



# QUALITY OPERATING PROCEDURE

**QOP**

**84-2**

**Q-SUPPLIER**

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Rev: 1.1

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**Pioneering in Aerospace Manufacturing Excellence**

## **PROCEDURE APPROVAL:**

*For FGP Systems Ltd*

*Gary Northway (Head of Quality Assurance)*

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## 1.0 FOREWORD

1.1 This document is based upon the requirements of [ISO9001](#) with the addition of [AS9100](#) clauses where appropriate. In addition, specific requirements of our customers are also included. This document is designed to provide direction to all suppliers as to the requirements necessary to supply products and/or services to FGP Systems, irrespective of supplier rating.

## 2.0 SCOPE

2.1 This procedure defines the controls required for the “Q-Supplier” process.

## 3.0 RESPONSIBILITIES

Procedure/Process Owner	Key Responsibility
Procurement Manager	Document Owner, approval and ownership of the overall procurement process.
Purchasing Manager	Responsibility of ensuring that all actions are per-formed in accordance with the defined process.
Site Quality Lead	Responsibility for the evaluation of Suppliers and their Quality Systems and any specific Quality Requirements.
Supplier	Responsible for ensuring adherence to the requirements of this process.

## 4.0 DOCUMENT CONTROL

This document is provided in an electronic format to all FGP Systems Suppliers and is available on request. Indiscriminate copying and redistribution of this document is prohibited; except for the supplier’s own internal use. In this case each copy shall be marked “Uncontrolled” and the FGP Systems issued, master copy filed and maintained in a suitable manner.

All pages are numbered and have the issue date and issue / Revision included. This document remains the property of FGP Systems and can only be amended and issued by the FGP Systems, Quality Assurance Department

INTERNAL NOTE: All documents should be stored on the BMS as stipulated by local DWI’s.



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## 5.0 REFERENCE DOCUMENTS

References	
AS9100	Aerospace Standard
AS9102	Aerospace Standard
ISO9001	International Organisation for Standardisation
BS6001	British Standard - sampling
AS5553A	Aerospace Standard - Fraudulent/Counterfeit EEE Parts; Avoidance, Detection, Mitigation, and Disposition
AS6174	Aerospace Standard - Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel



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## 6.0 SUPPLIER QUALITY ASSURANCE STRATEGY

### 6.1 Policy

It is desirable that the minimum approvals held by a supplier shall be formal registration to BS EN ISO 9001:2015. Therefore, the requirements detailed in Sections 7.0, 8.0 and 9.0 are supplementary additions to those already contained within the requirements of the Standard. The requirements in each section are to be applied depending on the nature of supplied product or service.

### 6.2 Supplier Approval

Suppliers shall become approved suppliers to FGP Systems using this document and BS EN ISO 9001:2015 as the required standard for acceptance. Suppliers are encouraged to form working partnerships with FGP Systems. New suppliers to FGP Systems shall be assessed for suitability and rated as above. This initial assessment may include:

- A desk survey
- A supplier questionnaire
- Assessment visit
- Appropriate NDA (Non-Disclosure Agreement)

Approval is granted on the understanding that it does not imply orders will be forthcoming and that approval may be amended or discontinued at the discretion of FGP Systems. Where a supplier fails to meet the necessary criteria for acceptance or falls below the minimum standard, the approval may be restricted until satisfactory acceptance and verification of corrective action is completed on the deficiencies highlighted. Future orders may not be forthcoming until corrective action is complete.

### 6.3 First Delivery

The first delivery of product from a new supplier shall be subjected to 100% inspection by FGP Systems. Thereafter, and subject to delivery monitoring, acceptable sampling plans shall be agreed.

### 6.4 Performance Monitoring

All suppliers are totally responsible for ensuring that 100% defect free product is delivered to FGP Systems. Product to be delivered from suppliers may be subject to Receipt or Source Inspection activity.

