



# Supplier Quality Requirements

## SQR-2014

Revision/Effective Date: January 2014

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Pete Chouinard      1/7/2014  
Quality Manager

A handwritten signature in dark ink, appearing to read "Gene Tarver".

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Gene Tarver      1/7/2014  
Materials Manager

KHI	LOCKHEED (Ocala)	Aero Precision	ITT CODE	Excelitis Code	L-3 Code	Northrop Code	Honeywell Code	CIRCOR Code	Description
			Q01					Q01	<p><b>SIKORSKY AIRCRAFT PART</b> - The following statement "THIS IS A SIKORSKY AIRCRAFT PART" shall be clearly marked on all purchase orders issued by the supplier and any of its subcontractors. All Certificate of Conformance and process certifications shall also include the above statement.</p> <p><b>ORIGINAL SUPPLIER AND SPECIAL PROCESSOR CERTIFICATE OF CONFORMANCE</b> - Accompanying each shipment of items covered by this purchase order, the supplier and all of its special processors that are called out on the Sikorsky Aircraft Approved Source List (Q46) shall submit an original Certificate of Conformance. The original certificate shall be signed and dated by an authorized representative of the company. Use Sikorsky Material and Process Specifications Index (SS7777) to determine the latest revision of specifications.</p> <p><b>SUPPLIERS RECORD RETENTION</b> – Sikorsky product records shall be kept for (10) ten years and (40) years respectively for Flight Safety/Flight Essential parts.</p>
			Q1A	MII 5 (COMPLIES)	QAP-110.0			Q1	<b>QUALITY MANAGEMENT SYSTEM</b> - The Supplier shall maintain a Quality Management System in accordance with the requirements of ISO 9001, or equivalent.
							140.2	Q10	<p><b>HONEYWELL CERTIFICATE OF CONFORMANCE</b> - By delivery of items of this purchase order, Supplier certifies that all requirements of the specifications applicable to this order are complied with. Supplier shall make available to CIRCOR all inspection results, raw material certifications, test data reports, evidence of source inspection or self release (when applicable) necessary to support evidence of such compliance. All certifications and/or data must include:</p> <ul style="list-style-type: none"> <li>* CIRCOR and/or supplier part number and revision</li> <li>* CIRCOR purchase order number</li> <li>* Quantity, Serial numbers and date lot codes</li> <li>* Applicable specifications and standards</li> <li>* Customer clauses based on contract requirements</li> <li>* Shelf life, date code, cure date.</li> </ul>
KQMS-7100 PARA 4.10	TCRE16 Q	6	Q4C		QAP-131.0		128	Q11	<b>FINAL INSPECTION AND/OR TEST</b> – Final inspection and/or test shall be performed to a detailed inspection plan (checklist) prior to shipment in accordance with applicable drawings, product specifications, Purchase Order requirements or other applicable documentation.
							128.2	Q12	<b>SAMPLING OF CHARACTERISTICS</b> - The supplier shall inspect all design characteristics per Aerospace Sampling Plan located on the Honeywell Aerospace Supplier Portal ( <a href="https://supplier.honeywell.com/SPOC Manual">HTTPS://supplier.honeywell.com/SPOC Manual</a> >SPOC Supporting Documents>SPOC 128-Sampling Plan).
	TCR840 Q		Q5	MII 1		2.3.b		Q13	<b>GOVERNMENT SOURCE INSPECTION (ASSESSMENT)</b> – Government Source Inspection (GSI) is subject to review for item(s) on this Order. Upon receipt of this Order, the Supplier shall promptly notify the Government Representative who normally services its plant so that appropriate planning for Government Inspection can be accomplished.
					QAP-101.0			Q14	<b>DATE CODE</b> - material and applicable certifications shall be identified with the manufacturer's date code (date of manufacture).
			Q11	MII 7		2.5.d	142	Q15	<b>SHELF LIFE MATERIAL</b> – The supplier shall mark material, space permitting, or if bulk material, the containers of the items of this Order with the shelf life expiration date and/or cure date as applicable. Include on packing list, the temperature at which the product(s) should be stored and maintained. A minimum of seventy-five percent (75%) of shelf life must be remaining on unit at date of shipment.
			Q12					Q16	<b>HEAT LOT TRACEABILITY</b> - The Supplier shall legibly mark in a permanent manner, each part furnished under this Order with a heat lot code, number traceable to final heat treat, the mill heat lot number, forging heat number and/or casting heat number as applicable (or the CIRCOR assigned heat lot code number). Lots which have permanent Serial Numbers on all parts shall be traceable by Serial Number with correlation to certifications.

