

KAMAN

Composite Structures

Quality Assurance Requirement Purchase Orders

CQR-0002

REV V

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REVISIONS

REV	DESCRIPTION	DATE	APPROVED
E	ADDED COVER PAGE	6/9/00	M.H.
F	ADDED AS9100/TS16949 REFERENCE AND QA12 FOR RAW MATERIAL and QA28, Changed description of QA5, Added QA29 and QA30	8/7/06	M.H.
G	ADDED QA31	3/6/07	M.H.
H	Updated QA4, QA9,QA28 and QA30	3/16/07	M.H.
J	Added QA32 and QA33	3/17/08	M.H.
K	Updated wording on QA32 and QA33 to include ASTM requirements	4/23/08	M.H.
L	Updated QA1	8/19/08	MH
M	Updated QA16	5/18/10	MH
N	Added part substitution class QA34	1/10/11	MH
P	Updated to KCV, updated codes to separate RI from purchasing codes, clarified and expanded select codes.	9/28/12	TAG
Q	Added clause QA37	8/28/13	HM
R	Added clause QA38.	11/21/14	TAG
S	Updated clause QA4 QA9, added clause QA13.2, QA13.3	03/02/15	TAG
T	Added QA39, QA40	09/18/2015	TAG
U	Added AS9100 requirements to QA02.1 & QA02.2, added QA clauses QA41 & QA42, corrected formatting	02/07/2020	EMR
V	Added QA43 for RoHS compliance	11/11/2021	MM

APPLICABILITY:

The Quality Assurance requirements are applicable to KAMAN COMPOSITES - VERMONT INC. (KCV) contracts or purchase orders when incorporated by reference to the applicable clause or clauses by code numbers in such contracts or purchase orders. Acceptance of the articles or material specified on this order will be withheld pending receipt of all required data and documentation.

SIGNIFICANCE:

These requirements and execution , shall be in addition to and not in derogation of other contract or purchase order requirements.

REFERENCED MILITARY DOCUMENTS:

Unless specifically stated, all military specifications and standards referenced herein shall be the issue in effect on the date of quotation for this order, unless prior approval has been granted by KCV.

RECEIVING INSPECTION CODES – RI

Receiving Inspection codes which may appear on purchase orders or other documents are directive to KCV incoming inspection, and do not reflect requirements on the supplier.

QA01 KAMAN COMPOSITES - VERMONT, ACCEPTANCE AT DESTINATION

Articles purchased under this contract or purchase order are subject to final acceptance at KCV as set forth on the face of the contract or purchase order. KCV or Customer acceptance of product does not absolve the supplier of the requirements.

QA02.1 QUALITY PROGRAM REQUIREMENTS FOR ISO 9000

The supplier's quality system shall conform to the requirements of ISO 9000 and is subject to inspection and approval at all times during periods of performance of this contract or purchase order by KCV Quality Assurance. Supplier shall ensure that individuals processing this order are aware of their contribution to product conformity, safety, and ethical behavior.

QA02.2 QUALITY PROGRAM REQUIREMENTS FOR AS9100

The supplier's quality system shall conform to the requirements of AS9100 and is subject to inspection and approval at all times during periods of performance of this contract or purchase order by KCV Quality Assurance. Supplier shall ensure that individuals processing this order are aware of their contribution to product conformity, safety, and ethical behavior.

QA03 INSPECTION SYSTEM REQUIREMENTS FOR MIL-I-45208A

The supplier's inspection system shall conform to the requirements of MIL-I-45208A and is subject to inspection and approval at all times during periods of performance of this contract or purchase order by KCV Quality Assurance.

QA04 INSPECTION SYSTEM & RECORDS

The supplier shall maintain an inspection system applicable and adequate for the material or service being supplied to KCV. All records established to provide evidence of conformity to the requirements shall be on file, and maintained for no less than ten (10) years. These records shall be subject to review by KCV Quality Assurance upon request.

QA05 RIGHT OF ACCESS

Kaman Composites - Vermont, Inc. reserves the right of access for KCV, their customer and regulatory authorities to all facilities involved in the order and to all applicable records.

QA06 GOVERNMENT INSPECTION

Government Inspection is required prior to shipment from your plant. Upon receipt of this contract or purchase order, promptly notify the government representative who normally services your plant so that appropriate planning for Government Inspection can be accomplished in accordance with applicable specifications. A copy of this contract or purchase order shall be furnished to the Government Representative upon receipt.

