Supplier Quality Standard

Working together as a team
“QUALITY AT THE SOURCE”

Supplier Quality Standard

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JVIS-USA LLC

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www.JVISUSALLC.com

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QUALITY REQUIREMENTS FOR SUPPLIERS

1.0 INTRODUCTION

JVIS success is based upon the quality, performance and value of its products.

The quality of its products depends on purchasing products with **Zero Defects** from its supplier base. To assure the highest product quality possible, JVIS considers its suppliers as valuable members and an intricate part of its operations and success.

OVERVIEW

Our commitment to steady, long-term improvement in our products and processes is the cornerstone of our business strategy. Maintaining customer satisfaction and enhancing shareholder value is a mutual goal of both JVIS and its suppliers. To achieve this objective, we must continuously work together to improve the overall efficiency and productivity of our design, manufacturing, administrative, and support organizations.

QUALITY SYSTEM REQUIREMENTS

Suppliers to JVIS must meet the following quality system requirements:

- Third party registration to **TS-16949** by an accredited third party certification body annually, unless otherwise specified by the customer. If supplier is **ISO-90001:2008** accredited. The supplier must submit a plan for obtaining **TS-16949** accreditation within 1 year from the approved Purchase Order Date.

- "Specially designated small supplier" established by JVIS, wherein certain specified elements of **ISO 9001:2008** may be waived. "Small" refers to the volume supplied to JVIS.

- Third part registration to **ISO-4001** by an accredited third part certification body annually, unless otherwise specific by the customer.

Copies of **TS-16949**, **ISO 9001:2008** and **ISO 14001** certificates shall be submitted to the JVIS Quality Team. Acceptance of accreditation(s) shall be communicated to the supplier via email. Should the status of any accepted accreditation change, (i.e. new certification, de-certification, reassessments, change to register etc.) the supplier shall notify the JVIS Quality Team.

QUALITY POLICY

JVIS Quality Policy is included in this standard and it is our wish that our suppliers share the same principals as we have committed to:

PURPOSE:

This **Standard** is a supplement providing additional JVIS specific requirements, which suppliers shall follow. This supplement, with the **TS-16949**, **ISO 9001:2008 and ISO 14001 Standards**, includes both supplier and JVIS responsibilities. Material supplied to JVIS shall be produced, controlled, inspected, and tested according to the requirements set forth in these documents and other applicable specifications.

2.0 DEFINITIONS

- The word **'shall'** indicates a mandatory requirement.
- The word **'should'** indicates a mandatory requirement with some flexibility allowed in compliance methodology. Suppliers choosing other approaches to satisfy a **'should'** must be able to show that their approach meets the intent of **ISO/TS 16949, ISO 9001:2008 and ISO 14001**.
- **'Product'** is defined as any part, product, service, etc. supplied to JVIS for which this standard is applicable.

When referring to this **Standard** and **TS 16949** or **ISO 9001:2008** in the development and assessment of Suppliers to JVIS, the following applies:

Customer	JVIS
Supplier	Supplier to JVIS - the type and extent of control applied to the supplier and the purchased product/service shall be dependent upon the effect of the purchased product/service on subsequent product realization of the final JVIS product.
JVIS Sourcing Team	Team of JVIS/Mayco International associates representing specific departments
JVIS Quality Team	Team of JVIS associates representing JVIS Quality Department

3.0 DOCUMENTATION

3.1 GENERAL

The supplier shall maintain and conform to the latest revision level of the required or referenced Purchase Order documentation.

