Supplier Quality Manual

1 Contents

Management message

American Furukawa Inc. **(AFI)** is striving to be the best parts supplier in the world. Having a strong and reliable supplier base is strategic in achieving this vision. We need from our suppliers the decisive will and commitment to global uniform quality. Our suppliers must have a robust quality management system and strict adherence to it, to ensure consistent compliance with requirements. Zero defects and 100% on time delivery are expected from all our suppliers.

Section 1 - Introduction

1.1 Purpose

The purpose of this document is to provide suppliers of American Furukawa Inc. (AFI) the supplier specific requirements for the various phases of the life of the products and global supplier development

1.2 Scope

This document applies to all external direct material/service suppliers, including sub-tier special process suppliers, i.e. plating. This document applies to indirect material/service suppliers only when it is required by an AFI purchase order.

1.3 Responsibility

- Suppliers are responsible for meeting the Supplier Quality Requirements specified in this document. Failure to meet these requirements may result in the loss of existing and/or future AFI business, in addition to reimbursement of costs to AFI for issues resulting from those failures.
- Suppliers shall adopt the standards of Zero (0) Defects and 100% On Time Delivery to AFI.
- Suppliers control the update and distribution of this document.

1.4 Location of document

This document is distributed via the AFI website at www.americanfurukawa.com. Printed copies or electronic copies other than in the site are considered uncontrolled copies. While AFI will communicate to suppliers any major revisions to this document, suppliers are expected to remain up to date on AFI requirements by frequently visiting the AFI website. Forms and documents referenced throughout this document can be found in the Suppliers page. For any questions or clarifications regarding this document, contact AFI Supplier Quality Engineer or Buyer.

1.5 Government regulatory compliance & corporate social responsibility

AFI suppliers shall comply with all applicable laws, governmental regulations and rules in the countries in which they operate. These regulations relate to the health and safety of workers, environmental protection, use of toxic and hazardous materials and free trade. Suppliers should recognize that applicable government regulations including those in the country of manufacture as well as country of sale.

AFI supports the Automotive Industry Guiding Principles to Enhance Sustainability Performance in the Supply Chain and expects that our suppliers will uphold these standards and cascade them down their supply chain. The guidelines describe the automotive industry's minimum expectations towards business ethics, working conditions, human rights, and environmental leadership. Suppliers shall enforce policies which provide a safe and healthy workplace, protect the environment, promote human rights and provide equal opportunity for employees at all levels of the company. In addition, suppliers are to engage in sound and ethical business practices in all business dealings.

Suppliers shall, upon request, provide evidence of adherence to these and other global requirements. Suppliers who are interested to self-assess in Corporate Responsibility and Sustainability are encouraged to utilize the Supplier Sustainability Self-Assessment, which is a standardized tool for gap analysis and process improvement developed by AIAG member companies.

1.5.1 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

- The European Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) entered into force in June 2007. Suppliers shall comply with all

applicable REACH requirements that affect the products that they supply to AFI. AFI expects that suppliers have a dialogue with their own supply chain and with AFI regarding all applicable aspects of REACH.

1.5.2 Conflict Minerals

- Suppliers shall adhere to the Furukawa Electric Group Responsible Sourcing of Minerals Policy. This Policy is publicly available at www.americanfurukawa.com. Suppliers shall provide documentation and other information concerning the origin of any tantalum, tin, tungsten, gold or other minerals that may be designated in the future by the U.S. Secretary of State (collectively referred to as "conflict minerals") that are contained within any products sold to AFI. This requirement is to support our customers fulfill their obligations under the rules and regulations of the U.S. Securities and Exchange Commission or any other governmental agency.

1.5.3 International Material Data System (IMDS)

- AFI requires its suppliers to report substance information for all types of materials, components or subcomponents supplied to AFI. All substances and/or materials shall be reported to AFI using the International Material Data System (IMDS) (www.mdsystem.com). AFI ID account 23567.
- Suppliers shall submit the required IMDS to AFI in any of the following cases:
  - Upon award of new business, prior to the PPAP submission.
  - When there are changes on parts or sub-tier supplier parts affect part weight, chemical composition, or adding, changing or removing substances.
  - When new regulations and the prohibited substances list is updated affecting the supplied product.
- Once the supplier IMDS information is approved by AFI, the supplier of the material or component shall indicate such approval in the Part Submission Warrant (PSW) submitted to AFI regardless of submission level requested.
- The supplier shall also implement procedures or controls necessary to prevent the introduction of prohibited and restricted substances in materials as specified herein into the final product and/or component supplied to AFI. This may include substances of concern such as the End-of-life Directive 2000/53/EC, the Restriction of Hazardous Substances Directive 2002/95/EC (RoHS), the latest Global Automotive Declarable Substance List (GADSL), or other required by AFI customers.
- Certificates of conformance from raw material suppliers may be used to guarantee the absence of prohibited materials if an analysis is made of the entire manufacturing process to ensure that all possible areas of material introduction are included. However, it is highly recommended that final product be subject to a chemical analysis to verify the absence of any prohibited materials.
- For materials and mixtures, suppliers shall also provide the AFI Buyer and associated AFI Plant locations with Safety Data Sheets (SDS), including hazard information and safe use practices in accordance with the United Nation's Globally Harmonized System (GHS) of Classification and Labeling of Chemicals and the European Classification, Labeling & Packaging (CLP) regulation.
- Any change or update of the legal requirements must prompt a re-check and subsequent update of the data provided to AFI (IMDS submission, SDS, compliance declaration, etc.).

