

<b>GKN Aerospace</b> Advanced Composite Structure	<b>GKN PROCUREMENT QUALITY CLAUSE</b>		<b>PURCHASING</b>	
	Revision:	<b>AB</b>	Instruction No.	<b>PUR1.1.2</b>

**1.0 PURPOSE**

To communicate GKN and/or customer specification requirements to the supplier based on all Group I and Group II purchase Orders.

**2.0 SCOPE**

This procedure and the use of GKN Procurement Quality Clauses apply to all Group I and Group II purchase orders as defined by this instruction.

**3.0 REFERENCE DOCUMENTS**

- PUR1.3.2 Purchase Order Documentation
- PUR1.1.1 Purchase Order Review/Approval
- PUR1.9.1 Supplier Selection
- PUR1.6.2 Receiving Inspection System
- FAI First Article Inspection to AS9102 format or Equivalent

**4.0 INSTRUCTION**

GKN Purchasing shall review all purchaser orders for Group I and Group II materials, as defined by instruction PUR1.1.1. Applicable “GKN Procurement Quality Clauses” as listed in this Sub Tier Procedure shall be referenced in the issued purchase order from applicable ERP system. GKN reserves the right to visit a supplier to verify compliance to any and all agreements. This right of entry is extended to all GKN customers up to the end user.

This document has a general section which identifies requirements that always apply to a vendor who is supplying to GKN. The composite and metals manufacturer sections provide the additional requirements which apply to the respective industry of manufacturers.

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<b>AUTHOR</b>	<b>APPROVED</b>	<b>REVISION DATE</b>
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**A. GKN PROCUREMENT QUALITY CLAUSES, GENERAL REQUIREMENTS**

1. The supplier shall implement a quality management system similar to an ISO 9001; AS 9100 or equivalent standard.
2. If record retention requirements are not specified by contract, the supplier shall maintain records traceable to delivered product for a period of (10) years, or (25) years if product is classified as a Flight Safety Part (as determined by purchase order or product drawing). Records are defined as supporting evidence that the item or items identified in this order has or have been produced in accordance with applicable instructions, specifications, and drawing. The evidence shall be made available for review by GKN Supplier Quality upon request.
3. The supplier shall have a formal program in place to prevent foreign object damage (FOD) to all material or product provided to GKN.
4. The goods, items, and supplies under this order are subject to the requirements of ISO 9001, AS 9100 as required by the purchase order and applicable drawings/specifications. The supplier shall flow-down the applicable requirements of this order to its lowest tier suppliers.
5. Supplier shall notify GKN of **changes to its processes, products, or services, including changes of its lower level external and internal providers; location of manufacture, and obtain GKN's approval**. Documented evidence must verify that requirements of this order including, but not limited to, safety, performance, reliability, interchangeability, service life, weight or appearance (when appearance is applicable) have been obtained.
6. Supplier shall submit a certification of compliance referencing applicable specification for each lot/batch number and GKN purchase order number for traceability. The certificate of compliance **must** include documentation of all **special processes** (i.e. heat treating, hardness test, priming) with references to the specification from which the test or processes were performed, supplier performing the process, address of supplier performing the process and supplier code, if applicable. Lot and batch number must be clearly indicated on the parts/material. For example, if lots and batches are separated in bags the bags must be label accordingly. The same would apply for boxes, or any other type of part/material container. Certification shall reference the GKN purchase order number. Certification shall be signed by an authorized company representative and must indicate that parts meet all applicable specifications. Certifications are required with each shipment and must be attached to the packing list.
7. Supplier shall submit material certification showing chemical, physical, lot/batch identification, and other requirements listed on the applicable specification, at the detailed component level, signed by an authorized company representative and referencing the applicable GKN purchase order for all shipments until FAI has been accepted. After FAI has been accepted GKN requires a Certificate of Conformance for the finished goods only with the component level certifications kept on file at the supplier site in accordance with the specific contract. Clause 6 above applies to all special processes. All certifications shall be made available on request. Every 20<sup>th</sup> lot or a minimum of once a year objective evidence for that shipment's Certificates of Conformance and supporting data shall be sent to GKN Supplier Quality to verify 100% inspection by the supplier.

