on file, material test results and process records, as applicable, including his supplier and their supplier certifications. These records must be maintained for ten (10) years, and available upon request or as required on the purchase order.

All Certificates of Conformance need: - Classification information is required on the C of C and the packing slip for each line item/lot number ordered:

1. **EXPORT CLASSIFICATION NUMBER** (USML or ECCN designation) **When procured product is controlled by the Supplier P/N**
2. **USHTS Number**
3. **COUNTRY OF ORIGIN** (If multiple, please provide all that apply)

CODE D - TEST/ INSPECTION DATA - Supplier shall provide a complete set of Test/Inspection Data as recorded during acceptance test for purpose of quality analysis with each shipment.

CODE E - FIRST PIECE INSPECTION - Supplier first piece inspection is required on three (3) pieces of the first lot to be shipped on this order. Vendor is to submit a complete inspection report with the parts.

CODE F - CONFIGURATION CONTROL - No changes to product drawings or processes are to be made without Crane Electronics, Inc.'s approval. Supplier requested changes/deviations shall be submitted using STO-F-1241, Supplier Change/Deviation Request Form, sent to the Crane Electronics, Inc.'s buyer.

CODE F1 – PART TRACEABILITY – Parts must be identified by lot number or date code. Assemblies manufactured to Crane drawings ending in "-1001" or "-1401" must also include S/N controls. Additionally, the C of C must state the Lot# or D/C and when applicable, S/N.

CODE F2 – UID LABELING - Assemblies manufactured to Crane drawings ending in "-1001" or "-1401" must have UID labels, IAW: MIL-STD-130, affixed to the assemblies per the drawing. Acceptable label material to use is: TTL105-701-10. Suggested distributor for the labels is Winco.

CODE G - STATISTICAL PROCESS CONTROL - Supplier shall provide with each shipment, evidence of variable or attribute measurements, as applicable, for the purpose of quality analysis.

CODE H - SHELF LIFE MATERIALS - Supplier shall provide shelf life materials with a life duration beginning on receipt date at Crane Electronics, Inc.. Shelf life shall be noted on Certificate of Conformance by the supplier. MSDS required.

CODE J - CERTIFIED PROCESSES – Contract manufacturers shall have personnel performing special processes, such as Soldering and Bonding, certified for proof of proficiency.

CODE K - The requested method by Crane Electronics, Inc., for shipping/storing of raw piece parts is to use anti-static bags, metal in, type bags. The bag(s) shall meet or exceed the requirements of MIL-PRF-81705D Type III, EIA 625, MIL-HDBK-263, MIL-STD-1686, ANSI/ESD-S20.20, and EOS/ESD standards. All product packaging shall prevent damage to the product; physically and environmentally.

CODE L – **PREFERENCE FOR DOMESTIC SPECIALTY METALS**

This purchase order incorporates Crane Electronics, Inc. Group Purchase Order Terms and Conditions which impose requirements with which you must comply when filling this purchase order. Also, this purchase order incorporates the contract clause at DFARS 252.225-7014 (Deviation No.2006-O0004; or Deviation No. 2007-O0011; or Deviation No. 2008-O0002) and/or DFARS 252.225-7014 Alt. I and/or DFARS 252.225-7014 Alt. I (Deviation; or Deviation No.2006-O0004; or Deviation No. 2007-O0011; or Deviation No. 2008-O0002) (applicable to prime contracts entered into after November 15, 2006), which you must flow down to all of your vendors that supply any articles delivered under this purchase order that include specialty metals. Both clauses provide the same definition of specialty metals and prohibit Crane and all of its suppliers at every tier from incorporating specialty metals into military parts, components and/or end item deliverables unless the specialty metals have been melted (the Deviation clause adds “or produced”) in the United States, its outlying areas, or a qualifying country listed in DFARS 225.872-1. Exemptions to requirements of the above clauses may exist, as outlined in the clauses themselves or by operation of applicable Department of Defense Domestic Non-Availability Determinations (DNADs) posted on its public web site for that purpose (<http://www.dcmamilitary.com/dnad/>) if you believe an exemption(s) apply, please specify the specifics and provide Crane with documents and information sufficient to demonstrate your entitlement thereto.

CODE M – The use of pure tin as a finish is prohibited. Finishes containing tin (Sn) must have a minimum of no less than 3% lead. This code is required for all procured component finishes. See STO-WI-1099, Requirements for Procuring & Processing 100% Tin Plated (Lead-Free) Components

CODE N – The supplier shall comply with the following unless otherwise approved by Crane.

NADCAP Approved Processor

Plating, surface finishes or conditioning shall be performed by an approved NADCAP (National Aerospace and Defense Contractors Accreditation Program)** processor in the applicable plating, surface finish or conditioning process.

**List of NADCAP approved can be found at www.eauditnet.com by creating an account. Upon access, refer to Buyer's Guide in the Public Documents.

CODE P – All components, equipment or materials used in the procurement of stated purchased items must not result in the evidence of fungus growth on any surface. This requirement must be verified by analysis and/or test. The analysis to include supplier certifications of potentially fungus nutrient materials, if supplier certifications are unavailable a representative sample of exposed coatings, cables, gaskets, and other potentially fungus nutrient materials shall be subjected to MIL-STD-810, Method 508.5.

CODE R – The Supplier shall establish and maintain an effective Foreign Object Damage (FOD) Prevention Program to reduce FOD using NAS412 as a guideline. The material supplied on this PO shall be manufactured in an environment free of foreign objects. Additionally, the material supplied shall be free of foreign objects.

CODE T – SUPPLIER FLOW-DOWN - ALL Quality Codes listed on the Crane Electronics, Inc. Purchase Order are required to be flowed down to the Supplier's sub-tiers, when used.

CODE W – TOOLING AND/OR PROCESS CONTROLS – Supplier shall notify the Crane Electronics, Inc. buyer for any of the following occurrences:

- Use of tooling that has not been in production for 1 year or more.
- Rework, refurbishment or replacement of any portion of the tooling used to produce the Purchase Order item.
- Any manufacturing process changes that alters the configuration, composition or physical properties of the produced item.

Post notification the buyer will advise the supplier of a need for: First piece sample, new mold, die or tooling analysis.

Buyer acceptance does not constitute acceptance of subsequent items or relieve the supplier from any obligations in compliance with the purchase order requirements.

REFERENCE DOCUMENTS:

STO-WI-1099	Requirements for Procuring & Processing 100% Tin Plated (Lead-Free) Components
GEIA-STD-0005-2	Standard for Mitigating the Effects of Tin Whiskers in Aerospace and High Performance Electronic Systems