Section 2 – AFI requirements to Suppliers

AFI supplier quality requirements are based on the following key phases: Supplier Qualification, New Product Launch, Mass Production, After Mass Production, and Continuous improvement.

2.1 Supplier qualification

2.1.1 Quality Management System

- AFI requires its suppliers to implement and maintain a documented quality management system (QMS) capable of ensuring the delivery of quality parts meeting AFI requirements in this document as well as other specific requirements. The QMS must be prevention-based, emphasizing ongoing use of statistical methods for quality and process improvement.
- Suppliers of automotive products and services shall develop, implement, and improve a quality management system certified to ISO 9001, with the ultimate objective of becoming certified to the IATF 16949 standard. At minimum, suppliers shall be ISO 9001 certified by an accredited third-party certification issued by a certification body bearing the accreditation mark of a recognized IAF-MLA1 member and where the accreditation body's main scope includes management system certification to ISO/IEC 17021. Waiver to the certification requirement is allowed when authorized in writing by AFI customers or AFI General Quality Manager.
- The Supplier is responsible for all sub-tier approvals including those suppliers AFI has directed to use. The supplier shall in turn strive for their supplier's quality management system development.
- The supplier qualification process may require AFI qualified personnel to assess the suitability of potential suppliers to become approved.
- Supplier shall send up-to-date certificates to AFI Supplier Quality Engineer or Purchasing representative, at least once a year. Supplier shall immediately communicate any revoked certificates, change in scope or any other amendments to AFI Supplier Quality Engineer or Purchasing representative.
- AFI requires that its suppliers use the latest AIAG Automotive Industry Action Group standards including Advanced Product Quality Planning and Control Plan(APQP), Potential Failure Mode and Effects Analysis(FMEA), Measurement Systems Analysis(MSA), Production Part Approval Process(PPAP) and Statistical Process Control (SPC) as extensions to this document. For these publications, visit www.aiag.org .
- Other specific AFI or AFI customer's requirements may apply depending on the type of product. For instance, Suppliers and sub-suppliers who are identified as special process providers are to adhere to the specific requirements as set forth in the AIAG manual.

2.1.2 New locations for approved suppliers

- New locations for approved suppliers to AFI shall demonstrate compliance at a minimum to ISO 9001. Uncertified locations with more than 12 months of operation experience are eligible for certification to IATF 16949. Suppliers shall also complete a supplier survey questionnaire and if applicable, successfully pass an AFI supplier assessment audit.

2.1.3 New suppliers

- New suppliers may be assessed by AFI versus this document's requirements. Suppliers that initially do not score acceptably may be allowed to develop action plans and timelines to correct any deficiencies and then request a re-audit to verify implementation of these actions.

2.1.4 Sub-tier supplier management

- Suppliers to AFI shall have capabilities to manage their respective suppliers (regardless of how directed) including PPAP submission, supplier performance, APQP disciplines and periodic auditing. AFI, when deemed necessary, will audit the critical processes of sub-tier suppliers to assure that proper controls are in place throughout the entire supply stream.

2.2 New Product Launch /Production Part Approval Process requirements

New Product Launch initiates at design concept and runs through production of a new component or assembly. AFI, as a tier 1 or 2 for automotive OEM may be required to comply with customer specific requirements. In such case, AFI will in turn require its suppliers to comply with AFI customer's specific requirements.

[1] IAF-MLA: International Accreditation Forum Multilateral Recognition Arrangement

2.2.1 Advanced Product Quality Planning (APQP)

- All suppliers, regardless of component priority and complexity, shall use a disciplined launch and APQP process, as the one specified in the AIAG's Advanced Product Quality Planning (APQP) and Control Plan Guidance Manual. It is essential suppliers meet the necessary timelines for each project as set forth by AFI or its customer. In addition, completeness and accuracy of documentation submitted is vital to ensuring successful PPAP and launch.
- Failure to meet timing or PPAP requirements will impact the supplier's performance rating and standing with AFI. Suppliers should provide APQP status reports for a new product about meeting the program objectives of quality, cost, performance and timing.

2.2.2 Packaging and Labeling

- AFI and suppliers shall agree upon the packaging plan as part of the APQP process. Suppliers shall work with AFI receiving location to assure that the packaging is sufficiently robust to withstand shipment by land, air, sea, etc. as well as across international borders, and arrive on time without damage. Supplier shall complete the Standard Packing Instruction (SPI) and send to AFI for approval (form is available at www.americanfurukawa.com Resources Section). The agreed package and label will be considered approved once it is included in the AFI Purchase Specification Requirements (PSR) document for each specific part number.
- AFI expects suppliers to conduct periodic dock audits on packaged materials. Evidence of these audits shall be retained with other lot inspection documentation.

