

# **External Providers Quality Requirements.**

## **1. General Requirements.**

### **1.1 Introduction.**

This document establishes the quality assurance requirements for external providers of process, product and service pursuant to Forward Composites Ltd purchase orders, these requirements must be flowed down to any sub-tier providers in the supply chain.

The supplier Quality Assurance System shall be based upon national standards, considerations of complexity of product design, criticality of the product's intended use, interchangeability requirements and manufacturing techniques. The Quality Assurance System shall be approved prior to the supply of product or service and shall provide assurance that adequate control of quality is maintained. Approved external providers shall invoke the contents of this document onto their external providers as appropriate to ensure quality of process, product and service.

### **1.2 Scope.**

This document defines the Quality Management System requirements for external providers of products and services to Forward Composites Ltd. The requirements shall be complied with in addition to all detailed requirements of the purchase order, any deviation from compliance with this document shall be submitted to Forward Composites Quality Department.

### **1.3 Access Clause.**

The external provider shall give right of access to Forward Composites Ltd, customers and regulatory authorities representatives. Sufficient notice shall be given prior to any activities which may include assessments / audits (including sub-tier providers) prior to or after issue of a purchase order.

Forward Composites Ltd representative may be assigned to an external provider because of new provider selection, provider improvement activities following poor quality, delivery performance or new product introduction. The responsibilities and authorities delegated to these representatives include but not restricted to:

- Co-ordinate responses to unsatisfactory conditions
- Conduct initial and periodic QMS base audits or product based evaluations
- Review and approve First Article Inspection Reports
- Monitor the inspection of product or service against requirements
- When applicable authorise shipment of product and supporting data following source inspection

The review of products and services by Forward Composite Ltd, its customers or regulatory representatives does not absolve the external provider of responsibility to provide conforming product or services nor shall it preclude subsequent rejection.

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**2. Supplier Approval Process.**

**2.1 Quality Managements Systems Requirements.**

The Forward Composite Ltd requirement for QMS approval within its supply chain is as follows:

Where compliance with these standards has not been attained, the level of Forward composites Ltd surveillance activity will be increased.

- Manufacturers EN/AS9100
- Stockists & Distributors EN/AS9120
- Maintenance & Repair EN/AS9110

**2.2 Approval Process.**

New suppliers shall be evaluated prior to the placement of a purchase order or contract. Suppliers who successfully complete initial evaluation, consistently meet the criteria of gold rating (see section 3) and maintain AS9100 or ISO9001 approval will be re-evaluated every 2 years for continuity and continuous improvement.

For suppliers who do not maintain either an acceptable quality rating or approval, as a minimum their approval shall be re-evaluated every 1 years. However, the frequency of re-evaluation may be changed dependent upon evidence of continued compliance with the requirements specified within this document and satisfactory product quality and assessment / evaluation performance. Forward Composites Ltd reserve the right to withdraw a supplier’s approval, wholly or in part at any time.

The method of evaluation of suppliers may include either on-site QMS assessment, product based evaluation or by methods including but not limited to desktop evaluation, First Article Inspection, presented objective evidence of compliance etc.

Note: It is at the sole discretion of Forward Composites Ltd to evoke an on-site evaluation of external providers whether AS9100, ISO9001 or AS9120 approved or not.

**2.3 Assessment Results.**

When a supplier assessment is required, the supplier shall be notified where the date and content of the assessment will be agreed. The results will be documented in an assessment report and presented to the supplier for action as required. Failure to provide acceptable corrective and preventative actions to findings within agreed timescales may result in failure to approve or approval suspension. The classification of corrective and preventative actions are as follows.

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Classification	Quality System	Product Implementation	Target
<b>MAJOR</b>	A non-conformance which may result in the partial or total failure of an element of the Quality System	- stops the development process and questions the qualification criteria; - stops the production process and questions the airworthiness criteria; - leads to a breakdown in service	Within 5 working days Or Within a period agreed with Forward Composites Ltd
<b>MINOR</b>	A failure that may cause non-conformances that are not considered MAJOR		Within 28 days or within a period, agreed with Forward Composites Ltd
<b>Observation</b>	An opportunity for improvement identified to improve the effective operation of the Quality System or business		Although advised, no formal response required

**Table 1**

### **3. Vendor Rating Policy.**

Forward Composites Ltd vendor rating system is designed to measure, evaluate and improve external provider performance, enabling Forward Composite Ltd to make informed future sourcing decisions.

The rating system is designed to meet the specific objectives and priorities of the business with external providers being measured against a standardised scale. The criteria of this scale are detailed in table 2 below and is based on 'Right First Time' (RFT) 'On Time Delivery in Full' (OTDIF) percentage of products or services delivered to Forward Composites Ltd.