3.2 JVIS SPECIFIC DOCUMENTATION

JVIS specific documentation related to Product conformance may include, but is not limited to the following:

- Parts list, Product structure (bill of materials)
- Blueprints
- Order specifications
- Other supporting specifications/documentation

3.3 REFERENCE DOCUMENTS

The following is a list of **AIAG/ISO/ANSI** documents referenced in this standard:

Manual	Published by	Description
ISO/TS: 16949	IATF	Technical Specification
ISO 9001:2008	ISO	Quality System
ISO 14001-2004	ASQ	Environmental Management Systems
CQI Manuals	AIAG	CQI-9 Heat Treat, CQI-11 Plating,CQI-12 Coating
APQP	AIAG	Advance Product Quality Planning & Control Plan
FMEA	AIAG	Potential Failure Mode and Effects Analysis
MSA	AIAG	Measurement System Analysis
SPC	AIAG	Fundamental SPC
PPAP	AIAG	Production Part Approval Process
ANSI Y 14.5	ANSI	GD&T
Refer to the latest version		

To obtain information of these documents, contact the following:

http://www.aiag.org/
http://www.iso.org/
http://www.ansi.org/

3.4 ORIGINAL EQUIPMENT MANUFACTURER (OEM) CUSTOMER REQUIREMENTS

The supplier shall adhere to referenced OEM Customer requirements as communicated per JVIS documentation. Also refer to: http://www.iaob.org/ for an outline of OEM Customer requirements.

4.0 JVIS / SUPPLIER INTERFACE

4.1 GENERAL

The supplier shall communicate through the JVIS Buyer and Supplier Quality Engineer unless otherwise specified. The official business language for all documents referenced in this quality standard shall be English.
Other languages may be used with prior JVIS approval.

Note: The supplier shall communicate any management or ownership changes to the JVIS buyer immediately.

4.2 COMMUNICATION

Communication is the key to any successful partnership. JVIS involves the supplier from product concept through mass production.

4.3 PRODUCT VERIFICATION

JVIS and its customers shall be afforded the right to verify the supplier's products, processes and systems at JVIS or supplier's location(s).

5.0 ADVANCED PRODUCT QUALITY PLANNING (APQP)

5.1 GENERAL

The supplier shall utilize the planning procedures from the **AIAG Advanced Quality Planning and Control Plan (APQP)** manual. All elements of the **APQP** must be incorporated into the planning process, unless waived in writing by the JVIS Quality Team. All documents including Process Flow Diagram, PFMEA and Process Control Plans shall include all processes for the manufacturing of components, including

incoming inspection, internal transportation, secondary operations, outside services and packaging.

The supplier shall utilize the customer based APQP documents as listed in the customer specific websites and submit to JVIS Quality Team. These documents will be available for review with the customer upon request.

All operations shall be keyed to the Process Flow Diagram, PFMEA and Process Control Plan.

5.2 CONTROL OF DESIGNATED CHARACTERISTICS

Items specified as 'Special Characteristics' require manufacturing control to assure compliance. The control data shall be documented and retained at the supplier's facility and shall be available for submission and/or review by the JVIS Supplier Quality Engineer.

Unless otherwise specified, refer to the latest version of the AIAG PPAP manual for capability levels on designated characteristics at time of PPAP and serial production.

5.3 SAFETY ITEMS (inverted delta, shield, diamond, etc.)

JVIS and its customers identify Safety items on the blueprints utilizing symbols such as an inverted delta (Ford), a shield or diamond (Chrysler), or other industry recognized symbols. When indicated, the supplier shall also treat these characteristics as safety items.

6.0 PRODUCTION PART APPROVAL PROCESS (PPAP)

6.1 GENERAL

If indicated on the Purchase Order, the supplier shall submit an initial sample report in accordance with the **AIAG PRODUCTION PART APPROVAL PROCESS (PPAP)** manual unless otherwise specified by the JVIS Supplier Quality Representative.

6.2 SUBMISSION REQUIREMENTS

The supplier shall submit specific **PPAP** requirements in accordance with the latest revision of the **AIAG PPAP Manual.**

6.3 SUBMISSION LEVEL REQUIREMENTS

The supplier shall submit **PPAP's** to the level requirements as stated in the latest revision of the **AIAG PPAP Manual.** The submission level shall use level 3 as the default for all submissions unless specified otherwise by JVIS Quality Team

JVIS specific requirements related to the **PPAP** include the following:

6.3.1 MATERIAL SAMPLE QUANTITY

Standard sample quantity for dimensional evaluation shall be determined by the JVIS SQE and be required for each product per cavity, die, progressive die, etc. unless otherwise specified by the customer or JVIS Quality Team.

