



# **S**upplier **Q**uality **A**ssurance **M**anual **(SQAM)**

September 2007 Edition

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# **1. Introduction**

## Approach

It is JAC Products/ Franklin Aluminum's (JAC/FAC) policy to continually seek ways to better develop our relationships with our external and internal suppliers. As business partners, we are committed to working with our supply base to achieve total customer satisfaction for the end users of our products.

## Purpose

This Supplier Quality Assurance Manual (SQAM) is intended to *supplement ISO/TS 16949 requirements* by outlining JAC/FAC's specific expectations and requirements.

ISO/TS 16949 defines the fundamental quality expectations of Ford Motor Company, General Motors and Daimler-Chrysler. JAC/FAC expects its' supply base to develop quality systems based on the latest edition of the ISO/TS 16949 standard.

The latest editions of *Advanced Product Quality Planning (APQP)*, *Production Part Approval Process (PPAP)*, *Measurement System Analysis (MSA)*, *Potential Failure Mode & Effects Analysis (FMEA)*, and *Fundamental Statistical Process Control (SPC)* reference manuals should be followed. Suppliers may also be required to comply with OEM, or JAC customer-specific, requirements – as applicable.

## **2. Supplier Quality Contacts**

The following is a list of each domestic JAC/FAC facility. It is recommended that all questions regarding quality issues or concerns be directed to the appropriate Plant Quality Manager. If further assistance is needed, contact the Corporate SQA Manager or JAC/FAC buyer.

**JAC Products- Corporate Offices -** Phone: 734-944-8844 Fax: 734 429-4314  
(including Saline Manufacturing Operations)

ADDRESS:  
225 S. Industrial Drive  
Saline, MI 48176

**JAC Products- Monclova Assembly-** Phone: 419-868-1273 Fax: 419-868-1289

ADDRESS:  
6615 Maumee-Western Road  
Maumee, OH 43537

**JAC Products/Franklin Aluminum Div.-** Phone: 706-675-3341 Fax: 706-675-0209

ADDRESS:  
266 Mary Johnson Drive  
Franklin, GA 30217

**JAC Products- Roll-Form Div. -** Phone: 586-254-1534 Fax: 586-254-1538

ADDRESS:  
12000 Shelby Tech Drive  
Shelby Township, MI 48316-3572

### **3. Approved Suppliers**

JAC Products/ Franklin Aluminum evaluates and selects new suppliers based on their ability to meet our requirements. The selection process is initiated by the Purchasing Department. An Approved Supplier List (ASL) is maintained and updated regularly. JAC Products will purchase production & service components and raw materials from only those suppliers on the ASL. However, the Purchasing Department reserves the right to place “urgent buys” under emergency circumstances.

#### **Approved Supplier Criteria**

Criteria for addition to the Approved Supplier List includes, but is not limited to:

Quality/ Performance History (including ISO & ISO/TS status)

Cost

Logistics

Financial Stability

Customer Recommendation

Industry Reputation

## **4. Quality Systems**

### ***Management Responsibility***

The supplier's management with executive responsibility shall define and document its' policy for quality. This policy shall be understood, implemented and maintained at all levels of the organization.

Responsibilities for personnel who manage, perform and verify work affecting quality shall be defined and documented. A management review of the quality system shall take place at regular intervals to insure its effectiveness. Additionally, a process for determining customer satisfaction shall be documented and supported by objective evidence.

### ***Quality Documentation/ Procedures***

The supplier shall establish and maintain documented procedures that insure that product or services conform to JAC/FAC specified requirements. A quality manual shall be prepared and used to outline the structure of the supplier's quality system.

### ***Advanced Product Quality Planning - (Product Launches)***

Suppliers are required to conduct evaluations of processes and products in advance of initial production. Advanced Product Quality Planning (APQP) is intended to identify and correct any potential problems, permit the early selection of appropriate and best processing methods, and involve a participative, cross-functional approach in launching products.

It is recommended that suppliers utilize the AIAG APQP manuals, or agreed upon format, to insure that coordination of product launches go as planned.

➤ Production Part Approval Process (PPAP)

Unless otherwise directed by the receiving plant's Quality Manager, suppliers are required to submit LEVEL III PPAPs, to their respective buyer, prior to the processing of any production shipments. Sample parts shall be made from production tooling and processes, and shall be delivered to the specified JAC/FAC location. The standard 300 pieces are to be submitted with the PPAP paperwork, unless an alternate arrangement is agreed upon by the JAC/FAC buyer and/or Plant Quality Manager.

*For Bulk Material Suppliers:* See the AIAG PPAP manual for guidance or consult with your JAC/FAC buyer.

All submitted PPAPs must have the using JAC/FAC plant's approval on the Part Submission Warrant (PSW) prior to the shipment of any production parts or services. Deviations or interim approvals will be granted on an as-needed basis.

➤ Interim Approval

Interim Approval permits the shipment of material for production requirements on a limited time or piece quantity basis. Interim Approval will only be granted when the supplier has:

- a) clearly defined the root cause of the nonconformance(s) preventing production approval; and
- b) prepared an interim approval action plan, agreed upon by the JAC/FAC using facility. Re-submission to obtain full PPAP approval is required.