The scope of monitoring will be determined by:

- Status of the supplier
- Type of product
- Confidence level from previous deliveries
- Quality is measured as either a percentage or Parts Per Million (PPM) of parts delivered and number of delivered defects
- Delivery is measured as delivery to PO requirement dates and is measured as a percentage of on time delivery and cost of product.

Overall performance is derived from deliveries and quality performance based upon the above criteria; these criteria are collected and used to calculate the Supplier Vendor Rating. Suppliers shall be classed into the following categories:

**A Rating – (>90%)**

**B Rating – (>80, ≤90%)**

**C Rating – (>70, ≤80%)**

**D Rating – (≤70%)**

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Remedial action should be taken where a supplier's performance over a period of time is sustained at "B" or below, is stagnant or declining with no logical reasoning. The action taken shall be proportionate to the risk & effect to the business. RCCA should be requested for suppliers with continued poor performance, followed up by audits where appropriate.

NB – If vendor is used as a Client request, all recorded documentation is to be submitted to customer outlining serious performance issues.

## 6.5 Surveillance of Suppliers

The relevant FGP Systems Limited Quality Assurance Representatives will make periodic surveillance visits to the supplier as deemed necessary.

The supplier shall ensure all reasonable access is afforded to FGP Systems Representatives, customers and/or customer representatives and that all material, data, quality records and facilities pertaining to product for FGP Systems, are available for examination on request.

Suppliers shall be required to participate in Reviews/Seminars etc. at FGP Systems when requested, given reasonable notice.

## 6.6 Organisational/Policy Changes

The supplier shall formally advise the Site Quality Lead of any organization or policy changes which directly or indirectly affect:

- The suppliers Quality Department or Senior Management
- The conditions of approval specified on the purchase order

In addition, the supplier shall inform the FGP Systems, Site Quality Lead of any changes associated with approvals granted by National, International or Official Authorities.

## 6.7 Contacts

Any questions regarding this document shall be addressed in the first instance through the individual QA/Purchasing contacts.



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## 7.0 BUSINESS MANAGEMENT SYSTEM

### 7.1 Quality Management System

7.1.1 The system shall satisfy one or more of the ISO 9000 series of documents or equivalent, or be acceptable to FGP Systems Quality Assurance for the scope of work undertaken by the supplier. (Ref: 4.1.1)

7.1.2 Where applicable, the supplier shall conform to the requirements of the Health and Safety at work act, or in the case of overseas suppliers, the appropriate legislation for that country shall apply.

7.1.3 System documentation shall include requirements imposed by applicable regulatory bodies, where applicable.

7.1.4 The supplier shall establish a process for configuration management appropriate to the product (guidance on configuration management is given in ISO 10007).

7.1.5 All National/International/Proprietary Standards and other pertinent documents that form part of the contract or purchase order shall be obtained and maintained to the latest edition by the supplier.

7.1.6 The supplier shall be responsible for ensuring that all documents relative to the contract/purchase order are obtained. (Ref: 7.5.3)

7.1.7 All records shall be held for a minimum of thirteen years or the time expressed on the contract. After this period FGP Systems shall be contacted for disposition of records if required (Ref: 7.5.3).

***Correction fluid shall not be used to incorporate any changes on quality records.***

### 7.2 Management Responsibility

7.2.1 The supplier's management representative shall have the authority and organizational freedom to resolve all matters pertaining to quality. (Ref: 5.3)

### 7.3 Resource Management

7.3.1 The work environment must be considered to ensure that product conformity is not affected, i.e. temperature, lighting, cleanliness, electrostatic discharge, etc. (Ref: 7.1.4)

### 7.4 Product Realisation

7.4.1 Where applicable, the supplier shall ensure that all risks associated with new technology or processes and/or short delivery timescales have been evaluated. (Ref: 8.1.1)

7.4.2 FGP Systems assumes confirmation of paragraph 7.1.1 as part of order acknowledgement process.

Contract Review requirements shall also apply to contract amendments.

### 7.5 Purchasing

7.5.1 The supplier shall be responsible for the quality of all products/services purchased from subcontractors, including FGP Systems designated sources. In addition, the particular requirements of Q-Supplier shall be flowed down to subcontractors where the contract/purchase order demands.