3 Suppliers shipping to an AFI facility shall meet AFI labeling requirements, as described in Appendix A: Container Label requirements.

- Suppliers shall consolidate by Stock Keeping Unit (SKU): All part numbers must be in one pallet/container and not across several. If initial container is full a second one can be used following the same principle. A consolidation list shall be sent via email to AFI Buyer.
- Suppliers shall use plastic wrap tampering technology on all pallets to be delivered to AFI.

3.1.1 Serialization and Lot traceability

- All suppliers to AFI shall have an effective serialization and lot traceability procedure.

4 Serial number on each individual container (carton, reel, or other) sent to AFI will be considered as the traceability element. Supplier is responsible that each serial number is unique for at least a year. Serial number must comply with requirement specified in Appendix A: Container Label requirements.

- Supplier is responsible to have the lot traceability information for each serial number shipped to AFI.
- The maximum size of a lot shall consist of one shift or eight hours of production, whichever is smaller. For Bulk Processes, lot size may be defined by quantity and vary based on process/production equipment. AFI reserves the right to specify a maximum batch size. The lot definition shall reflect all significant processes influencing the component/material with the shipping lot number reflecting the last value added operation.
- Suppliers shall ensure that their serialization and lot traceability system maintains its integrity throughout the entire extended supply chain, including raw material and purchased components/products.

4.1.1 Material certification requirements and control in production

- Material Certifications shall be submitted per EN 10204. Unless specified differently by AFI, the minimum Inspection Certificate shall comply with Type 3.1 and certification must represent the lot of material that is shipped. Material Certifications must flow through and be available throughout the entire supply chain.
- For product containing chemicals and resins that include UV, heat resistant or other additives affecting performance of final product, an elemental analysis is required as part of the material certification such as FTIR, EDX, or other applicable analysis. This is required to ensure each batch matches the required formulation. The content of material certification is defined and approved as part of PPAP submission. This content must be carried forward for all subsequent material certifications required during serial production.
- Suppliers shall maintain a copy of all procured raw material certifications, which shall be readily retrievable and shall include material specification, description, alloy or resin and condition. The supplier shall maintain the mill certification for procured metallic material that shall include physical properties, chemical analysis and lot numbers. At a minimum, certification must be less than one year old and must be submitted with annual revalidation to AFI. Each heat /master batch shall be retained by AFI supplier, and submitted upon request.

- Beyond material certification requirements, it is important error proofing and visual aids are employed to ensure the correct material is used during serial production. It is the supplier's responsibility to ensure ongoing adherence and control during production.

4.1.2 Production Part Approval Process (PPAP)

- Suppliers shall ensure that PPAP documentation and sample submissions are in accordance with the requirements of the AIAG's Production Part Approval Process (PPAP) latest edition. Suppliers shall only submit PPAP for production-released drawings and a copy of this drawing shall be included in the submission package. Each supplier is responsible for meeting all these requirements before submission to AFI, including obtaining AFI and if applicable AFI customer's approvals for any change requests.
- Suppliers shall submit PPAP package per the "Supplier PPAP checklist" to Quality Assurance Department (Supplier Quality Engineer or Quality Assurance Engineer in charge). It shall be in an electronic format via email or other suitable means agreed with AFI contact. PDF format is preferred. Suppliers should use the forms identified in the AIAG's PPAP Manual latest revision. Suppliers may use their forms only if they are equivalent to the AIAG forms. AFI may require suppliers to submit a validation package that contains additional documents and forms beyond those required by the AIAG. In addition, the supplier is responsible for all sub-tier PPAP submissions and approvals, including those suppliers AFI has directed to use.
- Suppliers shall provide the PPAP package organized with the number column used in PPAP Manual (table 4.2):
  - One file per requirement number. The naming convention is: [AFI Part Number] + [Requirement number 01 .. 18] + description. Example of file name: "RP3318 18 PSW.pdf". In this case the part number is "RP3318", the requirement number is "18", and description of contents is "PSW".
  - A marked (ballooned) drawing print that matches the numbering in the dimensional report.
  - Customer specific requirements (17) shall include the Standard Packing Instruction (SPI); and may include: critical characteristics summary; line layout; or other as required for the product. When applicable, it shall include evidence of special processes assessments (CQI), including sub-tier level suppliers.
- Suppliers shall submit, prior to part approval, a minimum of six (6) samples per cavity unless otherwise specified, to evaluate the parts. Shipping of parts is to be arranged by supplier entity that is submitting the PPAP for approval. Supplier may be required to send samples prior to PPAP samples, so must be ready to fulfill if required.
- Suppliers shall not ship product if PPAP is not approved. In case suppliers are not able to fulfill the PPAP requirement on time and material is required for production, supplier shall request a temporary approval of PPAP or a waiver approval from Quality Assurance Engineer/Supplier Quality Engineer and Quality Assurance Manager.
- All initial production shipments must be identified with an IPP Tag.

