



SUPPLIER QUALITY MANUAL

50-6.104

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SUPPLIER QUALITY MANUAL APPROVALS

Approved by: Director of Purchasing

Approved by: Quality Director

Approved by: Quality Systems Director

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REVISIONS

Revision Letter	CO#	DATE	DESCRIPTION
		01/03/05	Original issue.
A		09/01/96	Revised Paragraphs:2.1, 2.2, 3.1, 3.3 Added Paragraphs:3.4, 6.4 Revised Section:7.0 Added Revision Page, Page 3
B	57005	07/19/01	Revised Sections 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0 Added paragraph 2.4 Environmental Management System
C	61773	07/24/02	Removed page 15, Para. 10.0 "Flexfab Division Contacts"
D	62955	01/13/03	Changed Para. 3.1 to match 50-6.102, Rev. L Changed Flexfab Vision to match Corporate Change.
E	54695	04/29/03	Revised para 7.2.2 and Appendix F to reflect change of ZZZ-02055 from 3-part to 2-part form
F	56527	10/01/03	Revised para 2.1, 2.2, 3.2, 3.3, 4.0, 4.6, 5.2, 7.1 & 7.4 Removed para 8.0; Renumbered balance of Document
H	69682	06/01/05	Revised 1.0, 2.2, 4.0 & 6.0; updated Attachment B
J	71932	08/25/05	Updated 5.2, 6.6 and 6.7 to reference 3D Models Corrected paragraph numbering in 5.0
K	74031	05/15/06	Added references to AS9100; added paragraphs 8.5.through 8.5.5 Service / Sub-contract Suppliers requirements; revised Attachments A through E and references to PPAP 4 th edition.
L	76116	12/15/06	Added new paragraph 4.2.3 – supplier "flow down" requirements
M	79142	2/21/08	Revised paragraphs 2.1 & 3.3 – took out "QS-9000". Added paragraph 2.4 – DPD requirements
N	79781	3/26/08	Revised paragraph 2.4, took out "para. 6.0."
P	82828	6/19/09	Added paragraph 2.5.
R	86005	10/28/10	Revised para 4.0, added para 4.1.2 Supplier Deviation Request Added Attachment G
T	88620	5/10/11	Added para 4.4.1, shelf life requirement.
U	88630	08/10/11	Added para 2.6 Counterfeit Parts Prevention Added para 2.7 Control of Foreign Object Debris (FOD)
V	90106	3/10/12	Added para 1.1 Revised para 2.4 to flow down the Boeing D6-51991 DPD Standard Revised para 3.3, 4.1.1, 4.1.2, 4.2.2, and 8.5 to reflect revised titles and site specific requirements.
W	90146	8/23/12	Revised para 2.2.4 Record Retention.
Y	91982	4/16/13	Revised para 2.3 Environmental System Requirements Revised para 3.1 and 3.2 Supplier Rating System
AA	91996	10/1/13	Revised para 4.1.1, 4.1.2, 4.2.1, 4.2.2. Notification and Submission Requirements. Revised Attachments A and B – Flexfab PSW and Instructions Added para 2.3.3.4 and 2.3.3.5 to compliance submission requirements

AB	95814	08/14/15	Added para 2.8 (MMOG v4 requirement) Added para 2.9 (Aerospace requirement)
AC	97743	09-17-15	Added para 2.9.2 Boeing tooling suppliers shall adhere to the D950-11059-1 requirements.
AD	99642	03-17-16	Added para 4.1.3 Notice of Escape
AE	100776	08-19-16	Took out the PPAP forms and Deviation Request Form Added para 4.1.4 Obsolescence Revised para 4.2.2 referencing the PPAP forms on our website
AF	103574	02-12-18	Took out the packaging instructions. Completely Revised.
AG	104379	03-20-18	Added para 22.0.

Flexfab's Vision Statement

“Working together, we will be the most responsive and innovative global designer and supplier of high performance, polymer-based products.”

The following concepts are essential to realizing our vision:

- Innovation and Change
- New and different business
- Trying new ideas and learning by our failures
- Using and recognizing all our abilities
- Maintaining continuous improvement as a way of life
- Developing the appropriate skills for our team.
- Maintaining our Technical and Engineering skills as our strength.