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KQMS-7100 PARA 4.6,4.7			Q13					Q17	<b>PREVIOUSLY REJECTED ITEMS</b> – Supplier shall note on return shipping documents for items that CIRCOR has previously rejected whether these items have been reworked, replaced or repaired. Failure analysis shall be performed, repairs shall not be performed without prior written approval from CIRCOR.
		7	Q13A	MII 19	QAP-118.0	2.9	100	Q18	<b>NONCONFORMING PRODUCT NOTIFICATION</b> - Supplier shall promptly notify CIRCOR when nonconforming product has been produced prior to and/or after delivery. Formal failure analysis, containment, and root cause and corrective action responses are required.
		3	Q14		QAP-171.0			Q19	<b>CERTIFIED OPERATOR/INSPECTOR</b> – Welding shall only be performed by welders certified to the requirements of the welding specification listed on the drawing and or Purchase Order. Inspections shall only be performed by inspectors trained in accordance with customer's requirements.
						2.1	1.13	Q1a	<b>AEROSPACE QUALITY STANDARD</b> - The supplier shall maintain a Quality System Certified in accordance with AS9100.
KQMS-7100 PARA 4	TQ7F 1	4	Q1B					Q1b	<b>AEROSPACE QUALITY STANDARD</b> - The supplier shall maintain a Quality System in accordance with AS9100 or equivalent. Suppliers that maintain a self-certified Quality System shall provide a copy of their QM (quality manual) along with yearly desk audits (PB110) for review.
			Q1					Q1c	<b>INSPECTION SYSTEM</b> - The Supplier shall establish and maintain an effective system (MIL-I-45208) for the control of quality which will assure compliance with contractual requirements.
KQMS-7100 PARA 4.1(3)		2	Q2	MII 8 MII 25	QAP-111.0	2.5		Q2	<b>OBJECTIVE EVIDENCE OF QUALITY</b> - By delivery of items of this purchase order, Supplier certifies that all requirements of the specifications applicable to this order are complied with. Supplier shall make available to CIRCOR all inspection results and test data necessary to support evidence of such compliance. All certifications and/or data must include: * CIRCOR and/or supplier part number and revision * CIRCOR purchase order number * Quantity, Serial numbers and date lot codes * Applicable specifications and standards * Customer clauses based on contract requirements
			Q15					Q20	<b>HEAT TREAT CERTIFICATION</b> – A copy of a certification for the heat treatment operation shall accompany each shipment of material. The certification shall contain the following information as a minimum: the company performing the heat treat operation; the furnace number, furnace accuracy (% ±), time at temperature (specify temperature), cooling method and time, results of physical tests to verify hardness and/or tensile, number of pieces checked, number of pieces accepted and rejected. In addition, the Supplier shall identify the heat treat recording chart with the above information and forward the chart or a copy thereof to CIRCOR with the certification.
			Q16	MII 2		3.4 / 3.9		Q21	<b>FIRST ARTICLE INSPECTION REPORT CASTING</b> – The Supplier, prior to production, shall perform a First Article layout inspection and prepare a First Article Inspection Report listing actual measurements for all cast dimensions. When multi-cavity molds are used, a separate layout and inspection report shall be prepared for a casting from each cavity. The cavities and castings shall be identified for correlation. The report and the first article “Sample Approval” casting shall be forwarded to CIRCOR Inspection for acceptance/disposition. The report shall also contain necessary affidavits and data for radiographic testing, chemical and physical report, Serial Number, casting heat number, and data for any other non-destructive tests performed or required.
KQMS-7100 PARA 4.3		5		MII 13	QAP-114.0			Q22	<b>TRACEABILITY AND LOT/BATCH CONTROL</b> - The supplier shall maintain full traceability from raw material throughout the manufacturing process. Certifications must identify applicable serialization, heat/lot/batch numbers for each shipment.