6.3.2 STATISTICAL DATA

Supporting statistical data (i.e. SPC, process capability studies, etc.) for a **PPAP** submission should be assimilated a 'significant material production run'; defined as at least 300 completed products unless otherwise specified by the customer or JVIS Quality Team.

6.3.3 MEASUREMENT RESULTS CORRELATION

All samples shall be sequentially numbered and correlated to the dimensional reports. Blueprints should be numbered in accordance with the latest revision of **ANSI Y 14.5** standards. All results shall be taken from master samples and these samples shall be submitted with the PPAP. Measurement method agreement, if defined, shall be attached to the supplier dimensional evaluation report. All internal or external labs used to measure sample will need to provide certifications and lab scopes.

6.3.4 PACKAGING AND LABELING REQUIREMENTS

The supplier is responsible to assure that only approved packaging is used. For this purpose the supplier shall comply with the packaging requirements as indicated on the purchase order or related document. Failure to conform to this requirement could result in a PPAP rejection.

6.3.5 IMDS SUBMISSION

No PPAP will be fully approved by JVIS without acceptance and verification of IMDS approval (Industrial Material Data System http://mdsystem.com/).

Supplier PPAP packages must contain a copy of the acceptance screenshot from the IMDS.

Note: Before any PPAP submission, deviations from these requirements shall be agreed upon between the supplier and the JVIS Quality Team.

6.3.6 CUSTOMER SPECIFIC REQUIREMENTS

The customer specific requirements (OEM) to be submitted to JVIS will be determined by the JVIS Quality Team. These include (but not limited too) Conflict of Minerals, CQI-8 LPA, FMVSS Standards, Special Characteristics Symbols, Internal System Audits, Special Process Assessments, etc.

6.4 IDENTIFICATION

All samples accompanying PPAP submissions shall be identified with the appropriate label, on the carton or container. The label shall contain all required information and shipped separately from production material.

6.5 FIRST PRODUCTION SHIPMENT AUTHORIZATION

The supplier shall ship production intent material to JVIS only if:

- The **PPAP** submission has been approved in writing by the JVIS Supplier Quality Representative and the supplier has received written notification of the approval.

Note: The supplier shall not ship production intent material without prior PPAP approval by the JVIS Supplier Quality Representative.

6.6 ANNUAL PPAP RE-CERTIFICATION

An annual material re-certification (once per calendar year) of the supplied material shall be performed by the supplier unless otherwise specified by the JVIS Quality team. Questions regarding the re-certification should be directed to the respective JVIS Supplier Quality Representative. The results of the re-certification shall be documented and maintained at the Supplier's site. These shall be available upon request.

7.0 AUDITS/SUPPLIER ASSESSMENTS

7.1 GENERAL

The supplier is required to perform Internal Audits which shall include covering the following: Quality Management System, Process audit, product audit, . The JVIS

Supplier Quality Development Representative may perform audits of the supplier's quality/manufacturing process and Quality Management system as deemed necessary. These are JVIS specific audits

7.2 ASSESSMENT OF SUPPLIERS AND POTENTIAL SUPPLIERS

Suppliers to JVIS need to reference the latest edition of **TS-16949**, **ISO 9001:2008.** The goal of supplier is conformity with this standard. Conformity with **TS-16949** or **ISO-9001:2008** is demonstrated by an accreditation from a third party certification/registration body or through an audit process.

- JVIS's second party audit process shall be consistent with the automotive process approach, including evidence of planning, supplier readiness and supplier performance.

- After the initial audit, second party surveillance audits shall be conducted at least annually. When deemed necessary, (i.e. quality issues, engineering changes, certification, etc.), a re-assessment of the supplier's quality system may be conducted by the JVIS Quality Team.

- Potential suppliers may be requested to conduct a self-assessment (audit document provided by JVIS) of their quality system to determine eligibility. The JVIS Quality Team shall determine eligibility after analysis of the self-assessment. Results of the Checklist shall be documented and communicated to the supplier by the JVIS Quality Team.