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8. Identification of parts must be marked with the part number indicated on the part drawing/specification. Packing sheets must be properly identified with the part number and applicable revision number indicated on the purchase order, suppliers manufacturing lot number for the specific lot being produced and must bear an acceptance stamp. The method of part identification, must meet the requirements of part drawing and/or specifications. All material supplied under this order is subject to the requirements of GKN specification, MIL-STD-129 at current revision, and AA56032, and customer specification.
9. All nonconforming material repaired and/or accepted in accordance with Customer Material Review Board disposition, which cannot be inspected as an assembly upon receipt at Customer facility must be inspected and accepted by GKN Quality Assurance prior to assembly and shipment. The supplier must notify GKN within seven (7) working days in advance of the date on which the subject material will be ready for this source inspection. All material in this category must be properly identified and segregated from conforming material when shipped to GKN.
10. Supplier shall conform to the requirements of FAR 21 as designated.
11. Government inspection is required prior to shipment from supplier's plant. Upon receipt of this order, promptly notify the government representative, who normally services your plant so that appropriate planning for government inspection can be accomplished.
12. Each part delivered to GKN must be accompanied by a certificate which attests to the fact that the material has passed the acceptance tests. It shall list the part number, the ATP number, and the applicable revision thereto. GKN reserves the right to witness testing procedures.
13. Special processes, (i.e. calibration services, nondestructive Inspection, plating, etc.) and sub-tier suppliers of these services are subject to the requirements of the drawing and all flowed down specifications. Suppliers that outsource these processes must obtain GKN source approval. All suppliers of Nondestructive Inspection services must be Nadcap certified under the specific scope of the service provided (i.e. Ultrasonic Inspection service require Nadcap NDT certification to UT) in order to obtain approval.
14. The Seller certifies that all required (Qualified product list) parts have been manufactured to or procured from approved Q.P.L. sources as per FAR 9-203.
15. Designated Group I Materials or Critical commercial materials will require Source Inspection of materials, process, and final products. This Source Inspection will be conducted by GKN Supplier Quality Engineer or by an approved contractual service.
16. Critical characteristics, and Group I products per IAQG AS 9103 (Variation Management of Key Characteristics) will require the submission of appropriate statistical process control documents (charts, graphics) for designated characteristics.
17. The Suppliers Program must provide for traceability of critical, and flight safety parts as identified by GKN from a specific lot of material through the manufacturing process, to the completed part. All such parts shall be assigned a serial number and/or heat or melt number upon the release of raw material and retained throughout the manufacturing cycle.

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18. First Article Inspection to the AS9102 format or equivalent is required of parts, details, subassembly, or First Piece Fabrication/Assembly made to the latest Revision level shown on the Purchase Order. FAI reports shall identify ALL notes and characteristics as identified on the blue print and customer supplied documentation. Each line item shall have the blue print zone, method of inspection, equipment used and actual results recorded. Certifications shall be provided identifying all materials, processes performed and specification used (specification must meet customer requirements) and results. All process certs must have an original signature on the copy of the certification acknowledging that the process is accepted as correct for the particular FAI parts submitted. An accompanying copy of the report must be attached to packing bill. Inspection shall be at the Supplier's House as designated by GKN Supplier Quality. Supplier shall notify GKN supplier quality no less than two weeks in advance of FAI completion so that GKN supplier quality may determine the need for source inspection at the supplier site.
19. Counterfeits Parts Prevention and Control: the verification and validation of all raw material and associated details shall be conducted and authenticated in a manner that would prevent the introduction of counterfeit material or product. If any product is found to be suspect, it shall be brought to the attention of GKN procurement with a detailed explanation of any suspect product shipped, inventory in-house or in process. Suppliers shall flow this requirement down to their sub-tier suppliers. Supplier shall ensure training of appropriate persons in the awareness and prevention of counterfeit parts. Supplier shall monitor counterfeit parts reporting from external sources.
20. DX or DO Orders per FAR 52.211-14, CFR Title 15 Part 700, will take priority over any other non-rated order in the supplier's system.
21. If a First Article has not been supplied for the part number being procured the Supplier must return to clause 19.
22. Supplier shall submit a certification of compliance with the applicable part, material, tool or mold design or modification requirements with revision levels. The certification shall include the hard copy and/or electronic media (ex. CATIA, CADAM, AUTOCAD, & IGES compatible files) identification and revision information as supplied by GKN, a copy of inspection check list results that demonstrate compliance with the requirements of GKN supplied data, purchase order number and signature of authorized supplier representative. Identifying part number, revision level, and date generated as required. Tool proofing is required for acceptance. GKN may impose Tool Proofing for characteristics on subject tool that can not be inspected. Objective evidence of this tool proofing must accompany parts shipped to GKN.
23. GKN, its customers and applicable regulatory authorities shall be permitted access to the supplier's facilities and to applicable documented information. Supplier shall flow this right of access requirement to its sub-tiers.
24. The supplier shall ensure that its workforce is aware of their contribution to product or service conformity; their contribution to product safety and the importance of ethical behavior.