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			Q17A		QAP-117.0		558	Q23	<b>MECHANICAL WORKMANSHIP</b> - Mechanical workmanship shall be in accordance with the requirements called out on applicable drawing or specification. For ITT orders, in the event no requirements are specified, EXELIS Specification 107700 or an acceptable supplier equivalent approved by CIRCOR shall be used.
							106.1	Q24	<b>EYE EXAMINATIONS</b> - Supplier's inspectors who perform final inspection must have color vision and near-vision eye examination every 12 months. A medical professional must perform the eye examinations (eye clinic, occupational health clinic, onsite health clinic, or medical department).
			Q19	MII 10			354	Q25	<b>ESD (FULL COMPLIANCE)</b> – The Supplier shall implement an Electrostatic Discharge Control program that meets the requirements of MIL-STD-1686. Implementation may be audited in accordance with MIL-HDBK-263 (Appendix K) and MIL-STD-129 Marking for Shipment and Storage
			Q19A					Q26	<b>ESD (PARTIAL COMPLIANCE)</b> – The supplier comply with MIL-STD-129 Marking for Shipment and Storage and paragraphs 5.1 and 5.3 through 5.10 of MIL-STD-1686.
			Q20					Q27	<b>ESD PACKAGING</b> - Products susceptible to damage from static electricity shall be packaged in tubes, tape & reel, or containers constructed of waterproof, electrostatic protective, static dissipative material with no talc, or residues that would inhibit solder ability or contaminate leads or finish of product. Connector products shall be protected with static shielding dust caps. When static shielding caps are not available for the product, selection of specific packaging material shall be the responsibility of the supplier providing aforementioned requirements.
			Q21					Q28	<b>CASTINGS</b> - A radiographic inspection report per PS 21206, PS 23001.1 and PS 23001 (Para. 5.2 and Table 1). (Class 2B castings require only first article foundry control radiography). * Penetrant inspection report per PS 21202 and pre penetrant etch per PS 12050. * Tensile testing of test bars cast for each casting heat and heat treated with castings. Testing shall be in accordance with the material specification and PS 23001. * Heat treatment and hardness testing report for castings.
			Q21A					Q29	<b>FORGINGS</b> - Ultrasonic inspection report per PS 21211 Class a (for raw forging stock) * Magnetic particle inspection report per PS 21201 Class A. * Hardenability testing report in accordance with the material specification. * Macrostructure and grain size analysis in accordance with material specification. * Grain flow analysis for first article forgings. The report shall include photos of an etched and sectioned forging.
KQMS-7100 PARA 4.2(1)					QAP-103.0	3.3		Q30	<b>CUSTOMER APPROVED SUPPLIERS/PROCESSORS REQUIRED</b> - The supplier shall utilize only approved suppliers and/or special processors listed on the customer's ASL.
			Q22					Q31	<b>BOEING F-15 EXTRUSIONS</b> – The Supplier shall furnish with shipment of material, a report of macrostructure analysis, grain size analysis and hardenability testing in accordance with the material specification. On First Article submission, the Supplier shall forward a report of grain flow analysis with photos of an etched and sectioned sample
			Q23				538	Q32	<b>BOEING APPROVED SPECIAL PROCESS SOURCES</b> - When CIRCOR Engineering drawing cites Boeing Process Specification “PS” Document Number then the following requirement shall apply. The supplier and all of its sub-contractors shall use Boeing approved special processors as called out in the Boeing document D1-4426. If the source the supplier plans to use is not listed in the D1-4426, authorization must be obtained from CIRCOR prior to use. Boeing document D1-4426 is at: <a href="http://www.boeing.com/companyoffices/doingbiz/d14426/index.html">www.boeing.com/companyoffices/doingbiz/d14426/index.html</a>
KQMS-7100 PARA 4.2(2)			Q24				165	Q33	<b>SPECIAL PROCESS CONTROL</b> – The Supplier shall, as a minimum, demonstrate a degree of control over these processes to provide assurance that specifications are complied with detailed procedures. Copies of special process procedures and certifications shall be supplied to CIRCOR upon request. If the Supplier uses facilities other than his own, that facility is subject to the same conditions stated herein.