- NOTE: A supplier may be classified as a "specially designated small supplier", wherein certain specified elements of **TS-16949** or **ISO 9001:2008** may be waived. Suppliers classified as "small" will be notified by the JVIS Sourcing Team as to what requirements they are accountable. "Small" refers to the volume supplied to JVIS.

7.3 SPECIAL PROCESS ASSESSMENTS - HEAT TREATING, PLATING & COATINGS

TS-16949, ISO 9001:2008 and ISO-14001 requires that the supplier/organization shall audit each manufacturing process to determine its effectiveness. Suppliers supplying the services of heat treating, plating, and/or coatings shall meet the requirements of the following:

7.3.1 Heat Treating Processes

Applicability and effectiveness of heat treating processes shall be determined utilizing *CQI-9 Special Process: Heat Treat System Assessment* published by the AIAG. The effectiveness evaluation shall include the organization's self-assessment, actions taken, and that records are maintained.

This requirement shall also apply to heat treat suppliers to the organization pursuant to Clause 7.4.1.2 (supplier development clause). For JVIS, all suppliers' heat treating components shall comply with CQI-9.

CQI-9 2nd Edition Special Process: Heat Treat System Assessment is published by AIAG and is available at www.AIAG.org.

Note 1: 2nd Party assessment by a competent auditor and meeting the above requirements will satisfy the self-assessment requirement.

Note 2: Implementation effectiveness should be based on evidence that the organization has a process in place that includes elements such as auditors identified, schedule for self-assessment in place including schedule adherence, supplier development process identified for applicable suppliers, monitoring of progress, defined corrective action process and record-keeping.

7.3.2 Plating Processes

Applicability and effectiveness of plating processes shall be determined utilizing *CQI-11 Special Process: Plating System Assessment* published by the AIAG and available at www.AIAG.org. The effectiveness evaluation shall include the organization's self assessment, actions taken, and that records are maintained.

This requirement shall also apply to plating suppliers to the organization pursuant to Clause 7.4.1.2 (supplier development clause). For JVIS, all suppliers plating components shall comply with CQI-11.

Note 1: 2nd Party assessment by a competent auditor and meeting the above requirements will satisfy the self-assessment requirement.

Note 2: Implementation effectiveness should be based on evidence that the organization has a process in place that includes elements such as auditors identified, schedule for self-assessment in place including schedule adherence, supplier development process identified for applicable suppliers, monitoring of progress, defined corrective action process and record-keeping.

7.3.3 Coating Processes

Applicability and effectiveness of coating processes shall be determined utilizing *CQI-12 Special Process: Coating System Assessment* published by the AIAG and available at www.AIAG.org. The effectiveness evaluation shall include the organization's self assessment, actions taken, and that records are maintained.

This requirement shall also apply to coating suppliers to the organization pursuant to Clause 7.4.1.2 (supplier development clause). For JVIS, all suppliers coating components shall comply with CQI-12.

Note 1: 2nd Party assessment by a competent auditor and meeting the above requirements will satisfy the self-assessment requirement.

Note 2: Implementation effectiveness should be based on evidence that the organization has a process in place that includes elements such as auditors identified, schedule for self-assessment in place including schedule adherence, supplier development process identified for applicable suppliers, monitoring of progress, defined corrective action process and record-keeping.

Note 3: The requirements for the remaining CQI manuals will be assessed for each supplier based on their product and process needs this determined by the JVIS Quality Team.

8.0 SPECIFICATION / REQUIREMENT CHANGE / CONCESSION REQUESTS

8.1 GENERAL

Requests for changes or concessions (temporary or permanent) to specifications or requirements shall be documented. Approval shall be made through the JVIS Sourcing Team.

8.2 CONCESSIONS

Concessions are time or quantity limited deviations from specifications. These concessions shall be temporary and are not considered permanent. All concession

parts are to be labeled with a description of the concession. Prior to shipment, supplier must notify JVIS Quality of concession shipment.

8.3 PERMANENT CHANGES

Permanent changes, either Customer, Supplier or JVIS initiated, shall be appropriately documented. These changes shall require a new **PPAP** submission as specified by the JVIS Quality Team (if not specified, submissions shall default to the Level 3).