4.1.3 Special characteristics

- At a minimum, suppliers shall implement process controls for Special Characteristics as designated on AFI or AFI customer's drawings. Additional characteristics deemed germane to be 'predictors of process stability and feedback' and pass-through characteristics, shall also be identified in the supplier's FMEA and Control Plan. These relate to product safety, government regulation, product performance and the ability to assemble product and/or customer satisfaction features.
- Unless otherwise specified by a product line and/or region for characteristics/features designated as significant or critical during launch, the supplier must calculate and report the process capability as Ppk. For those characteristics/features showing a Ppk of less than 1.67, the supplier must create an action plan that defines the containment and process improvements. Process capability can be conducted with both variable and attribute data. The minimum acceptable sample size for variable data is 100 pieces and for attribute, 300 pieces. Containment must effectively separate non-conforming material from the population. Containment, generally either 100% sorting or some form of mistake proofing, must continue until such time that the process Cpk demonstrates capability greater than or equal to 1.33 unless otherwise specified by a product line designation.
- Special focus will be given by AFI to evaluate the capability of all Significant & Critical characteristics and the validity of studies. To ensure this, capability reports must include a histogram, control charts and normality test. Please refer to the latest edition AIAG Manual on Statistical Process Control (SPC).

4.1.4 Sub-tier Contractor PPAP status and evidence

- Evidence of sub-tier PPAP completion and acceptance is required for all sub-tier components and at minimum, must include the PSW. In addition to the PSW, any sub-tier PPAP that influences a designated

characteristic must also include at minimum, Material certification, PFMEA, MSA study, Control Plan, Capability Study and Safe Launch Plan.

- In addition, this information may be requested for components without designated characteristics at the AFI Quality Assurance Engineer or Supplier Quality Engineer's discretion. PPAP elements will be rejected where this information is missing or incorrect.

4.1.5 Prototype Fabrication, quality evaluation, Pre-Production Process Changes

- For the fabrication of prototype or pre-production parts, suppliers shall imitate the planned production process as closely as possible. For these prototypes, AFI may require that suppliers provide material, dimensional, performance or process data. If the prototype and production suppliers are different, the prototype supplier shall share with the production supplier the process knowledge gathered in prototype fabrication. Proprietary information may be withheld by prior agreement with AFI.
- The process established to produce parts for validation must not change without agreement and acceptance from AFI. These changes may include but are not limited to:
  - Changes to outside or sub-tier suppliers
  - Addition /deletion of capital equipment
  - Addition / deletion of Tooling and/or gages
  - Changes to manufacturing methodology
  - Changes to internal secondary processing
- Suppliers of prototype parts, when required, shall respond to material concerns.

4.1.6 Early production

- Suppliers shall plan and implement early production containment and Pre-Launch Control Plan including strict sampling/control during ramp-up. Supplier shall submit the Plan if requested by AFI representative, within 48 hours of request received.

4.2 Mass production

Once the manufacturing process for producing a component is successfully validated, the mass production phase begins. During this stage, there are several requirements each supplier must be aware of and follow. Key areas include change management, incident management, sub-tier supplier management and annual revalidation. Additional expectations are also detailed in the following sections.

4.2.1 Change Management

- Suppliers shall submit a written request using CRS (Change Request from Supplier) Format to all AFI facilities affected by the proposed product or process change. In addition, suppliers shall ensure they receive an acknowledgement of receipt from AFI and obtain AFI approval prior to implementing the change. This includes changes at sub-suppliers and throughout the supply chain. Additionally, suppliers are also required to submit a written request for all items listed in Table 3.1 of the AIAG PPAP Manual.
- Suppliers are also required to submit all supporting validation data including necessary dimensional reports, "before" and "expected after" capability studies, performance testing, before/after process parameters, updated APQP documentation (PFMEA/Control Plan) and a detailed timeline demonstrating proper change control that identifies necessary safety stock/bank requirements including timing for AFI/Customer validation and designated resources to manage the change. Supplier shall not submit change requests within 90 days of Start of Production (SOP), unless agreed in writing by AFI representative.
- Suppliers shall send the CRS with sufficient time prior to estimated delivery of the first lot, so it allows enough time for approval process. Standard time is 8 weeks, but may differ depending on complexity of change or other factors.
- Authorization to ship production material shall be given after the change is communicated through a signed Part Submission Warrant (PSW) after AFI has approved the PPAP for the requested change. Boxes/containers with parts shipped with implemented change shall be identified with IPP tags.
- Mass Production parts are not to be shipped until the supplier receives the CRS and PPAP approval. If the supplier has not received approval and MP shipment delay is possible, the supplier is responsible to contact the AFI supplier representative immediately.
- Suppliers shall request, in writing, a deviation (or concession) before shipping non-conforming material to AFI. A plan to return to normal production and the time required to do so shall be submitted at same time as the written request. Material shipped under an approved deviation shall be labeled with the deviation number and expiration date.