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			Q25					Q34	<b>TENSILE TEST REPORT</b> – Supplier shall furnish with shipment of material, a report of tensile testing of three (3) test bars cast for each casting heat lot and heat treated with the castings. Test bars shall be as described in the material specification and may be cast separately.
			Q38	MII 18 PURE TIN			164	Q35	<b>PROHIBITED MATERIALS</b> - Products shall be certified to be free of mercury, lead, and/or pure tin. Supplier shall not use Class 1 Ozone Depleting Substances (ODS) in the design, test, manufacture, integration, and assembly, handling, transportation, operations, maintenance or disposal of the hardware/components delivered under this order.
			Q27				308	Q36	<b>PC BOARD MANUFACTURING</b> - All printed circuit fabricated by the Supplier shall meet the requirements of IPC 6012 Class 3 or IPC 6018 Class3, or requirements specified on the CIRCOR drawing. Acceptability of printed boards shall be in accordance with IPC-A-600.
			Q28	MII 21			325	Q37	<b>SOLDER CERTIFICATION</b> – The Supplier shall furnish with shipment of material, a certification stating that the soldered electrical and electronic assemblies were fabricated and inspected to the applicable requirements of and J-STD-001. Acceptability for electrical/electronic assemblies shall be in accordance with IPC –A–610.
	TCR844 Q	9	Q29	MII 9 LOCATION MII 20	QAP-116.0		110	Q38	<b>PRODUCT AND PROCESS CHANGE APPROVAL</b> - Supplier shall obtain approval from CIRCOR for changes in manufacturing location, product and/or process definitions prior to implementation.
	TCR842 Q		Q30		QAP-400.1		154	Q39	<b>VARIATION MANAGEMENT OF KCs</b> - The following requirements are applicable to Key Characteristics if identified on CIRCOR drawings: * Supplier shall develop and maintain a Variation Management Program in accordance with AS9103. * Supplier procedures shall include Process Control procedure (PCP) detailing how key characteristics are manufactured, critical process steps identified, and how variation shall be analyzed, evaluated, and method controlled. Supplier shall submit a PCP to Circor Quality for approval prior to manufacture of parts. * Supplier shall submit to CIRCOR, control charts, histograms and/or other analytical charts. Supplier shall provide evidence of analysis of data and actions taken in response to identified variations, outside of established statistical control limits * Supplier shall flow down to sub tier suppliers the applicable requirements in the purchase order, including key characteristics, when the control; of key characteristics are a requirement of this order.
			Q2A					Q4	<b>VARIABLE DATA</b> - The supplier shall provide variable data (measured values) for each item delivered showing conformance of all inspections and/or tests specified by the applicable drawings, specifications, or supplier's acceptance test procedure as approved by CIRCOR (min. 25 piece sample size, 100% data collection).
	TCRC04 Q						129	Q40	<b>ACCEPTANCE TEST PROCEDURE (ATP) APPROVAL REQUIRED</b> - The supplier shall submit for approval the test procedure, test characteristics and test set-up to comply with test requirements. Changes to approved procedures require customer approval in writing prior to incorporating change.
	TCR820 Q							Q40a	<b>QUALIFICATION TEST PROCEDURE (QTP) APPROVAL REQUIRED</b> - The supplier shall submit for approval the qualification test procedure, test characteristics and test set-up to comply with qualification requirements. The procedure shall be sent to the buyer for review and approval prior to qualification activities.
	TCR827 Q							Q41	<b>LM SUPPLIER CORRECTIVE ACTION REQUEST</b> - Seller agrees to provide a formal response to any supplier corrective action request within the timeframe indicated on the SCAR. A SUPPLIER CORRECTIVE ACTION TOOL IS AVAILABLE TO AID YOUR INVESTIGATION AND IS LOCATED AT: <a href="https://embastion.external.lmco.com/qis/supplier_ca/">HTTPS://EMBASTION.EXTERNAL.LMCO.COM/QIS/SUPPLIER_CA/</a> .
	TQ9D 2		Q32 Q33					Q42	<b>LMMFC – ORLANDO APPROVED SPECIAL PROCESS SUPPLIERS ARE REQUIRED</b>