QA07 KAMAN COMPOSITES - VERMONT, SOURCE INSPECTION

KCV reserves the right to perform inspection at the supplier's facilities or where designated in the contract or purchase order prior to shipment. Inspection and/or test of the articles defined in this contract or purchase order shall be performed by the supplier, and shall be subject to witness by a KCV Quality representative. KCV's Purchasing shall be notified seven (7) working days prior to allow for arrangements for the KCV Quality representative to be present during the inspection and/or test.

QA08 KAMAN COMPOSITES - VERMONT, IN-PROCESS INSPECTION

KCV reserves the right to perform in-process inspection at the supplier's facilities. Supplier shall submit to KCV his inspection plan or traveler designating in-process source inspection points. KCV will designate required in-process source inspection points and so inform the supplier. Supplier shall notify KCV purchasing 48 hours prior to the time in-process inspection coverage is required to allow for arrangements for the KCV Quality representative to be present during in-process inspection.

QA09 FIRST ARTICLE INSPECTION AS9102

First Article Inspection shall be per AS9102. The supplier shall include an AS9102 First Article Inspection Report (FAIR) for all first run machined detail parts, fabricated detail parts, fabricated assemblies and their components including hardware and any purchased product apart of the assembly on the initial production run. The supplier will also perform a full FAI or a partial FAI for affected characteristics, when any of the following occurs:

- A change in the design characteristics affecting fit, form, or function of the part.
- A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling, or materials that can potentially affect fit, form, or function.
- A change in numerical control program or translation to another media that can potentially affect fit, form, or function.
- A natural or man-made event, which may adversely affect the manufacturing process.
- An implementation of corrective action required to complete a previous FAI, as described in 4.4.
- A lapse in production for two years shall require an update for any characteristics that may be impacted by the inactivity. This lapse is from the completion of last production operation to the actual restart of production.

When documenting the FAI, the supplier may use the forms contained within AS9102 or their equivalent, so long as the forms contain all the information required by AS9102. : 100% of drawing characteristics must correspond numerically with a bubble drawing if available or translated from an IGES file onto a paper copy; nominal or actual values with tolerance ranges must be listed; if characteristics are in metric, they must be recorded in metric; applicable drawing flag or general notes must be listed; if parts have been verified to a digital model, a report must accompany the FAI. Kaman Composites Vermont must approve all F.A.I.R. for details prior to assembly. All FAI's are subject to review by Kaman Composites Vermont and/or its customers and may be rejected if information is incomplete.

QA10 FIRST ARTICLE INSPECTION

Inspection and final acceptance by KCV of the first article produced from the initial production and the First Article produced subsequent to design change incorporation against this contract or purchase order is required. The supplier shall submit a First Article Report to KCV demonstrating compliance with the requirements of the contract or purchase order and referenced documents. The report shall provide as a minimum:

Contract or Purchase Order Number, Part Number, Revision Level, Part Name, Supplier's Name, drawing requirements (including tolerance), method used to obtain results and actual results of each measurement. This report shall be submitted with the first article identified as "First Article Inspection Sample" to KCV for inspection and acceptance. First article data, regardless of format, shall be sent to KCV, Attention: Quality Assurance. If the part requires functional testing, in addition to the actual test results, the supplier shall furnish a diagram of the test set-up, the equipment used, the tolerances of the equipment and the calibration date of the equipment used.

QA11 FUNCTIONAL TEST DATA

Two copies of functional test data referencing contract or purchase order numbers, supplier's name and address and/or laboratory's name and address, part number, part name, serial numbers, data and run time of units if applicable, including actual test dates, must accompany each shipment. These reports shall be validated by and authorized representative of the supplier. In the event the supplier does not have equipment of sufficient capacity to functionally test the articles, they must be tested in a laboratory approved by KCV.

QA12 QUANTITATIVE RAW MATERIAL CERTIFICATION

Each shipment of material, parts or assemblies furnished hereunder shall be accompanied by a quantitative chemical/physical reports showing raw material conformance to the specific applicable specifications. If more than one raw material item is included in the furnished parts or assemblies, this order shall specify for which item(s) certification is required. The certification(s) shall identify the material specification (including applicable grade, type, class etc.); manufacturer, manufacturer's lot, batch, heat or serial identity, and quantity of material covered and test results obtained.

QA13 SPECIAL PROCESS AND NONDESTRUCTIVE TEST REPORTS

Reports of applicable special processes and nondestructive tests such as welding, heat treating, plating and magnetic particle inspection, penetrant inspection, pressure test, ultrasonic inspection, etc., demonstrating compliance with applicable specifications as referenced on the contract, purchase order or drawing, shall be submitted with each shipment.