4.2.2 Incident Management

- Upon receiving an AFI incident notification for quality, launch or delivery, suppliers shall implement a containment action within 24 hours. Within 10 working days, unless otherwise specified, the suppliers shall submit a corrective action plan or a reasonable approach to developing one in case of complex issues. These targets are standard but the incident report creator can establish other target dates, if needed. Suppliers shall use a systematic problem solving method such as 8D, 5 Phase, 7-Step, or PDCA.
- Suppliers shall immediately notify AFI upon discovery that they might have shipped nonconforming or suspect product to AFI. Notification shall go to sqe@americanfurukawa.com .
- Response and corrective action from supplier:
  - Shall have well-defined time frame for corrective action and response
  - Shall have formal approval, closure and tracking process
  - Shall utilize 8D Process or a similar problem resolution procedure for documenting and verifying corrective action
  - Shall submit responses and corrective actions to the appropriate AFI representative as requested on or before the response required date
  - Shall certify 100% all next shipments until clean point with improvements is provided. Certification implies that 100% of the product has been inspected to insure the non-conformity is contained and will not reach AFI. All material containers shall include a label with the statement: "Certified 100% for SIR [reference SIR number]" and sign or stamp of the inspector releasing it.
  - Shall positively determine clean point, as well as identify first shipment with improvement implemented. The first shipment's boxes shall be identified with clean point label indicating the Supplier Incident Report SIR Reference number.
- Suppliers are responsible for all costs and expenses created by any defect on the material supplied and AFI will recover these costs from the responsible supplier. Excess material from an over shipment will be returned at the supplier's expense.
- Suppliers are responsible to provide timely return material authorization (RMA) and replacement for materials that were considered non-conforming, or suspect to be non-conforming.
- If there is not enough time to get replacement to avoid line shutdown and if 100% inspection is an option considering the nature of the non-conformity, the supplier may request third party inspection services for material already in AFI or in transit to AFI. The third-party must be approved by AFI. The supplier is responsible for the Third-party activities. In case AFI personnel is required for the 100% inspection or other related activities, a fee of USD$30 per hour will be applied. A nuisance fee of USD$125 may also apply.
- For supplier incidents rated as **Rank A** (critical impact or high risk), AFI reserves the right to request an on-site visit with mandatory participation of the supplier's management team (e.g., General Management, Quality, Operations, Engineering, and/or Manufacturing, as applicable); Supplier shall demonstrate effective containment, root cause analysis, corrective and preventive actions, and a continuous improvement plan in accordance with IATF 16949 and ISO 9001 requirements to prevent recurrence and mitigate risks to AFI and its Customers.

4.2.3 Supplier audits and visits

- Any supplier of production material to AFI may be requested to participate in one or more of the audit types, including supplier self-assessments. When notified of a scheduled audit, the supplier should conduct an internal audit prior to the arrival of the AFI audit team.
- AFI may, at its discretion, utilize independent auditors. These individuals represent AFI and will audit the supplier's processes to establish conformance to validated quality systems.
- By prior notice, suppliers shall allow AFI and AFI customers' access to both their facilities and their supplier's facility to evaluate parts, processes, documents (i.e., FMEA, Control Plan, Instructions, records....), methodologies and systems used in the manufacturing of AFI products.

4.2.4 Annual revalidation

- Unless otherwise specified, a complete annual layout inspection including all sub-components is required for all parts.
- All suppliers shall annually revalidate their respective production components and provide the results to AFI within 48 hours upon request, or by the date requested by AFI. Revalidation submission requirements are product line specific criteria based on supplier performance and PPAP process flow. At minimum, this must include full dimensional layout and capability studies for designated characteristics as well as raw materials certification, functional &performance results, and special process assessment evidence (CQI). Suppliers shall

compile revalidation plans and document this requirement in the Product Control Plan for all parts supplied regardless of the product line/region. Those features/characteristics/notes that will be part of the revalidation package need to be designated as such at the time of initial PPAP. AFI shall review and approve changes to the revalidation package content before any changes are made.

- If the annual revalidation reveals nonconformance to AFI drawings, the supplier must immediately contact all AFI facilities receiving the affected part and must supply the dimensional data and corrective action plans.

4.2.5 Contingency Plan

- Suppliers shall develop a contingency plan for potential catastrophes which may disrupt product flow to AFI and advise AFI at the earliest in the event of an actual disaster. In an actual catastrophe, suppliers shall provide AFI access to AFI's tools and/or their replacements. Catastrophes may include earthquake, floods, hurricanes, fire, etc.

4.2.6 Document and Product Sample Retention

- Suppliers shall retain documents and product samples for the time the part is active (a part is active if it is being supplied to the customer for original or service applications) in production plus a minimum period of 10 years, unless otherwise agreed or specified. Parts used on multiple programs may require an exceptionally long retention period.
- The supplier shall retain a master sample from each cavity, die and pattern for the length of time that the component/material is active plus one year. The master sample shall be identified as such and shall indicate PPAP submission reference and AFI approval date.