8.3.1 SUPPLIER REQUEST FOR ENGINEERING APPROVAL

Supplier initiated change requests shall be submitted to JVIS Quality Team. This request and all supporting documentation shall be submitted to the JVIS Purchasing Department. **The supplier shall make no changes until JVIS approval has been granted.**

8.3.2 JVIS INITIATED ENGINEERING CHANGES

JVIS initiated engineering changes, including all PPAP requirements, shall be communicated to the supplier by the JVIS Quality Team.

8.3.3 GENERAL CHANGE REQUIREMENTS

General changes (i.e. flow charts, control charts, etc.) shall be requested through the applicable JVIS Quality Team Representative.

Note: No change to material shall be implemented until all proper authorization has been obtained. This includes PPAP submission requirements as specified by the appropriate JVIS Supplier Quality Representative.

9.0 NONCONFORMANCE, CORRECTIVE AND PREVENTIVE ACTIONS

9.1 REQUIREMENTS

When JVIS has notified the supplier of a 'Nonconformance' issue with material, the supplier is responsible for:

9.1.1 Initial Containment

This containment action shall be:

- Implemented within **24 hours** (1 calendar day including weekends and holidays) of notification by JVIS personnel. (All verbal notifications by JVIS shall be followed up with written documentation).

- Containment actions shall include all affected material in the supplier's control, in transit to JVIS, in the possession of JVIS, or finished product shipped to JVIS customers.

- The supplier shall notify the Logistics Department of material availability.

- The supplier shall notify the Supplier Quality Representative of their containment actions and to discuss coordination of containment of material at JVIS and JVIS customers.

NOTE: Suppliers are responsible for all costs associated with a rejection. Further an administrative fee of $450.00 will be charged for administration fees on all DMR's issued from JVIS to its suppliers

9.1.2 Certified Shipments

All shipments of affected material shall be 'certified' (i.e. in compliance with the containment actions) until corrective action issues are formally closed by a JVIS Supplier Quality Representative.
All material shall be shipped per approved methods and identified to indicate corrected stock. JVIS may require individual component identification.

9.1.3 Initial Response

A written initial response shall be submitted to the JVIS Quality Department within **24 hours** (or otherwise specified time frame) of formal notification of the concern. This initial response shall, at minimum, contain:

- JVIS Concern Number and Date of Nonconformance
- Name of the JVIS Supplier Quality Representative
- Problem Description
- Containment action description
- Containment action verification (quantitative results)
- Certified material shipment dates and identification
- Root Cause analysis status

NOTE: Each of the above stated criteria shall contain an implementation date and assigned responsibility.

9.1.4 Formal Corrective Action Report

A Formal Corrective Action Report (8D) **shall be** submitted to the JVIS Supplier Quality Department within **10 working days (**or otherwise specified time frame) of formal notification of the concern.

9.1.5 Documentation

FMEAs, Control Plans and other appropriate documentation shall be revised to reflect changes resulting from the concern. These documents shall be maintained on file at the supplier location and provided to JVIS Supplier Quality Representative for review with the corrective action.

9.1.6 Action/Timing Plans

JVIS expects that process and system corrective actions to be implemented within **30 days** of notification. JVIS will expect that the corrective actions will be validated within **45 days** and closed within **60 days**. If additional time is required for resolution of corrective actions, a written action/timing plan shall be submitted to the JVIS Supplier Quality Representative for approval.

9.1.7 Supplier Containment Level Procedures

If supplier containment actions are not effective, progressive JVIS initiated procedures shall be implemented for the supplier. The JVIS Supplier Quality Representative will define exit criteria. Any reoccurrence will result in the 30-day inspection period to start over. The inspection period begins once root cause has been identified and corrective actions are in place.

- **Controlled shipping level 1 (CS1)** - The supplier shall implement 100% inspection for a period not less that 30 days with no re-occurrence of the issue.

- **Controlled shipping level 2 (CS2)** - A containment process under customer control. Containment conducted at customer site, supplier, or third party location at the supplier's expense. This process may be used if Level 1 containment is ineffective at containing a nonconformance. The supplier shall implement 200% inspection for a period not less than 30 days with no re-occurrence of the issue.