7.5.2 The supplier shall maintain a list of approved subcontractors, which includes the scope of approval. (Ref: 8.4.1).



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7.5.3 FGP Systems does not permit sub-tier subcontracting of Special Processes.

7.5.4 Subcontractor performance is to be reviewed and recorded; these reviews shall have means of monitoring subcontractor performance and be used as a basis for establishing the level of controls to be implemented (Ref: 8.4.1.1).

7.5.5 The supplier shall have a process that defines the necessary procedures to follow in the event a subcontractor does not meet the necessary requirements (Ref: 8.4.2).

7.5.6 The Supplier's purchasing documents shall include the following where applicable (Ref: 8.4.3):

- Test, examination, inspection and FGP Systems requirements and any related instructions and requirements.
- Test specimen requirements necessary for design approval, production approval, product verification, and investigation or auditing.
- Requirement to flow down to subcontractors, the applicable requirements in purchasing documents, including key characteristics where required.

7.5.7 The supplier shall implement procedures to verify purchased products, these may include (Ref: 8.4.3):

- Obtaining objective evidence of product quality from the subcontractor (e.g. certificate of conformity, statistical process control, etc.).
- Inspection and audit at source.
- Review of the required documentation.

7.5.8 Prevention of Counterfeit Product (Ref: 8.1.4) – the supplier shall take action to plan, implement, and control the prevention of counterfeit or suspect counterfeit part use by:

- Training of appropriate persons in the awareness and prevention of counterfeit parts;
- Applying controls for acquiring externally provided product from original or authorised manufacturers, authorised distributors, or other approved sources via an approved suppliers listing
- Controlling requirements for assuring traceability of parts and components to their original or authorised manufacturers;
- Appropriate flow down of requirements via PO or contract to sub-contractors
- Monitoring of counterfeit parts reporting from external sources

## 7.6 Production and Service Provision

The additions below, where specified in the contract or purchase order, shall also apply:

7.6.1 The design of tooling shall be such that variable measurements of the product can be taken particularly for identified key characteristics.

7.6.2 The identification of in-process verification points for process or product conformance that cannot be verified at a later stage of manufacture.

7.6.3 The establishment of process controls and the creation of control plans where key characteristics have been identified.

7.6.4 The supplier shall be accountable for all products during manufacture and be able to demonstrate control of parts quantities, split orders and nonconformities.





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7.6.5 Quality records shall be able to demonstrate that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized.

7.6.6 Where utilities can affect product quality, measures shall be taken to ensure controlled conditions are not compromised.

7.6.7 The supplier shall take the necessary steps to ensure the prevention, detection and removal of foreign objects.

7.6.8 The supplier shall ensure that persons are aware of their contribution to product or service conformity, their contribution to product safety and the importance of ethical behaviour.

7.6.9 Production operations shall be carried out in accordance with approved data, including as necessary, drawings, route cards, manufacturing plans, inspection criteria, specific or non-specific tools and numerical control programmes.

7.6.10 The design, manufacture, validation, maintenance and the controlled use of specific tooling shall be identified and documented.

7.6.11 Changes to production processes shall only be carried out by identified authorized personnel, all changes that require customer acceptance shall be identified and permission obtained prior to making any change.

Changes affecting processes, tooling and programmes shall be documented in accordance with system procedures, the resulting changes shall be verified as achieved without affecting product quality.

7.6.12 Production equipment including NC programmes shall be validated before use and inspected periodically to ensure repeatability; validation shall include verification of the first article produced.

7.6.13 Work that is programmed for manufacture that is produced outside the supplier's premises, the supplier shall define the procedure to validate the location and to control the process and product.

## 7.7 Special Processes

7.7.1 All special processes that are to be implemented according to the manufacturing process shall be qualified before use. (Ref: 8.5.1.2)

7.7.2 All aspects of special processes shall be controlled in accordance with defined specifications, including any changes to special processes.