4.2.7 AFI Property – Tools

- All tools, manufacturing, test or inspection equipment belonging to AFI or their customers, shall be permanently marked to clearly show that they are Property of AFI (IATF 16949 8.5.1.6) or its customer. These tools will only be used for AFI products unless an authorization in writing exists. Contact your Product Line buyer for information regarding this subject.

4.2.8 Material ordering and shipping

- Suppliers shall comply with the AFI's Purchase Order Terms and Conditions.
- Suppliers shall send an Advanced Shipping Notice (ASN). ASN shall be included in shipment and sent also via email to the respective AFI Buyer.
- All pallets shipped to AFI must be heat treated and stamped as required by the ISPM 15 (International Standard for phytosanitary Measure) for import/export as well as product preservation purposes. Failure to comply with this requirement may result in unnecessary fees and quality claims for your organization.
- Packing list shall include AFI's part number, quantity shipped, lot number, and PO number.
- AFI depends on its suppliers to deliver the components on time. Expected delivery window is two days early to zero days late. Any deliveries that fall within the specified timeframe are considered On Time. Any shipments that will not be delivered on time shall be shipped at supplier's expense. The supplier shall contact the buyer for special shipment instructions.
- AFI's commitment to its suppliers is to balance orders to the best of its ability, allowing production schedule to mirror that of its customers. The release orders and forecast that are provided to suppliers are based on AFI customer's firm orders, forecast, inventory levels and production schedule. Suppliers will receive a 3-month order forecast on a weekly basis for planning purposes only. The 3-month forecast is intended to provide a guideline of future requirements and trends. It is not a firm forecast. AFI will commit to the first four weeks of the forecast and for the fifth and sixth week for raw material.

4.3 Continuous improvement

AFI defines supplier continuous improvement as a holistic approach to overall quality management system improvement. Suppliers should develop and present plans which improve internal systems that support flawless launching of new products/components/sub-systems, value enhancements and cost competitiveness and achievement of agreed upon quality targets, along with a plan to achieve zero defects in support of on-going operational excellence. This plan should include lessons learned from previous launch, cost and quality issues and how these lessons have been incorporated into respective continuous improvement processes.

4.3.1 Supplier Performance Monitoring

- Suppliers' performance in quality, delivery and launch is periodically monitored by AFI, using, among other tools, the Supplier Incident Reports (SIR) issued, Monthly Supplier Scorecards, and Quality Audit Visits.

- Depending on individual supplier performance, AFI may, among other possible actions, escalate and require intensive improvement process or controlled shipping to suppliers with performance that is below expectations, notify OEM for directed components, or business hold.

4.3.2 Special Process System Assessment monitoring

- Special Processes suppliers and sub-suppliers have a tremendous impact on the quality of the final component. Whether they provide raw materials, services or sub-components their influence is so profound that it is necessary for each of AFI's suppliers to have a supplier management system in place. This system shall include a function that tracks and reports the quality and delivery performance of their sub-tier supply base. Suppliers must be able to demonstrate effective management of sub-tier suppliers through documented, corrective actions and verification activities.
- Suppliers to AFI shall ensure they audit and manage critical processes such as molding, heat treating and plating and when directed, use the designated format. Special process audits are to follow AIAG's CQI-9 (Heat Treat), CQI-11 (Plating), CQI-12 (Coating), CQI-15 (Welding), CQI-17 (Soldering) and CQI-23 (Molding) requirements. In addition, suppliers shall also ensure their sub-tier suppliers in the supply chain for the components sold to Furukawa, perform special process assessments applying the above mentioned CQIs. Evidence shall be submitted to AFI by the date requested.
- AFI, when deemed necessary, will audit the critical processes of sub-tier suppliers to assure that proper controls are in place throughout the entire supply stream.

4.3.3 Cost recovery

- Supplier Cost Recovery will be initiated by AFI when it has been determined that the supplier is responsible for shortcomings in quality, delivery, PPAP submissions, etc. Cost Recovery process will include, but is not limited to, contaminated stock at a AFI plant, product in transit, OEM assembly plant, non-conforming received goods, assembly line downtime due to delivery or quality related issues, warranty returns and costs required to analyze and rectify the effects of a quality, warranty, launch or delivery issue that result in an incident being raised. Inspection costs, analysis costs, rectification costs, transit costs and costs to manage the implementation of a non-reversible corrective action may also be included. Level of cost recovery against incidents (SIR) will be a significant factor in AFI sourcing decisions.