9.2 CORRECTIVE ACTION REPORT: 8D Report

A written corrective action 8D report with implementation/effective dates and assigned responsibilities shall contain, at a minimum, the items listed below:

- Description of the concern and JVIS Concern Number
- Containment action

- Root Cause of the concern with verification
- Corrective action
- Verification of containment and corrective action. This is a measure of the action's effectiveness utilizing appropriate statistical or process performance analysis methods.
- Preventive measures for 'Lessons Learned' and applicable to similar products and processes.
- Preventive actions assess the applicability of the action taken to similar processes. These are actions with a proactive and predictive intention with the focus on avoiding occurrences.
- Verify Process Flow Diagrams, PFMEAs and Process Control Plans have been updated, copies shall be provided with corrective action

Note:
Changes to the product and/or the product documentation (i.e. drawings, specifications, Control Plans, PFMEAs, Flow charts, Bill of Material's, etc) due to corrective action implementation shall be documented through revision levels/dates. Change in revision levels / dates may require PPAP submission. Contact the JVIS Supplier Quality Representative for required PPAP submission levels/dates. Supportive documentation (i.e. laboratory analysis, statistical results, etc.) may be requested by the JVIS Supplier Quality Representative.

10.0 SUPPLIER QUALITY PERFORMANCE

10.1 GENERAL

The JVIS Sourcing/Quality Team, in regards to their ongoing quality performance, shall assess the supplier.

10.2 CRITERIA

Criteria for assessments may include, but not limited to, the following:

- **PPM** (parts per million defective)
- **DELIVERY** (100% on time delivery)
- **PRICE** (price reductions, suggestive cost reductions)

10.3 PERFORMANCE RESULTS

Results of the quality performance assessments shall be documented by the JVIS Supplier Quality Department and communicated to the supplier.

The results of the assessments shall be communicated by the supplier to their management.

10.4 CORRECTIVE ACTIONS FOR PERFORMANCE RESULTS

Performance assessments deemed unacceptable by the JVIS Supplier Quality Representative shall require corrective actions by the supplier. These corrective actions shall be submitted to and approved by the Respective JVIS Supplier Quality Representative.

11.0 ANALYTICAL TECHNIQUES

The supplier should utilize analytical techniques to improve their process capabilities and problem resolution.

Examples of analytical techniques are as follows:

- Design of Experiment (DOE)
- Theory of Constraints
- Benchmarking
- Lessons Learned

The results of analytical techniques should be documented and retained at the supplier's location. This information shall be made available upon request to the JVIS Quality Team.

12.0 MEASUREMENT SYSTEM ANALYSIS (MSA)

The supplier shall perform measurement system analysis (frequency to be determined by the supplier) in accordance with the **AIAG Measurement System (MSA**) manual. With approval by the JVIS Supplier Quality Representative, other analytical methods and acceptance criteria may be implemented. Results of **MSA** analysis shall be documented and retained at the supplier's location. This information shall be available upon request to the JVIS Quality Team.

13.0 ERROR PROOFING

The supplier shall utilize error proofing in accordance with the **ISO/TS 16949 Quality Systems Requirements** manual. Results of error proofing shall be documented and retained at the supplier's location. This information shall be made available upon request to the JVIS Quality Team.

14.0 PREVENTIVE / PREDICTIVE MAINTENANCE

The supplier shall implement a preventive / predictive maintenance program for process Machine/equipment as outlined (at a minimum) in the **TS-16949** and **ISO 9001: 2008** manual. Statistical data should be assimilated and systems developed for the implementation of predictive maintenance programs. The supplier shall document and maintain this program and it shall be available upon request to the JVIS Quality Team.

15.0 CONTINUAL IMPROVEMENT PROCESS (CIP)

The supplier shall implement continual improvement efforts throughout their entire supplier as stated in the **TS-16949 and ISO 9001:2008 standards**. Results of the **Continual Improvement Process** shall be documented and retained at the supplier's location. This information shall be made available upon request to the JVIS Quality Team.