### ***Control of JAC/FAC-Supplied Product***

The supplier shall establish and maintain a system for the control, storage and maintenance of JAC/FAC supplied product provided for use into their manufacturing work flow. Product that is lost or unsuitable for use should be reported to the JAC/FAC using facility Materials Department.

JAC/FAC supplied (owned) product includes, but is not limited to:

- a) Tooling, molds or fixtures
- b) Returnable packaging material, containers or bins

Any questions concerning the determination of JAC/FAC-supplied product should be directed to the using facility Materials Department.

### ***Product Identification & Traceability***

The supplier shall establish and maintain documented procedures for identifying the product by suitable means from receipt of the product and during all stages of production, delivery and installation.

### ***Process Control***

The supplier shall establish controlled conditions and documented procedures for their production processes, which directly affect product quality. The supplier shall maintain documented process monitoring and operator instructions for all employees that have responsibility for operation processes. Job set-ups shall be verified whenever a set-up is performed.

Changes to improve the manufacturing process are encouraged, however, JAC/FAC should be notified for guidance on approval requirements for such changes. Note: Some JAC customers require approval for process changes. These requirements must be met.

➤ Preventive Maintenance

A preventive maintenance program shall be established which includes, as a minimum:

- a) A procedure that describes planned maintenance activities
- b) Scheduled maintenance activities
- c) Predictive maintenance methods
- d) Availability of replacement parts for key manufacturing equipment

➤ Appearance Items

Suppliers that manufacture parts/services where appearance items are significant (ie. paint & chrome suppliers & other applicable processors), shall provide:

- a) Appropriate lighting for inspection of parts (min. 100 ft/candles)
- b) Masters for color, grain, gloss, texture, and other visual features
- c) Maintenance and control of appearance masters, evaluation equipment and appropriate written appearance standards
- c) Verification that personnel making appearance evaluations are qualified to do so

The supplier's facility shall maintain a state of order and cleanliness appropriate to the products or services manufactured or performed for JAC/FAC.

***Inspection and Testing***

➤ In-process Inspection

Sufficient control shall be maintained over manufacturing processes to prevent excessive product variability and to assure conformance of the characteristics of product which can be verified only at the time and point of manufacture. Characteristics defined by JAC/FAC as critical or safety-

related shall be closely monitored. Written operating instructions shall be accessible at each station. Routing sheets or shop travelers may be used to control the material flow throughout the manufacturing process.

Visual inspection aids should be available to plant personnel and the repetitive non-conformances shall be highlighted on the visual aids. The JAC/FAC “Corporate Appearance Standard” (CAS) and “Foreign Particle Size Template” shall be used for molded and/or painted surfaces, unless otherwise directed by the JAC/FAC using plant’s quality department. The JAC/FAC “Chrome Appearance Standard” shall be used for chrome-plated components – unless otherwise specified. Inspection standards for other finishes shall be mutually agreed upon between the JAC/FAC using plant, JAC SQA and the supplier. When customer-specific appearance standards are available or developed - they shall be used, where required.

### ***Measurement and Calibration Testing***

A calibration system shall be used for all inspection instruments and testing equipment. All measuring devices or equipment should bear an indicator which verifies the current status and shows the date on which the next inspection or recalibration is required. Certified standards and methods (traceable to national standards) shall be used when verifying or recalibrating devices. Records of calibrations must be maintained.

Measurement System Analysis (MSA) should be done by performing gage repeatability and reproducibility (GR&R) studies that show evidence of type of device. Furthermore, gage (or fixture) revisions should be traceable to part and drawing changes, if applicable.

### ***Control of Nonconforming Product***

The supplier shall establish and maintain a system to ensure that nonconforming and suspect product is prevented from unintended use or processing. This system must provide for identification, documentation, evaluation, segregation and disposition of nonconforming product.

The supplier shall provide visual identification for any nonconforming or suspect material/product and any quarantine areas.

In-process nonconforming product must be appropriately tagged, segregated from good product, and shall be removed from the production area to a designated location for rework or material review.

➤ Review and Disposition of Nonconforming Product

The responsibility for review and authority for the disposition of nonconforming product shall be defined. Nonconforming product shall be reviewed in accordance to procedures and it may be:

- a) Reworked - to meet specified requirements
- b) Accepted - with or without repair
- c) Rejected – as is
- d) Designated for an alternate application

➤ Sorting or Rework of Nonconforming or Suspect Product

When supplier product must be sorted or reworked, the preferred method is by returning product to the supplier for sort/rework at the supplier's location. Sort/rework done on JAC/FAC premises requires plant quality department approval. Regardless of the arrangement, the JAC/FAC plant quality department needs to be involved. Written instructions for rework or repair are required. The reworked parts or assemblies must be identified and re-inspected by a quality representative to assure conformance to standards.

JAC/FAC will initiate a sorting/reworking charge, at a *minimum* of \$35.00 *per hour/per person* when sorting by JAC/FAC personnel is required to maintain production.