7.7.3 The significant operations and parameters in the process shall be identified and controlled during production.

7.7.4 Product Identification and Traceability (Ref: 8.5.2).

- Acceptance media, such as electronic signatures and passwords, shall have controls established.
- According to the level of traceability required by the contract, the supplier's system shall provide for the following.
- Identification to be maintained for the life of the product.

7.7.5 All items manufactured from the same batch of raw material or from the same manufacturing batch are to be traced, including the delivery and/or scrap details of all products from the same batch;

7.7.6 For an assembly, the identity of its components and those of the next higher assembly are to be traced:

- To the raw material, with records being maintained (as required).

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- On electronic components, via the manufacturers batch/lot/date code.
- A manufacturing record of a given product to be retrieved.

7.7.7 The identification of a product's actual configuration shall be maintained against the required and agreed configuration (Ref: 8.1.2).

## 7.8 Preservation of Product

7.8.1 Procedures shall define the following:

- Cleaning
- Prevention and detection of foreign objects (FOD)
- Specific handling of sensitive products
- Marking and labelling including safety warnings
- Shelf life controls and stock rotation
- Special handling of hazardous materials

7.8.2 Delivery paperwork shall be present at delivery and protected against loss or deterioration.

## 8.0 VERIFICATION OF PRODUCT AND OR SERVICES

### 8.1 Control of Inspection, Measuring and Test Equipment

8.1.1 The quality system shall include all items used for product verification and acceptance to be calibrated, including personally owned equipment.

8.1.2 Responsibilities shall be defined as to control of equipment, including tools supplied by FGP Systems Ltd, a list of which must be maintained.

8.1.3 Where equipment is found to be out of calibration, any potential non-conformance shall be dispositioned.

8.1.4 Procedures shall define the method of recall for measuring devices that require calibration

### 8.2 Measurement Analysis and Improvement

8.2.1 Where sampling is used as a means of product acceptance, the plan shall be statistically valid and appropriate for use.

8.2.2 Where applicable the requirements of this document shall be audited, with objective evidence held in audit records.

8.2.3 Detailed tools and techniques should be developed to support the audit process; these tools can include check sheets.

8.2.4 Where product conformity is controlled by process controls, the supplier shall take into account any product nonconformity that can arise from process nonconformity.

8.2.5 Inspection documentation shall be maintained and controlled by the supplier, this may be part of the manufacturing documentation but it shall include:

- Acceptance and rejection criteria.
- The sequence or stage, where inspection is carried out.
- Documents recording inspection results.

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- Identification of specific production inspection equipment.
- Documents associated with specific inspection instruments enabling them to be designed, produced, validated, controlled, used and maintained.

## **8.3 First Article Inspection**

8.3.1 First Article Inspection where requested, shall be carried out in accordance with the latest issue of AS9102.

## **8.4 Receipt Inspection**

8.4.1 When certificates of conformity/test reports are used to verify incoming material, all data shall be verified as conforming to the requirements of the purchase order and applicable specifications, the documents shall be validated periodically.

## **8.5 Inspection and Test Records**

8.5.1 Records shall show the actual test results when required by the specification or inspection test plan.

8.5.2 Where required to demonstrate product qualification, quality records shall provide evidence that the product meets the defined requirements.

## **8.6 Release Requirements**

8.6.1 All products supplied to purchase order requirements shall be new and unused, products from a manufacturer shall not be more than three years old, and from a stockist, not more than seven years old unless otherwise agreed and documented.

8.6.2 All products are to be released from the supplier receiving the purchase order, unless otherwise agreed in advance.

8.6.3 On delivery of the product, all applicable documentation shall be enclosed.

8.6.4 All products shall conform to the requirements of the purchase order with regard to quantity, identity and specification; any equivalents shall be agreed and documented in advance.

8.6.5 Delivery paperwork shall reflect both the equivalent and the required product as per the purchase order and certified by the supplier.