Flexfab's Creed

Flexfab's Creed states our “Value for Customers” to be:

- Our first commitment is to our Customers
- High Quality shall be upheld on all services
- Reduce Costs when possible
- Continuous commitment to improving
- Servicing Customer orders in a prompt and accurate manner

1 INTRODUCTION

- 1.1 This Supplier Quality Manual is to be used by all of our suppliers.
- 1.2 We consider our suppliers to be a member of our team and an integral part in achieving our goals.
- 1.3 This Supplier Quality Manual is intended to provide valued Flexfab Suppliers and potential new suppliers with a basis for understanding the expectations of Flexfab as it relates to our Vision & Creed.
- 1.4 The Supplier Quality Manual shall be treated as a supplement to, and does not replace or alter other terms and conditions covered in, Purchase Documents, Engineering Drawings, or Specifications.
- 1.5 It is the goal of this Manual to develop a better understanding between Flexfab and its suppliers and to ensure that both are committed to sustain and continuously improve the quality of products and services provided.
- 1.6 The latest revision of the Supplier Quality Manual and supplier contacts are available at www.flexfab.com.

2 QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS

- 1.1 Suppliers shall have a system that meets the ISO9001, AS9100, or IATF 16949 Quality System Requirements.
- 1.2 **Automotive and Heavy Duty Truck (HDT) Suppliers.** Unless otherwise approved by Flexfab, suppliers are required to be certified to ISO9001 with the ultimate objective to become certified to IATF 16949.
- 1.3 **Aerospace and Rail Suppliers.** Unless otherwise approved by Flexfab, suppliers are required to be certified to ISO9001.
- 1.4 Suppliers who are not certified to the requirements of ISO9001, AS9100, or IATF 16949 by an RAB accredited Registrar shall be surveyed using the Flexfab Quality Management System Assessment Survey.
- 1.5 Suppliers designated by Flexfab as “Key”, but are not certified, shall re-assessed every three years to the Flexfab QMS Assessment Survey available at www.flexfab.com. Suppliers not meeting all “minimum requirements” of the survey shall show satisfactory progress towards achieving the requirements not met.

3 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) REQUIREMENTS

- 3.1 Suppliers shall be responsible corporate citizens dedicated to protecting human health, natural resources and the environment.
- 3.2 Suppliers are encouraged to implement an Environmental Management System (EMS) that meets the requirements of ISO 14001.

4 MATERIALS REPORTING

- 4.1 Suppliers are required to register and submit to Flexfab material details relative to:
 - REACH European Union adopted regulation on chemical substances called Registration, Evaluation, Authorization and Restriction of Chemical and Restriction of Hazardous Substances.
 - Restricted and Hazardous Substances (RoHS)
 - Conflict Minerals Legislation
 - California Green Chemistry Legislation
 - Export Administration Regulations (EAR)
 - International Traffic in Arms Regulations (ITAR)
 - Design For Engineering (DFE)
 - International Material Data System (IMDS)

5 TOOLING AT SUPPLIERS

Suppliers in possession of Flexfab owned or Flexfab's customer owned tooling are responsible for:

- 5.1 Maintaining of tooling in good working order,
- 5.2 Clearly identifying ownership of the tooling,
- 5.3 Notifying Flexfab of any damage to the tooling.

6 COUNTERFEIT PARTS PREVENTION

- 6.1 For purposes of this clause, Work consists of those parts delivered under P.O. to Flexfab that are the lowest level of separately identifiable items (e.g., articles, components, goods, and assemblies). "Counterfeit Work" means Work that is or contains items misrepresented as having been designed and/or produced under an approved system or other acceptable method. The term also includes approved Work that has reached a design life limit or has been damaged beyond possible repair, but is altered and misrepresented as acceptable.
- 6.1 Supplier agrees and shall ensure that Counterfeit Work is not delivered to Flexfab.
- 6.2 Supplier shall only purchase products to be delivered or incorporated as Work to Flexfab directly from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM), or through an OCM/OEM authorized distributor chain. Work shall not be acquired from independent distributors or brokers unless approved in advance in writing by Flexfab.