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KQMS-7100 PARA 4.4	TCR823 Q		Q4D Q34	MII 3 MII 24		3.1	124	Q43	<b>FIRST ARTICLE INSPECTION</b> – First Article Inspection per AS 9102 is required on this purchase order. AS 9102 forms must be used. Material & Processing certifications are required. Suppliers with previously approved FAIR that are revision and procured within the last 24 months need only provide a copy of approved FAIR. Delta FAIRS shall be required if CIRCOR authorized changes are implemented after the 1st article has been approved. CIRCOR retains the right to request new FAIR if it is determined the changes in method of production, suppliers and or processes are significant to warrant.
KQMS-7100 PARA 4.9, 4.14	TCR841 Q	11	Q35		GENERAL	GENERAL	GENERAL	Q44	<b>RIGHT OF ACCESS</b> - Authorized representatives of buyer, and its customer, government or FAA when accompanied by Buyers representative, shall have the right to visit the Supplier's and its subcontractors facilities at any time during the performance of this purchase order. These visits are for the purpose of ascertaining progress, making inspections, performing surveillance and witnessing tests. The Buyer shall give prior notification of such visits, to minimize interference with the normal operations of Supplier's plant. Such visits by Circor and/or its customer do not absolve the Supplier of the responsibility to provide acceptable product. Verification by Circor's customer does not preclude subsequent rejection by Circor of any nonconforming items.
			Q36					Q45	<b>FOREIGN OBJECT DEBRIS</b> - The supplier shall employ appropriate housekeeping practices to assure timely removal of residue/debris generated, if any, during manufacturing operations and/or normal daily tasks. Sellers shall determine if sensitive areas that may have a high probability for introduction of Foreign Objects Debris/Damage should have special emphasis controls in place appropriate for the manufacturing environment.
			Q36A		QAP-162.0	2.12	418	Q46	<b>FOREIGN OBJECT DEBRIS/DAMAGE (FOD PREVENTION)</b> - National Aerospace Standard 412 (Foreign Object Damage/ Foreign Object Debris Prevention) shall apply. Suppliers are required to incorporate the appropriate features of this standard as suited to their particular product or company.
							127	Q47	<b>CUSTOMER/GOVERNMENT OWNED PROPERTY</b> - The supplier shall have a system which includes written procedures for control of all tooling, test equipment, and material.
				MII 12				Q48	<b>J STANDARD 002</b>
			Q39					Q49	<b>PASSIVATION</b> - Prior to passivation treatment, parts that have un-machined surfaces which have been subjected to any high temperature process such as, casting, forging, heat treating, or welding etc. must be mechanically descaled in accordance with ASTM A380, section 5.3 thru 5.3.4 to remove discoloration, oxidation and scaling. CIRCOR prefers the abrasive vapor blasting process with all close tolerance, holes, threads, machined diameters and surfaces masked to prevent impacting and or damage. Supplier shall flow down to sub-tier suppliers the applicable requirements in the purchase order, including special cleaning instructions.
			Q2B					Q5	<b>ATTRIBUTE DATA</b> - The supplier shall provide attribute data (Go/No-Go) for each lot delivered showing conformance of all inspections and/or tests specified by the applicable drawings, specifications, or supplier's acceptance test procedure as approved by CIRCOR. This data shall be included with each shipment of product.
			Q40					Q50	<b>NADCAP SUPPLIERS</b> - Supplier shall use NADCAP approved suppliers for special processes. Suppliers that are not NADCAP approved must be submitted to CIRCOR for approval.
						2.16		Q51	<b>DOMESTIC SPECIALTY METALS</b> - If a U.S. Government Contract number is called out on the face of the purchase order, the supplier shall only use raw materials that are IAW DFAR Clause 252.225-7014, "Preference for Domestic Specialty Metals, Alt 1." Metals must have been melted in the United States, its outlying areas, or a qualifying country listed in DFARS 225.872-1. These instructions must be flowed down to all sub-tier suppliers. Compliance certification shall be made available to CIRCOR upon request.