QA13.2 SPECIAL PROCESS CUSTOMER QPL

Special process requirements of the drawing (NDE, NDI, Welding, Heat Treat, X-Ray, Precision Cleaning, Applied Finishes, etc.) are to be performed by Kaman Composites Vermont's customer specification approved sources only. This includes any sub-tier processors used by you, the supplier, to perform the special process. The Supplier shall list on the packing sheet or certificate of conformance accompanying each shipment the names of the sub-tier processors who performed the processes and a copy of the sub-tier packing sheet and/or certificate of conformance for the processes performed. The supplier shall contact Kaman Composites Vermont's purchasing agent for any approval questions.

QA13.3 SPECIAL PROCESS NADCAP

Special process requirements of the drawing (NDE, NDI, Welding, Heat Treat, X-Ray, Precision Cleaning, Applied Finishes, etc.) are to be performed by A Nadcap approved supplier, or a Kaman Composites Vermont's customer specification approved sources only. This includes any sub-tier processors used by you, the supplier, to perform the special process. The Supplier shall list on the packing sheet or certificate of conformance accompanying each shipment the names of the sub-tier processors who performed the processes and a copy of the sub-tier packing sheet and/or certificate of conformance for the processes performed. The supplier shall contact Kaman Composites Vermont's purchasing agent for any approval questions.

QA14 CERTIFICATE OF CONFORMANCE

The supplier shall certify that parts and/or material supplied have been inspected and found to be in conformance with the applicable drawing, specification, contract, and/or purchase order requirements. The supplier shall further certify that substantiating inspection data is on file subject to review by KCV upon request. One (1) copy of this certification, signed by an authorized representative of the supplier, shall be included with each shipment. Reference must be made to the Contract or Purchase Order Number, Part Number, Revision Level and Part Name. This certification may be included on the supplier's packing sheet.

QA15 TEST REPORT STATEMENT

Furnish the following statement in lieu of test reports on a certificate of conformance or the packing sheet accompanying the material or parts:

“Test Reports covering this material or parts are on file subject to examination and indicate conformance with applicable specifications and the requirements of the contract or purchase order.”

QA16 APPROVED QPL MANUFACTURER

The product on this order must be obtained from an approved QPL manufacturer. The manufacturer must be listed as an approved supplier for the customer the end product is being produced for. This will be verified on receiving inspection at KCV.

QA17.1 100 % INSPECTION

Inspection shall be 100% unless otherwise indicated. Statistical Process Control (SPC), Statistical Quality Control (SQC) or Inspection sampling methods shall only be permitted with procedures submitted to and approved by KCV Quality Assurance. All subsequent inspection records shall refer to the procedure and revision submitted for approval.

QA17.2 KEY CHARACTERISTICS

Key characteristics are involved in this order and must be controlled at all times. A report with all key characteristics with actual dimensional results must accompany parts when shipped. A list of the key characteristics will be supplied with the order. This requirement must flow down to sub-tier suppliers when applicable.

QA17.3 SUPPLIER INSPECTION REPORT

A report with characteristics and actual dimensional results must accompany parts when shipped. This requirement must flow down to sub-tier suppliers when applicable. This report may be the supplier's inspection check list used for product conformance validation.

QA18 CHANGE CONTROL

The supplier shall notify KCV of any proposed change in design, fabrication method, or process, and obtain approval from KCV before making the change. Appropriate identification of those articles on which the change is incorporated shall be required.

QA19 AGE and/or ENVIRONMENT SENSITIVE MATERIAL IDENTIFICATION

The supplier shall identify materials and articles having definite characteristics of quality degradation or drift with age and/or environment. This identification shall indicate the date and/or cycle at which the useful life, identification shall also include the storage temperature, humidity, etc. required to achieve the stated useful life.

QA20 HAZARDOUS MATERIALS

All materials which are volatile, toxic, or emit fumes which are harmful to human health shall be properly contained in accordance with applicable health and safety requirements. The containers will be plainly marked as to contents with appropriate M.S.D.S., warnings, precautions, instructions, and storage conditions.

QA21 MATERIAL IDENTIFICATION

All materials shall be identified by a part number, permanently and legibly affixed directly to the surface of each article. In the event this is not possible due to physical size or nature of material, an identification tag will be securely affixed to each article, or if articles are supplied in individual or multi-unit containers the container must reveal the appropriate identification.