- 6.3 Supplier shall immediately notify Flexfab with the pertinent facts if supplier becomes aware or suspects that it has furnished Counterfeit Work. When requested by Flexfab, supplier shall provide OCM/OEM documentation that authenticates traceability of the affected items to the applicable OCM/OEM.
- 6.4 In the event that Work delivered under a P.O. constitutes or includes Counterfeit Work, supplier shall, at its expense, promptly replace such Counterfeit Work with genuine Work conforming to the requirements of the P.O. Notwithstanding any other provision in the P.O., supplier shall be liable for all costs relating to the removal and replacement of Counterfeit Work, including without limitation Flexfab's costs of removing Counterfeit Work, or reinserting replacement Work and of any testing necessitated by the reinstallation of Work after Counterfeit Work has been exchanged. The remedies contained in this paragraph are in addition to any remedies Flexfab may have at law, equity or under other provisions of the P.O.
- 6.5 This clause applies in addition to any quality provision, specification, statement of work or other provision included in a P.O. addressing the authenticity of Work. To the extent such provisions conflict with this clause, this clause prevails.

7 CONTROL OF FOREIGN OBJECT DEBRIS (FOD)

- 7.1 The supplier shall maintain a FOD prevention program in accordance with NAS412.
- 7.2 Prior to closing inaccessible or obscured areas and compartments during assembly, the supplier shall inspect for foreign objects/materials and ensure no FOD barriers remain embedded, e.g. embedded protective plugs. The supplier shall ensure tooling, jigs, fixture, and test or handling equipment are maintained in a state of cleanliness and repair sufficient to prevent FOD.
- 7.3 By delivering Items to Buyer, the supplier shall be deemed to have certified to Buyer that such items are free from any foreign materials that could result in FOD.

8 SUPPLIER PERFORMANCE MONITORING

8.1 Suppliers are required to perform at and are measured against:

- a. 100% On Time Delivery 40%;
- b. 100% Quality 60%;
- c. Zero disruptions at the receiving plant, including yard holds and stop ships;
- d. Zero occurrences of premium freight.

8.2 Delivery Performance Definition

- a. Suppliers shall perform at 100% on time delivery. Supplier deliveries that are either too late or too early will be treated on a case by case basis and when delivery issues become chronic, a formal corrective action will be required.
- b. For North and Central American Suppliers, on time delivery is defined as a maximum of seven (7) calendar days early and minimum of zero calendar days late.
- c. For "International Logistics" suppliers, on time delivery is defined as a maximum of 14 calendar days early and 7 calendar days late.

8.3 Quality Performance Definition

- a. Suppliers shall provide product and services that are 100% compliant to specified requirements.
- b. PPAPs shall be acceptable and on time.
- c. Corrective Action (CPARs) responses shall be acceptable and on time.

9 NOTIFICATION REQUIREMENTS

9.1 Changes in Design, Process or Manufacturing Location

The supplier shall notify in writing the Flexfab site specific Quality Director / Manager of any planned changes in design, process, or manufacturing location. Notification is to be given as early as possible and at least 90 calendar days prior to the planned change. Notification shall be submitted using AIAG form THE-1002 or equivalent. Unless waived by the Flexfab Quality Director / Manager, re-submission of Flexfab PPAP documentation will be required as validation of the change.

9.2 Deviations.

The supplier shall notify the Flexfab site specific Quality Director / Manager in advance of shipment when material is known to NOT meet requirements. The Supplier Deviation Request Form (ZZZ-34971) shall be used to document known discrepancies and to document cause and corrective action.

9.3 Notice of Escape.

The supplier shall provide the Flexfab site specific Quality Director/Manager with a Notice of Escape when product is determined to be nonconforming after delivery. The Notice of Escape shall include:

- Part number
- Quantity
- Lot #
- Date(s) shipped

9.4 Obsolescence

The supplier shall notify Flexfab when parts are becoming obsolete. Notification shall be in advance so that we have time to identify and qualify a replacement.