External providers are required to achieve a rating of gold status for all products delivered to Forward Composites Ltd. External providers who fall below gold status will be contacted by Forward Composites Ltd to ensure a suitable action plan is generated to achieve gold status for future deliveries. The action plan will be monitored by Forward Composites Ltd, during this period the external provider shall be expected to maintain and report on controls or actions imposed by Forward Composites Ltd. Where gold status of an external provider is lost affected parts will be subject to increased on-receipt inspection.

External providers will receive notification of rejects (which directly affect vendor rating) by receipt of a Non-Conformance Report (NCR). External providers are required to respond to the NCR within the timescale specified in table 1 of this document. Where external providers have objective evidence to show they have been incorrectly rated objective evidence must be provided in support of the NCR response and as a result if agreed liability will be amended.

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Where parts are found to be non-conforming at Forward Composites Ltd the external provider must make arrangements for the collection of defective parts or provision of shipping details.

VENDOR RATING	CRITERIA
GOLD RATED EXTERNAL PROVIDER	≥ 98% (RFT) (OTDIF)
SILVER RATED EXTERNAL PROVIDER	< 98% to ≥ 95% (RFT) (OTDIF)
BRONZE RATED EXTERNAL PROVIDER	< 95% to ≥ 92% (RFT) (OTDIF)
UNRATED EXTERNAL PROVIDER	< 92% (RFT) (OTDIF)
All data is based on a 6 - month rolling average.	

**Table 2**

#### 4. Supplemental Requirements.

##### 4.1 Requirements from External Providers.

Forward Composites Ltd shall ensure that requirements shall be communicated to external providers regarding but not limited to:

- Drawings, specifications, process requirements (including special processes) and any other technical data to ensure conformity of process, product or service.
- Approval of processes, products, services, equipment and subsequent release of processes, products and services.
- Competence and qualifications of persons.
- Interaction of the external provider with Forward Composites Ltd.
- The extent of control on the external provider Forward Composites Ltd shall apply.
- Verification and validation activities Forward Composites Ltd or its customers shall perform at the external providers premises.
- Design and development controls.
- Define any critical items that include key characteristics.
- Test and inspection criteria including production process verification activities.
- Statistical techniques for acceptance of product by Forward Composites Ltd

The external providers shall ensure:

- It has established a Quality Management System.
- It uses customer designated or approved sub-tier.
- The external provider shall make Forward Composites Ltd aware of any non-conformance of process, product or service provided.
- External providers have a procedure to prevent the use or delivery of counterfeit products to Forward Composites Ltd.
- Shall notify Forward Composites Ltd of any change to process, product or service including but not limited to change in manufacture location.
- External providers shall flow down all requirements for process, product and service to any sub-tiers.
- Provide as required test specimens, production methods, storage conditions and inspection / verification activities.
- Retention of documented information including retention period in accordance with EN9130 or as defined on the purchase order.
- Ensuring persons within the external provider and any sub-tiers are aware of their contribution to product safety, conformance, product safety and their ethical behaviour.

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**4.2 Inspection.**

The external provider shall not use sampling inspection methods in lieu of 100% inspection without the prior written approval of Forward Composites Ltd Quality Manager. Information required to support sampling inspection proposals shall include but not limited to:

- Sampling inspection scheme proposal.
- Process capability / gage R&R study results.

Personnel performing inspection or critical manufacturing operations shall be subject to a regular eye examination.

**4.3 First Article Inspection.**

The purpose of the First Article Inspection (FAI) process is to provide objective evidence that all design and specification requirements are correctly understood, accounted for, verified and recorded via a repeatable and robust manufacturing process. Forward Composites Ltd requires FAI compliance in-line with AS9102 standard.

It is deemed the external providers responsibility to obtain a formal copy of the standard and only where agreed in advance may alternative FAI template be used.

In addition to AS9102 defined occurrences, when a full or delta FAI is required (i.e. Initial manufacture, change in process flow, lapse in manufacture etc) Forward Composites Ltd will specify on its purchase order when a First Article Inspection Report (FAIR) is required to be submitted. Only Forward Composites Ltd Quality Manager holds authority to authorise delivery without FAI being completed where required.

The following points supplement AS9102 standard:

- Any non-conformance reports shall be appended to the FAIR.
- Where kits / assemblies are produced AS9102 form 1 shall be collated for the deliverable parts numbers with forms 1, 2 and 3 being generated for respective detail parts.
- Material test certificates / reports and manufacturing records (job cards) shall be collected and appended to the FAIR.
- Associated C of C's shall be annotated to state that the parts are subject to an FAI.