4.3.4 Controlled Shipping

- Controlled Shipping (CS) Level I and II will be levied against the supplier when the AFI plant has determined that the supplier does not have the necessary safeguards preventing non-conforming products from reaching the AFI manufacturing location or its customers.
- Controlled Shipping, Level I (CS I) is initiated by AFI and performed at the supplier location by the supplier's employees. Controlled Shipping Inspection process must be performed in a controlled area of the plant. Secondary Inspection data must be collected and inspected product must be certified and data is to be provided to the AFI receiving plant.
- Controlled Shipping, Level II (CS II) includes all of Level I, with an added inspection by an AFI approved 3rd party. The 3rd party is selected by the supplier and approved by AFI and paid by the Supplier. In some instances, AFI may require the 3rd party inspection to be performed outside the supplier facility. In all cases, the Quality Certification body of the Supplier must be informed by the supplier that they have been placed upon Controlled Shipping Level II by their customer and confirmation that this action has been completed must be provided to the AFI receiving plant within 5 days.
- Based on the severity of the incident, AFI may elect to go directly to CSII. The AFI Supplier Quality Engineer function will review irreversible corrective action and authorize removal or renewal of Controlled Shipping when appropriate. NOTE: Minimum Record of 30 days Corrective Action verification period with no re-occurrences is mandatory.

4.4 After mass production

Suppliers shall be able to provide service parts up to 10 years after mass production stops unless otherwise specified. Requests for quotes will be sent when the need for service parts arises.

The lead time that was established for any part during mass production must be honored for service parts. Typically, AFI will accept up to 100% in piece increase and $300 in tooling based on equipment size and complexity. Suppliers shall maintain records and samples as per this document and AIAG's PPAP requirements.

Section 3 Appendixes

5.1 Appendix A: Container Label requirements

American Furukawa Inc. upgraded traceability system supports a traditional 1D labeling option, or you may choose to utilize a 2D code containing all information on the traditional label. Both options are outlined in this document.

5.1.1 General Requirements:

1) All individual containers must be labeled.
2) Data in required fields must match the ordering document.
3) Optional fields included on the label must match the ordering document where possible.

5.1.2 Container Labels – 1D Option

- **Label Specifications:** (Note: See Sample Barcode on next page) Labels must meet the following minimum criteria listed below.

a) Labels should be 4"x6" or 4"x6.5"
b) Layout should be proportionate with the sample
c) All barcodes must be able to be scanned.
d) Barcode type shall be 3 of 9 with medium density.
e) All Barcodes shall have the specified data qualifier as the prefix.

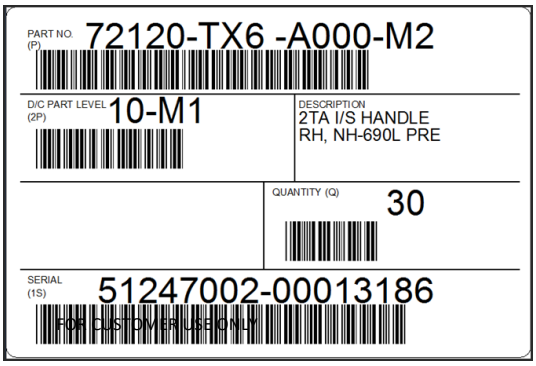
- **Required fields**:

1) Part Number
   a. Label must include the vendor part number as it appears on the ordering document in barcoded and human readable format.
   b. Hyphens or spaces used as needed in both formats.
   c. Barcode data must match human readable data except for data qualifier.
   d. The data qualifier/data prefix is P.
2) Quantity
   a. Label must include the part quantity for the labeled container in barcode and human readable format.
   b. Barcode data must match human readable data except for data qualifier.
   c. The data qualifier/data prefix is Q.
3) Label Serial Number
   a. Label serial number is the traceability element that Furukawa will retain as record. Supplier shall be able to trace back from the serial number to the manufacturing conditions of the provided material.
   b. Label must include the label serial number.
   c. The label serial number shall be an 11 to 22-character string. The first part of the string shall be the supplier code. Each supplier will receive a unique 3-character code so to prevent duplicate serial numbers. Following the supplier code should be an 8 to 19-character serial number, not to repeat within the year.
   d. In the human readable the supplier code and unique serial number should be separated by a dash, "-". There should be no dash in the barcode.
   e. The data qualifier/data prefix shall be S or **1S**.
4) Vendor **lot number**
   a. For materials/components that, due to the manufacturing conditions a lot number is used (example: manufacturing date and shift, machine, material batch), it is necessary to include as human-readable text and barcode. This is in addition to the serial number.
   b. The lot number shall be a maximum of 22-character string, as decided by vendor.
5) Blank space for customer use. Labels must include a blank space of at least width 40mm times height of 25mm. Use "For customer use only" legend.

- **Optional Fields:**

1) D/C Level
   a. If applicable, the label can contain an ECL as it appears on the order in barcoded and human readable format.
   b. Hyphens or spaces used as needed in both formats.
   c. Barcode data must match human readable data except for data qualifier.
   d. The data qualifier/data prefix is 2P.
   e. 3) Part Description
   f. The label can contain the Part Description in human readable format.

SAMPLE (not actual size)



5.1.3 Container Labels – 2D Option

The American Furukawa Inc. upgraded traceability system uses the Header Code to differentiate this barcode from any other barcode. For Container Labels, the Header Code the system is looking for is "`[C1>`". The Traceability System does require the Header Code to be prefixed by an `S`. The Prefix is validated and stripped off by the Scanner when the barcode is scanned.