QA22 CALIBRATION SYSTEM REQUIREMENTS FOR ISO 10012

The supplier's calibration system for measurement and test equipment shall conform to the requirements of ISO 10012 and is subject to review and approval at all times by KCV Quality Assurance.

QA23 Deleted

QA24 Deleted

QA25 Deleted

QA26 Deleted

QA27 Deleted

QA28 Deleted

QA29 Renumbered to QA17.2

QA30 NONCONFORMING PRODUCT

Supplier is to notify Kaman Composites - Vermont, Inc. of nonconforming product. Supplier does not have MRB authority. Arrangements for approval of supplier nonconforming product will be made by Kaman Composites - Vermont, Inc.

QA31 FLOW DOWN TO SUB-TIER SUPPLIERS

All the requirements applicable in the purchasing documents for the supplier must also flow down to sub-tier suppliers, this includes key characteristics where required.

QA32 TEMPERATURE RECORDERS FOR AGE SENSITIVE MATERIAL

A minimum of two temperature recorders is required for each shipment of material. They must be capable of recording temperature for the duration of the transportation to Kaman Composites - Vermont. The recorders must be placed in separate containers within the shipment. The containers with recorders should be marked as such.

QA33 GEL AND FLOW TEST REQUIREMENTS

The material certification must contain as a minimum the requirements for GEL per ASTM D 3532 and Flow Test per ASTM D 3531. Testing results should be included when required. It shall also include "Working Out-Time" of material.

QA34 PART SUBSTITUTION

Part substitution is not allowed unless authorized by Kaman Composites - Vermont, Inc. If the clause is flowed down to Kaman Composites - Vermont from a customer it must be authorized by the customer.

QA35 DIGITAL PRODUCT DEFINITION (DPD)

Supplier must have KCV approval for DPD.

QA36 TEST PANEL REQUIREMENTS

Test panel or specimens are required to be supplied with each order, or in accordance with applicable specification.

QA37 THIS ORDER IS FOR SIKORSKY AIRCRAFT

This order is for Sikorsky Aircraft. Sikorsky Quality System requirements ASQR-01 (latest revision) are applicable to this order.

QA38 COUNTERFEIT PARTS AVOIDANCE

Supplier shall procure hardware and/or electronic parts from the Original Equipment Manufacturer (OEM) or its authorized (or franchised) distributor. In the event that Supplier cannot procure hardware and/or electronic

parts from the OEM or its authorized (or franchised) distributor, Supplier shall obtain Buyer's written approval prior to procuring hardware and/or electronic parts from any party other than the OEM or its authorized (or franchised) distributors. With such request, Supplier shall provide a plan for inspecting and testing such parts to ensure that they do not constitute Counterfeit Goods.

QA39 THIS ORDER IS FOR ROLLS ROYCE

Rolls-Royce is the final customer, supplier must hold current RR9000: SABRe approval, and if supplying material [manufacturer] must hold Rolls-Royce plc approval for any designated MSRR material supplied.

QA40 MATERIAL SHELF LIFE MINIMUM

Materials supplied with life basis of date of shipment or date of receipt must meet the entire specified life. Materials supplied with life basis of date of manufacture must be supplied with 80% of life remaining minimum.

QA41 FOD PREVENTION

Supplier is required to establish and maintain a FOD prevention program in compliance with AS/EN/SJAC 9146 Foreign Object Damage (FOD) Prevention Program. Supplier shall assure the prevention, detection and removal of foreign objects during design, manufacture, assembly or shipping of an item. The supplier must maintain work areas and control tools, parts and products in a manner sufficient to preclude the risk of FOD incidents.

QA42 PRODUCT SAFETY

Supplier shall plan, implement, and control the processes needed to assure product safety. These processes should include hazard identification, analysis and control of safety risks, management of changes that could affect product safety, assessment of safety management processes, training on product safety responsibilities, communication of product safety information, and reporting of safety events. Supplier shall retain documented information determined as being necessary for the effectiveness of product safety management.

QA43

The supplier shall state that the parts and/or material supplied have been inspected and found to meet the requirements for RoHS (Restriction of Hazardous Substances) and REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). The supplier shall provide a written statement of this compliance. One (1) copy of this statement, signed by an authorized representative of the supplier, shall be included with each shipment. Reference must be made to the Contract or Purchase Order Number, Part Number, Revision Level and Part Name. This statement may be included on the supplier's packing sheet.