Forward Composite Ltd reserves the right to witness / buy off FAIR's on site at the external providers premises. As such the external provider has the responsibility to notify Forward Composites Ltd Quality Manager or Purchasing Manager no less than 5 days in advance of FAI completion.

**4.4 Certificate of Release.**

A Certificate of Conformity (C of C) must be provided with all deliveries and shall identify with the following as a minimum where applicable:

- All C of C's shall be signed by persons with scope of authority to do so.
- Drawing number, issue number and part issue number must be stated (where applicable).
- Any special process and relevant specification (where applicable).
- FAI's and / or NCR's must be referenced (as applicable).
- QMS accreditation number referenced.
- Product subject to shelf life control shall have the date of manufacture, expiry date and remaining out-life of product clearly stated on the C of C.

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Note:

- I. For make to print contracts, copies of raw materials and sub-contract process certifications shall be provided with the delivery. The need to provide certification may only be waived with the prior approval of Forward Composites Ltd Quality Manager, at which point hard copies shall be replaced with applicable certificate numbers being stated on the C of C.
- II. A combined C of C and delivery note is acceptable.

**4.5 Packing**

Unless otherwise specified by Forward Composites Ltd in purchase order or COSS requirements the following shall apply.

When provisioning packing materials the following shall be considered:

Materials used are specifically produced and procured for sealing, bagging, cushioning and protecting goods whilst in transit.

Selection of materials and cartons used for each consignment must afford adequate protection when taking into consideration fragility, surface finish, size, weight and method of transportation and shall be suitable for ensuring goods arrive at the customers premises undamaged.

Cartons for shipping transportation must clean, intact and fit for purpose.

Sealing bags must be tape or heat sealing, staples are not to be used.

Pallets are to conform to standard Euro sizes.

Where appropriate all pallet loads are to be strapped and / or sealed with either heat shrink polythene or stretch film.

Any specific labelling requirements shall be specified in the purchase order or COSS

**NOTE: THE USE OF SHREDDED PAPER IS STRICTLY PROHIBITED**

**4.6 Identification and Traceability.**

The external provider shall ensure that the product supplied is suitably identified and all associated manufacturing records are annotated for each stage of manufacture, all products shall be released with formal identification.

Products shall be traceable back through the manufacturing process, this shall include lower tier sub-contractors and shall include any assembly piece parts back to raw material (mill certs etc), any special processes etc.

As a specific point of clarification, where stockists and distributors are utilised which cannot provide full traceability of materials or proprietary parts to the original manufacturer (i.e. via batch number, date code etc) these materials are not permitted for installation within deliverable product without prior approval of Forwards Composites Ltd.

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**4.7 Record Retention.**

The external provider shall retain records in either hard copy or electronic data, records shall cover the entire manufacturing process from purchase of raw materials to certification of final product.

Forward Composites Ltd require records to be retain in accordance with EN9130 or as specified in purchase order requirements.

The external provider shall refer to Forward Composites Ltd Quality Assurance for disposal instructions of any manufacturing / quality records, no records may be destroyed or disposed of without strict authorisation from Forward Composites Ltd Quality Manager.

In the event of an external provider being disapproved by Forward Composites Ltd all manufacturing / quality records applicable must be surrendered to Forward Composites Ltd.

**NOTE: THE USE OF CORRECTION FLUID IS STRICTLY PROHIBITED ON ALL QUALITY RECORDS.**

**4.7 Continuous Improvement.**

With the challenges posed by the aerospace industry there is a need to improve Forward Composites Ltd supply chain. To meet these requirements, it is expected external providers will support this by independently engaging in a recognised continuous improvement programme or by collaborating with Forward Composites Ltd, recognised schemes include, SC21, Six Sigma, Kaizen, 5's etc.

**4.8 Materials Hazardous to Health & Environment.**

Where an external provider utilises substances or materials which are hazardous to health or the environment, the external provider must ensure compliance with the respective national and / or international regulations i.e. REACH for European external providers. The external provider has an obligation to ensure compliance of its sub-tier supply chain.

**Where hazardous materials are supplied to Forward Composites Ltd, the external provider has the obligation to make available associated Material Safety Data Sheets for Forward Composites review.**

Issue.	Date	Description of Revision	Page(s) Revised	Originator
01	Aug-2017	Initial Release	ALL	Andy Cook
02	Sep-2017	Addition of 4.1 requirements from external providers. Addition to record retention requirements.	Page 4 Page 7	Andy Cook

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