5.1.4 Container Bar Code Fields

All Qualifiers should follow the ANSI MH10.8.2 Data Identifiers Specification. The Vendor is free to add other data fields after Header Code, but those fields must use Qualifiers other than those shown in the following table.

Qualifier	Data Length		Description	Sample
	Min	Max		
P	1	40	Part Number C.Core Part Number in Material Master	`Z01089C6600000000`
Q	1	22	Quantity Integer or Decimal value	`1440`
V	3	3	Supplier Code Assigned	`YXA`
S	8	19	Container Serial	`01426508`
1T		40	Vendor Lot number	

5.1.4.1 Barcode Format

Prefix | Delimiter | Serial Number Field | Part Number Field | Quantity Field

`S[C1>~YXA~S01426508~PZ01089C6600000000~Q1440`

Header Code | Vendor Field

5.1.4.2 Example 1

This example shows a Container Barcode that provides all the Qualifiers the AFI Traceability System recognizes to successfully import the Container Label into the Database using the 2D Vendor Label Scan.

	`S[C1>~YXA~PK01-089C66~S01426508~Q258.2~1T6031757000141548` The AFI Traceability System will store this Container Label as Serial #`YXA01426508`.

5.1.4.3 Example 2

Based on extra data that vendor requested be at the beginning of the barcode, this example shows an alternative for placing that data in the barcode. While the 3 data fields do not have Qualifiers, the barcode is still valid and can be parsed. The extra fields will simply be ignored.

	`S[C1>~20100001~1~1~PZ01089C6600000000~Q1440~S01426508~YXA` The AFI Traceability System will store this Container Label as Serial #`YXA01426508`.

5.2 Appendix B. Change history

Date (version)	Explanation
2026.04.15 (v14)	• Added on paragraph 4.2.2 For supplier incidents rated as **Rank A** (critical impact or high risk), AFI reserves the right to request an on-site visit with mandatory participation of the supplier's management team (e.g., General Management, Quality, Operations, Engineering, and/or Manufacturing, as applicable); Supplier shall demonstrate effective containment, root cause analysis, corrective and preventive actions, and a continuous improvement plan in accordance with IATF 16949 and ISO 9001 requirements to prevent recurrence and mitigate risks to AFI and its Customers.
2023.07.20 (v13)	• Remove "Confidential information" legend from footer. Replace Update AFI logo.
2019.09.30 (v12)	• Change 2.3.7 to reference to IATF 16949 paragraph 8.5.1.6 Customer Property
2017.06.15 (v11)	• Modified "1.5.3 International Material Data System (IMDS)" section, to clarify IMDS requirements, and explicitly add RoHS and GADSL requirements. • Modified "2.1.1 Quality Management System" section, to meet IATF 16949 requirements. • Modified "2.2.6 Special characteristics" section, to add that pass-through characteristics shall also be identified in the supplier's FMEA and Control Plan. • Modified "2.3.4 Annual revalidation" section, to include requirement of functional and performance results.
2017.01.10 (v10)	• Modified paragraphs 2.2.5, 2.3.4 and 2.4.2, to include the need to include special process assessments evidence in PPAP package and submit evidence yearly to AFI for suppliers and sub-tier suppliers in the supply chain. • Modified paragraph 2.4.1 to mention monthly scorecard, escalation and other actions for supplier performance monitoring and improvement. • Added appendix A Container Label Requirements • Added reference to appendix A Container Label Requirements to paragraphs 2.2.2 and 2.2.3
2015.10.23 (v9)	• Added on paragraph 1.5 the support to the Automotive Industry Guiding Principles to Enhance Sustainability Performance in the Supply Chain. • On paragraph 2.1.1 explicitly listed the special processes general policy. • On paragraph 2.2.1 added explanatory text. • On paragraph 2.2.2 and 2.2.5 added the requirement of Standard Packing Instruction. • On paragraph 2.3.1 added specific requirement of capability studies "before" and "expected after" for change requests as well as a "…unless agreed in writing by AFI representative". • On paragraph 2.3.2 added and reworded requirements for containment activities for quality incidents. • Inserted new paragraph 2.4.2 Special Process System Assessment monitoring. Paragraphs 2.4.2 and 2.4.3 were changed to 2.4.3 and 2.4.4.
2014.12.11 (v8)	• Corrected document location on paragraph 1.4 • Changed labeling requirements on paragraph 2.2.2 to specify serial number as main traceability element. • Switched position of paragraphs 2.2.3 and 2.2.4 • Added serialization requirements, explanation and changed wording on paragraph 2.2.3. • Changed email for notification purposes to sqe@americanfurukawa.com on paragraph 2.3.2. • Added section: "A. Change history".
2014.08.28 (v7)	• Changed wording in section 1.5.2 conflict minerals and added link to AFI Conflict Minerals policy. Added requirements to 2.2.2 packaging requirements: consolidate by SKU and use of plastic wrap tampering technology.
2014.02.25 (v6)	• Major change, including content and format.

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