10 SUBMISSION REQUIREMENTS

- 10.1 As directed by the Flexfab Purchase Order, the supplier shall submit for PPAP approval prior to or in conjunction with the first production.
- 10.2 The Production Part Approval Process (PPAP) is to be performed per AIAG PPAP guidelines using forms and formats described within the AIAG PPAP guidelines, with the exception of the Part Submission Warrant (PSW). The supplier shall use Flexfab PSW form ZZZ-37735. An electronic version of this forms and instruction are available on our website, www.flexfab.com, in the Suppliers Documents section under the Suppliers tab. Unless otherwise specified, a Level 3 Submission is required. Supporting documents to be included with the Level 3 PPAP submission include:
- a. Flexfab Production Part Submission Warrant form ZZZ-37735.
 - b. Process flow diagrams.
 - c. Control Plans which include all product and process-related Key or Significant process characteristics. Control Plans for “families” of similar parts are acceptable if the new parts have been reviewed for commonality. If no Key or Significant process characteristics are specified by Flexfab, the supplier is to select at least one.
 - d. Process Failure Mode and Effects Analysis.
 - e. Statistical process capability studies showing conformance on all Key or Significant process characteristics.
 - f. Objective evidence of conformance to all dimensions, notes, and specifications referenced in product drawings or specifications.
 - g. Measurement system variation (Gage R & R) studies for all gages used to inspect Key or Significant process characteristics.
- 10.3 Any Key or significant process characteristic not demonstrating a statistical capability, Cpk or Ppk, of greater than or equal to 1.33 must have a documented process improvement plan included with the PPAP submission. Full PPAP approval may not be granted by Flexfab until documented evidence of statistical capability is demonstrated by the supplier.
- 10.4 The supplier shall perform the necessary inspections and tests to determine conformance with all drawing and specification requirements.
- 10.5 If the supplier cannot perform all the required inspection or tests, such services shall be procured from a third party source meeting ISO Guide 25 or ISO 17025 requirements as determined by an A2LA Registrar.
- 10.6 If material or performance testing is not required, the forms are to be submitted with the notation “NOT REQUIRED” written across the form.
- 10.7 The PPAP forms are available at www.flexfab.com/suppliers.
- 10.8 Suppliers may use their own forms as long as all required information is included.

11 FLOW DOWN REQUIREMENTS

The supplier shall flow down to its suppliers and sub-tier suppliers the applicable requirements in the Flexfab Purchase Order and/or drawings, including key characteristics where required.

12 SHELF LIFE

Shelf life materials must have a minimum of 75% of their shelf life remaining upon receipt.

13 CERTIFICATION OF COMPLIANCE (CofC)

13.1 A Certification of Compliance shall be sent with each shipment unless the Flexfab LLC Quality Department modifies this requirement.

13.2 The Certification of Compliance shall include:

- Supplier Letterhead
- Date
- Part number
- Purchase Order Number
- Quantity
- Statement that the material meets a specification or drawing shall include Rev. level, and reference version of 3D model used if applicable and if version controlled separately from the drawing.
- Lot number (if required)
- Inspection/test results performed on the shipment, as required.
- Signature of a responsible agent of the supplier.
- Title of the agent signing the Certification of Compliance.

13.3 **Special Processes:** When special processes (such as anodizing or plating) are subcontracted, the supplier shall include the subcontractor's certification with the certification.

13.4 **Annual Certifications:** May be used in lieu of sending the certification with each shipment with Flexfab approval.

13.5 **Material Lab Test Reports:** shall be supplied with the certification, when requested.

13.6 **Material Data Sheets (MDS):** shall be provided with the first shipment of new materials.

14 ANNUAL VERIFICATION

Annually, suppliers shall perform dimensional and verification testing, against drawings and specifications, on raw materials supplied to Flexfab LLC, unless otherwise specified.