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	TCR808 Q	10	Q42			2.4		Q52	<b>SUPPLIERS RECORD RETENTION</b> - The supplier is responsible to maintain all inspection records of products being delivered to CIRCOR Corp. This includes travelers, material and plating certifications, electrical test data. Records shall be kept for (7) seven years from shipment of product. This information shall be made available to CIRCOR Corp upon request.
KQMS-7100 PARA 4.1(2)				MII 6	QAP-119.0			Q53	<b>SUPPLIERS RECORD RETENTION</b> - The supplier is responsible to maintain all inspection records of products being delivered to CIRCOR Corp. This includes travelers, material and plating certifications, electrical test data. Records shall be kept for (10) Ten years from shipment of product. This information shall be made available to CIRCOR Corp upon request.
								Q54	<b>SUPPLIERS RECORD RETENTION</b> - The supplier is responsible to maintain all inspection records of products being delivered to CIRCOR Corp. This includes travelers, material and plating certifications, electrical test data. Records shall be kept indefinitely. This information shall be made available to CIRCOR Corp upon request.
			Q43			2.13		Q55	<b>SUPPLIER SUB-TIER CONTROL</b> - The Supplier is responsible for insuring all items produced from its subcontractors conform to all requirements of the purchase order. Supplier shall ensure all applicable provisions of this document are flowed down to its subcontractors, including the use of AS9102 for first article inspection.
			Q44			2.6		Q56	<b>NONDESTRUCTIVE TEST (NDT) REPORT</b> - Unless otherwise specified by the order, drawing or specification, NDT shall be performed on 100% of the lot of products. With each delivery of products on the order, the supplier shall furnish a certified test and/or inspection report that shows the required NDT (i.e. radiographic, ultrasonic, magnetic particle, penetrant, etc.) test was performed on all delivered products. The certification shall be issued by the organization that actually performed the NDT and include: CIRCOR order number, applicable NDT specification, heat lot number, number of parts tested, accepted, rejected, the reason for rejection, the tester's/Inspector's name, certification level, date of expiration of certification, and date of inspection.
			Q45	MI		3.2	239	Q57	<b>PACKING, &amp; PACKAGING REQUIREMENTS</b> - The items on this order shall be marked, packed, packaged and preserved per customer requirements to assure adequate protection from deterioration and physical damage due to material handling or shipment. Marking shall be legible and the material shall be free of nicks, dents, gouges, scratches and undue oxidation. Parts subject to oxidation shall be packaged with a suitable preservation or an oxidation inhibiting paper such as non-rust paper. Springs shall be packaged to preclude entanglement. When required by the purchase order and/or referenced documents, the supplier shall utilize customer specified bar code labels and pack and package supplies to specific packing and packaging specifications.
							200	Q58	<b>HONEYWELL MARKING</b> - Marking shall be in accordance with drawing requirements. If there are no requirements on the drawing, marking shall be in accordance with AS478 Method 30, 35, or 37. Refer to Honeywell SPOC 200 for specific marking requirements for separate Honeywell site requirements.
							267	Q59	<b>ELECTRONIC PART DEFINITION (SOLID MODEL)</b> - Applicable when using Honeywell-supplied EDP databases to manufacture and inspect hardware procured directly from Honeywell or indirectly through sub-tier supplier.
	TCR835 Q	12	Q2C	MII 15 MII 17	QAP-102.0	3.11	419	Q6	<b>COUNTERFEIT PARTS PREVENTION</b> - The supplier shall forward Original Equipment Manufacturer (OEM) certifications for all electronic, electromagnetic components and devices including those items in assemblies and subassemblies delivered as part of the purchase order.
							270	Q60	<b>FAA CONFORMITY</b> - FAA conformity inspection is required for parts under this purchase order.