8.6.6 When required by the purchase order, all delivered products are to be accompanied by a uniquely identified Certificate of Conformity/Release Certificate which includes the following minimum information:

- The Purchase Order number
- A description of the product together with the relevant part numbers (as defined on the Purchase Order) and with quantities delivered.
- Vital Part serial numbers must be quoted, including lower level serial numbers for assemblies. Each serial number must be individually quoted.
- A certificate statement that the items have been inspected/tested and conform in all respects with the Purchase Order requirements.
- The use of electronic signatures for release notes is acceptable, providing that only the authorized signatory has access to the release system, systems that allow general access is not acceptable.

8.6.7 The Certificate of Conformity shall also include the following where applicable:

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- The rejection note number.
- Specification and/or material specification and batch/lot number.
- Production permit/concession numbers.
- Any safety hazard identification for material handlers.
- The drawing issue number.
- Cure date/life expiry date for non-metallic products with a finite life.
- Spring rates/load results when required.
- Test reports.

8.6.8 For stockists, the original manufacturers release certificate serial number shall be endorsed on the stockists Certificate of Conformity that accompanies the products.

8.6.9 For metallic raw material, a copy of the original mill certificate shall accompany the product.

## 8.7 Key characteristics

Where key characteristics have been identified they shall be monitored, controlled and recorded.

## 9.0 CONTROL OF NONCONFORMING PRODUCT

### 9.1 Review and Disposition of Nonconforming Product

9.1.1 Internal procedures shall define the approval process for personnel making material review decisions.

9.1.2 Repaired or products defined as “use as is” shall not be dispatched to FGP Systems Ltd and will not be accepted, this also includes regarded material.

9.1.3 Scrap material and products shall be permanently marked or controlled until physically rendered unusable.

9.1.4 Where product nonconformity affects product already delivered, FGP Systems Ltd is to be informed immediately with the necessary product identification and quantities affected together with delivery dates.

### 9.2 Corrective Action

9.2.1 Where the analysis defines the cause of non-conformance to be the responsibility of a subcontractor, corrective action must be flowed down to the subcontractor. Response to the NCR from the subcontractor must be achieved within 28 days.

If timely actions as stated above are not achieved, the NCR details shall be entered onto the FGP Systems Risk Register for escalation to Senior Management and for consideration of suspension of further supplies.

9.2.2 Where corrective actions are not achieved, specific and timely actions shall be further defined.

9.2.3 A corrective action plan shall be supplied in the event of non-conforming product. This will normally be sent by e-mail and the supplier shall complete the form and return with full root cause analysis as soon as reasonable practicable.

9.2.4 Concessions will not normally be accepted however, in extreme circumstances concessions may be accepted and the cost of application shall be borne by the supplier.

9.2.5 The supplier is required to retain all relevant documented information that describes the non-conformity, actions taken, any concession applications and authorities in respect to these actions.

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9.2.6 Suspect counterfeit materials should not be returned to vendors but held in quarantine for examination by the relevant authorities.

## 10.0 REVISION SUMMARY

Issue	Description	Date
Rev 1.0	New document review and update to standard layout and format – replaces QOP-84-2 Q-Supplier Rev C	Jan 2018
Rev 1.1	Minor amendments see Internal Audit 001-18-02	March 2018



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## 11.0 APPENDIX 1

### Inspection Sampling Plan

The following table is based upon increased inspection levels according to BS6001. Where any defects are found within the sample, that feature shall be checked 100% before accepting the batch.

<b>Batch size</b>	<b>No of Samples to be checked. 100% Dimensional/Visual check</b>
<b>4 and under</b>	<b>All of the batch</b>
<b>5 to 8</b>	<b>3</b>
<b>9 to 15</b>	<b>3</b>
<b>16 to 25</b>	<b>4</b>
<b>26 to 50</b>	<b>5</b>
<b>51 to 90</b>	<b>7</b>
<b>91 to 150</b>	<b>10</b>
<b>151 to 280</b>	<b>15</b>
<b>281 to 500</b>	<b>20</b>
<b>501 to 1200</b>	<b>35</b>
<b>1201 to 3200</b>	<b>50</b>
<b>3201 to 10000</b>	<b>75</b>