15 SHIP TO USE

- 15.1 Once a supplier has passed the QMS requirements and a raw material has a good quality history, it may be identified as a candidate for “Ship to Use”.
- 15.2 Raw materials that have a good quality history may then be placed on the “Ship to Use” list.
- 15.3 The shipment is put into inventory upon receipt without receiving inspection.
- 15.4 Flexfab will periodically inspect “Ship to Use” materials to ensure ongoing quality.
- 15.5 **Annual Verification:** Annually, the supplier shall perform verification testing, against drawings or specifications, on raw materials supplied to Flexfab LLC, unless otherwise specified.
- 15.6 If an update to product manufacturing or a drawing or model change occurs, suppliers shall update their annual material certification to the new revision.
- 15.7 The Certification of Compliance shall include:
 - Supplier Letterhead
 - Date
 - Part number
 - Quantity
 - Statement that the material meets a specification or drawing (shall include Rev. level, and reference version of 3D model used if applicable and if version controlled separately from the drawing)
 - Lot number (if required)
 - Inspection/test results performed on the shipment, as required
 - Signature of a responsible agent of the supplier
 - Title of the agent signing the Certification of Compliance
- 15.8 Raw materials may be removed from the “Ship to Use” list when quality is not at a high level.

16 CONTRACTS WITH SUPPLIERS

- 16.1 Suppliers are eligible for long term agreements called “contracts”.
- 16.2 Contracts between Flexfab LLC and Suppliers are negotiated agreements that benefit both parties.
- 16.3 Elements that may be included in the contracts are:
 - Certification
 - Quality
 - Quantity
 - Price
 - Production Interruption
 - Alternate materials/price
 - Cancellation/modification

- Electronic Data Interface (EDI)
- Freight Costs
- Customer Service

16.4 A contract is a two-way agreement and the supplier's participation and input is vital to the contract success.

17 AUTOMOTIVE AND HEAVY DUTY TRUCK (HDT) SUPPLIERS

17.1 Contingency Plans.

Automotive and HDT suppliers shall develop a contingency plan that would be implemented in the event of a deviation or disruption from the normal business process. This could include EDI, transportation, packaging and equipment failure.

17.2 Risk Assessment

Automotive and HDT suppliers shall have risk assessment in place to identify areas within their processes that could affect the ability to meet the organization's requirements in the event of a deviation from the normal business processes.

17.3 Notification

Automotive and HDT suppliers shall have a procedure or job instruction in place to notify Flexfab if there is a deviation from our requirement. (Ref: para 11.0)

18 AEROSPACE SUPPLIERS

18.1 Aerospace suppliers shall mutilate non-conforming material to ensure that non-conforming material do not get onto aircraft.

18.2 Boeing tooling suppliers shall adhere to D950-11059-1 BDS Seller Special Tooling Requirements.

18.3 **Digital Product Definition (DPD).** Aerospace suppliers that receive digital data from Flexfab will be responsible for controlling the digital data per Boeing Standard D6-51991 Quality Assurance Standard for Digital Product Definition.

19 SERVICE AND SUB-CONTRACTOR SUPPLIERS (USA ONLY)

19.1 Suppliers who provide a service to Flexfab which would require the supplier to perform work on site at any FHI or Flexfab location are required to submit a copy of their company's **Workers Compensation and General Liability Certificates of Insurance** to Flexfab.

19.2 The above mentioned Certificates of Insurance copy(s) are to be given to any one of the following FHI or Flexfab associates:

- Buyer who issued the Purchase Order
- Corporate Facilities Director

- Director of Purchasing
- Corporate (FHI) Financial Analyst

- 19.3 Certificate of Insurance copy (s) are to be directed to the Corporate (FHI) Financial Analyst for filing.
- 19.4 Suppliers are expected to submit Certificates of Insurance to FHI / Flexfab on an annual basis.
- 19.5 Suppliers are expected to submit Certificates of Insurance before performing any service work at any FHI or Flexfab location.
- 19.6 Flexfab accepts no responsibility or liability for failure of the supplier to submit the Certificate(s) as outlined in 20.1 in the event that something happens to the supplier while on site at Flexfab.

20 RECORD RETENTION

- 20.1 Automotive and Heavy Duty Truck – one year after production and service production has completed.
- 20.2 Aerospace and Rail – 11 years minimum.

20 BAR CODING – See 40-0005 Inbound Materials and Part Identification Standard available at www.flexfab.com/suppliers.

21 PACKAGING – See 40-0018 Supplier Packaging Standard available at www.flexfab.com/supplier.

22 GENERAL: Suppliers shall ensure that their associates are aware of:

- **Their contribution to product or service conformity;**
- **Their contribution to product safety;**
- **The importance of ethical behavior.**