**B. GKN PROCUREMENT QUALITY CLAUSES, COMPOSITE MANUFACTURER**

25. Requirements for shelf life are to be in accordance with applicable specification. Shelf life, out time and storage data is required. A record of temperature during transit is required by part drawing or purchase order on material that is out-time sensitive, and requires refrigeration.

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26. The supplier shall provide one cured laminate 12" by 18" from each batch of material manufactured and shipped to GKN. The wrap direction shall be parallel to the 12" dimension and so identified. Each laminate is to be marked with the applicable specification number, batch number, tool number, and warp direction.

Each laminate shall be accompanied with a detailed lay-up diagram. The diagram shall include the material used, their location size, and number of plies and thermocouple location as a minimum. Each lay-up diagram shall also be identified by the applicable specification number, batch number, lot number, roll number, and warp direction of the prepreg used to make the cured panel.

Each laminate shall be accompanied with its respective heat up rates, laminate cool down rate, pressure, vacuum, temperature, and dwell times. Each cure cycle report shall be identified by the applicable specification number and roll number of the prepreg used to make the cured panel.

These laminates with this information shall be packed in a separate container (envelope, box, etc.) clearly marked "TEST PANEL" and sent with the shipment. This container shall be marked ATTN: GKN QA/Inspection Laboratory.

27. A prepreg test sample shall also be furnished by the supplier to GKN for test purposes. A sample from each batch of material is required. A 3 to 5 linear yard sample is required for woven material. A 20 to 25 square foot sample is required for tape material. The prepreg sample shall be from the same roll used for the cured test panel fabricated by the supplier. The prepreg test roll shall be shipped with the production shipments and will require separate packing and preservation. It must be placed in a container clearly marked "TEST ROLL" and contain identification of the batch, lot number, roll number. It must be marked, ATTN: GKN QA Inspection Lab.

**C. GKN PROCUREMENT QUALITY CLAUSES, METALS MANUFACTURER**

28. Product painted with final topcoat or detail primed with adhesive bonding primer, must be wrapped separately, interleaved for part protection and prevention of contamination.

29. GKN purchased details for Sikorsky Aircraft; require compliance to ASQR-09.1. This requirement is mandated for parts identified on drawings as Flight Safety Parts and/or Critical Characteristics, in accordance with Sikorsky Aircraft S2000 program. All item area must be filled in.

30. Designated Spa supplied part. Part is subject to receiving inspection audit for conformance. Any non-conformance identified by GKN or it customer will require corrective action response within seventy-two hours of non-conformance documentation.

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**Revision History**

<b>Rev</b>	<b>Date of Change</b>	<b>Description</b>	<b>Change Requested by</b>
<b>AB</b>	<b>1-Aug-17</b>	<p>Removed reference to obsoleted standards (AS 9000; ISO 9000; Mil Q 9858/A; Mil I 45208/A). Removed "As part of the FAI review and approval, from counterfeit part prevention clause.</p> <p>Added requirement for change notification and approval. Added "Clause 6 above applies to all special processes." To clause 7. Added requirement for quality management system.</p> <p>Added clauses 29 and 30. Updated counterfeit part prevention section to align with revision D of AS 9100. Revised clause 23 now clause 27 to reflect current SAC document. Was: require a completed SA 5193 form.... Is: require compliance to ASQR-09.1. Clause 17 was: Mil Std. 1535 and/or ASQC 90/94. Is: IAQG AS 9103 (Variation Management of Key Characteristics). Removed reference to MIL-I-43552 which is obsolete.</p> <p>Section 4.0 Was: ...Applicable "GKN Procurement Quality Clauses" as listed in this Sub Tier Procedure will be entered into the "ADDITEMCMT" screen of the data base (MM System). Is: ...Applicable "GKN Procurement Quality Clauses" as listed in this Sub Tier Procedure shall be referenced in the issued purchase order from applicable ERP system.</p> <p>Added sections A, B, C for clarification.</p>	<b>O. Moyegun</b>

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