➤ Authorization of Temporary Change of Material or Process

The supplier shall not make any changes to material, packaging, processing, or other aspect that may affect product quality, or deviate from original approved specifications without explicit written authorization from the appropriate JAC/FAC receiving plant.

Refer to the latest version of PPAP Manual for changes requiring notification to JAC/FAC. Check with the appropriate JAC/FAC Plant Quality Manager, or your appropriate plant quality contact, for PPAP requirements.

***Corrective and Preventive Action***

➤ Corrective Action

When a supplier is notified of a nonconformance by a JAC/FAC plant quality representative, the following minimum corrective actions need to be taken:

- **Immediately-** *Containment of the problem:*
  - In-House product
  - Work-in-process
  - Product in transient
  - Product at subcontractor's facility
- **Within 24 hours-** *Provide disposition*
  - Of nonconforming and/or suspect product
  - Response of *interim corrective action*
- **Within 10 working days-** Documented *permanent corrective action plan*

It is recommended that suppliers document corrective actions use a *G8D* (Global Eight Discipline) or acceptable alternative. Internal formats can be used as long as they provide the following information:

- Description of problem
- Identification of root cause

- Interim corrective actions (with dates of implementation)
- Permanent corrective actions (with dates of implementation)
- Verification of permanent corrective actions (with date verified)
- Prevention methods

Returned products shall be analyzed and customer concern information collected to effectively determine the root cause of the problem and how to prevent it from recurring. Use of statistical tools such as, Pareto Analysis, Cause and Effect Diagrams and Control Charting should be employed, as appropriate.

As required, the supplier will send the necessary representatives to the JAC/FAC and/or JAC/FAC customer location to provide support in solving issues resulting from the nonconformance.

Additionally & when chronic and/ or customer-related issues occur, JAC/FAC reserves the right to place suppliers on 3<sup>rd</sup> Party Containment.

#### ➤ Preventive Action

Appropriate sources of information from processes and work operations which affect product quality, audit results, quality records, service reports and customer complaints will be used to detect and eliminate potential causes of nonconformances.

Procedures on preventive action, as a minimum, will include:

- Determination of actions needed to solve any problems requiring preventive action
- Implementation of preventive action and verification of its' effectiveness

Suppliers are encouraged to implement mistake-proofing strategies such as fixturing, automation, color-coding, etc.

## ***Packaging, Handling and Labeling***

### **➤ Packaging & Handling**

Packaging for all components and raw material shall start during the initial quoting process. Unless otherwise specified, all suppliers are required to submit packaging information, with their quote, to the appropriate buyer.

All packaging must provide the appropriate amount of protection against damage, contamination, and any other defect that will cause a rejection at JAC/FAC or our external customers. It is the supplier's responsibility to ensure that packaging has been designed and constructed to fulfill this requirement.

NOTE: If packaging has been designated by JAC/FAC, it is the suppliers' responsibility to ensure that the appropriate packaging material is utilized with the designated product. Any deviation from using the intended packaging or container should be approved (in writing) by the JAC/FAC using facility. If packaging (designed by JAC/FAC) is insufficient for use, it *is the supplier's responsibility* to advise the JAC/FAC Packaging Engineer.

All packaging changes must be submitted to, and approved by, the JAC/FAC Packaging Engineer. A brief explanation of the need for the change, along with any other pertinent information should accompany the request.

The supplier shall provide methods of handling product that prevent damage or deterioration.

### **➤ Labeling**

Labeling must conform to the standards outlined by JAC/FAC. All material identification labels or tags must remain intact from the original point of manufacture, through JAC/FAC's receipt and at the affected receiving location. All labels must include the JAC/FAC part number on them. For returnable containers, old labels must be removed or covered to insure that product identification is maintained.

The packaging supplier is responsible for establishing deliveries so as not to cause an inventory space problem. Any issues of inventory or warehousing will be handled by the appropriate plant materials personnel.

### ***Training and Statistical Methods***

The supplier shall establish and maintain documented procedures which identify and provide for the training of all personnel performing activities affecting quality.

As appropriate, suppliers shall determine the need for statistical methods required for controlling and verifying process capability and product characteristics. Basic statistical tools should be utilized, when applicable, to maintaining process consistency.

## **5. JAC Products/ Franklin Aluminum Co. - Supplier Performance**

JAC/FAC monitors supplier performance to a) determine those suppliers who need assistance b) recognize outstanding supplier performance, and c) promote continual improvement throughout the supply base.

At a minimum, all suppliers listed on the Approved Supplier List are required to be ISO 9001:2000 compliant with the goal of supplier conformity with ISO/TS 16949. Conformity to ISO 9001:2000 is the first step in achieving this goal.

If deemed necessary, JAC Products will perform a Quality System Assessment on any supplier, which exhibits recurring quality issues. Additionally, JAC/FAC may disqualify a supplier for any of the following:

- 1) Recurring and chronic quality issues
- 2) Habitual delivery problems
- 3) Pricing (non-competitive)
- 4) Non-compliance to governmental and/or safety regulations
- 5) Financial instability
- 6) Poor response to quality concerns
- 7) Conflict of interest
- 8) Any criteria that does not serve in the best interest of JAC/FAC