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	TCR140 Q		Q49					Q61	<b>SPECIAL PROCESS CONTROL</b> – Special processes are those yielding products which cannot be evaluated for conformance to requirements through inspection or non-destructive testing. These include welding, plating, heat treating, anodizing, glass or shot peening, printed circuit board fabrication, dry film lubricant application, etc. The Supplier shall, as a minimum, demonstrate a degree of control over these processes to provide assurance that specifications are complied with. As applicable, the Supplier shall provide adequate training for personnel, certifications where required and destructive testing of samples and detailed procedures (AND BE CUSTOMER APPROVED WHEN APPLICABLE). Upon request, copies of special process procedures and certifications shall be supplied to Circor. If the Supplier uses facilities other than his own, that facility is subject to the same conditions stated herein. All certifications supplied as objective evidence must indicate the name and location of the facility performing each special process.
			Q50A					Q62	<b>MIL-STD-883 SCREENING RESULTS</b> - The Supplier's Screening Results data shall show compliance with Method 5004.11 of MIL-STD -883. The name and location of the facility at which the screening was performed shall be listed on the summary data sheet.
			Q47			3.5		Q63	<b>CRITICAL DESIGNATED PARTS</b> - Parts designated or described as Fracture Critical, Fracture Critical Traceable, Fatigue Critical, Durability Critical, Maintenance Critical, Safety Critical, require submittal of the manufacturing plan prior to production.
			Q51	MII 11				Q64	<b>MATERIAL SAFETY DATA SHEETS (MSDS)</b> – The supplier shall submit MSDS with all products when this requirement is identified on the Purchase Order.
			Q54				130	Q65	<b>SOFTWARE QUALITY ASSURANCE</b> - Supplier and sub-tiers shall comply with the appropriate version of RTCA-DO-178, "Software considerations in Airborne Systems and Equipment Certification", and DOD-STD-2168.
			Q53					Q66	<b>REQUIREMENT FOR TEST CIRCUITRY FOR PRINTED WIRING BOARDS AND CERTIFICATION OF TESTING AND FABRICATION</b> - The Supplier shall furnish with shipment of material: (a) Serialized coupons. A sample board may be substituted for coupons when the CIRCOR supplied artwork does not provide for coupon circuitry. (b) Certification that the boards have been: • Manufactured to IPC Class III (Latest Revision) • Electrically tested (Type III boards only) • All boards have been vendor coded. NOTE: IPC Class III sample requirements shall be based on a Lot by Lot base. 100% is not required as indicated in IPC for Class III.
KQMS-7100 PARA 4.5	TCRB58 Q	8			QAP-115.0	2.2		Q67	<b>MRB AUTHORITY</b> - Unless otherwise specified in this purchase order, the contractor and/or any of their suppliers/subcontractors does <u>not</u> have authority to process "USE AS IS", "Repair", "Standard Repair Procedures" (SRPS or non SRPS) via their Material Review Board (MRB). These dispositions, as well as deviations and request for waivers, requiring MRB disposition shall be submitted to CIRCOR Aerospace for approval. (This does not include rework or scrap) utilize its for approval. The supplier / subcontractor shall utilize its appropriate nonconforming material disposition form and submit it to the buyer of record for customer approval.
			Q48					Q68	<b>CALIBRATION SYSTEM REQUIREMENTS</b> - The Supplier shall maintain a calibration system in accordance with the requirements of ISO9000, AS9000, or Mil-STD-45662. NOTE: EXELIS shall be notified immediately upon determination of a condition where tools and gages which have been used for final acceptance are found to be out of calibration by an amount greater than twenty percent. Distributors are responsible for assuring that material supplied by them was procured from a manufacturer who maintains an inspection and calibration system as described above.



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	TCR843 Q							Q69	<b>LOCKHEED MFC SUB-TIER RISK ASSESSMENT SURVEY</b> - Seller will be provided survey form and instructions from LM MFC procurement representative. Seller shall complete survey form, which includes the sub-tier supplier responses, shall be returned to the LM MFC procurement representative within 30 days of form completion.
			Q3	MII 6	QAP-112.0			Q7	<b>CHEMICAL AND PHYSICAL ANALYSIS</b> - The supplier shall forward with each shipment of material, a copy of the mill chemical and physical analysis for the raw material on this order. The report shall bear the heat number and a separate report shall be forwarded for each heat lot.
	TCR838 Q							Q70	<b>LOCKHEED MFC SPECIFICATION REV LEVEL</b> - For Lockheed part numbers that reference military, industrial, and commercial standard processes, sellers shall use the latest revision at time of the PO unless otherwise stated in the PO. Single process initiative (SPI)
	TCR834 Q							Q71	<b>LOCKHEED MFC COMMON PROCESSES REVISION STATUS</b> - When the specifications beginning with: 799, 79C, 79E, 79M, 79P and 79T, are applicable to the drawing shall use the latest revision at the time of the PO, unless otherwise stated.
	TCR828 Q							Q72	<b>LOCKHEED PROCURE TO PAY SHIP TO - ELECTRONIC</b> - Submission of quality data required. This purchase order contains requirements for the seller to submit and certify quality data electronically using ship to via EXOSTAR prior to shipment. LM PROCURE TO PAY SHIP TO MODULE TRAINING IS AVAILABLE AT: <a href="http://www.myexostar.com/myexostarAll.aspx?id=1362">http://www.myexostar.com/myexostarAll.aspx?id=1362</a>
	TCR137 Q							Q73	<b>LOCKHEED IDENTIFICATION OF THE MANUFACTURER</b> - The cage code of the manufacturer of the product supplied shall be recorded on the packing list and/or on the smallest unit container and/or the outer shipping container. If the cage code is not available then the name and address of the manufacturer shall be provided.
			Q37					Q74	<b>ITT/EXELIS CAGE CODE MARKING</b> - Mark "CDA 82340" under "00752" on items that requires "00752" marking. Reference EXELIS Specification 980024 for details.
			Q55					Q75	<b>ITT/EXELIS UNIQUE IDENTIFICATION (UID) MARKING REQUIREMENTS</b> – UID marking shall be per MIL-STD-130. The UID marking shall have a passing grade when verified per ISO/IEC 15415. Sampling of the verification of the UID marking requirements shall be per ANSI/ASQC Z1.4. The first and last UID marking on labels of the lot shall be part of the samples that are verified. A verification report (quality and syntax validation) of the samples shall be included with each shipment.
			Q56					Q76	<b>TOOLING CONTROL</b> – The supplier shall establish and maintain a system to ensure that all tooling used for manufacturing and acceptance is inspected, protected, and otherwise controlled according to specific conditions surrounding their use. Manufacturing tools, gauges, jigs, and fixtures used for acceptance shall be checked for accuracy prior to initial use and at intervals thereafter, not to exceed 12 months, to ensure continued accuracy. The supplier shall maintain records of the inspection results, available to the buyer upon request. Tooling shall be identified to indicate the date when re-inspection is to be accomplished. The supplier shall report to the contractor any contractor-furnished property found damaged, deteriorated, or otherwise unsuitable for use.
KQMS-7100 PARA 4.13	TCR839 Q		Q4	MII 1 MII 4 (FAI)	QAP-120.0	2.3.a	149	Q8	<b>CIRCOR/CUSTOMER SOURCE INSPECTION</b> - The inspections and tests indicated by the following sub-paragraphs are subject to CIRCOR (and/or customer) source inspection when they are included as part of the purchase order. Supplier shall notify CIRCOR purchasing department 5 days prior to the required inspection. CIRCOR reserves the right to perform in-process inspections and/or audits at any time during the life of this order. Includes FAIR inspection at supplier.

KHI	LOCKHEED (Ocala)	Aero Precision	ITT CODE	Excelitis Code	L-3 Code	Northrop Code	Honeywell Code	CIRCOR Code	Description
			Q4B					Q9	<b>IN-PROCESS INSPECTION</b> – and/or audits are required at points selected by the CIRCOR Quality Assurance Representative and/or as specified by the Purchase Order, the drawing or applicable documentation.
								Q5	<u>Certification of Conformance: Certification of Conformance shall be included with every shipment. Each Certification shall contain the following information: Purchase Order Number, line Item Number, Drawing and or Specifications associated with the part, revision to drawing and or specification, and printed tilte and name with signature of the authorized individual signing the certification.</u>