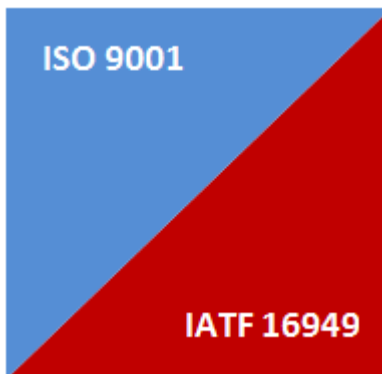




# **ALEMITE, LLC.**

## **SUPPLIER QUALITY MANUAL**

Revision Level: (16)

Approvals:

Holly Fletcher-Crenshaw  
Supply Chain Manager

Allen Hobbs  
Quality Manager

Brad Edler  
Engineering Manager



# Supplier Quality Manual

## Introduction

Since 1918, Alemite has been supplying quality lubrication systems and equipment to meet the needs of numerous industries. With a commitment to provide innovative products that meet the highest quality standards, Alemite has achieved an international reputation as a leader in designing and manufacturing of cost-effective lubrication and fluid handling systems.

Alemite/SKF management and its employees are fully committed to the use of **ISO 9001 / IATF 16949** as the standard for our quality management system.

SKF shall only market product, services and solutions that will ensure customer satisfaction by:

- Operating capable, reliable and efficient business processes.
- Applying continuous improvement throughout the organization, with the objective of zero defects

We invite current and potential suppliers to participate in establishing and maintaining profitable partnerships, through appropriate business and quality management practices to achieve these goals.

## Overview

The goal of this Supplier Quality Manual is to clearly communicate the requirements and conditions for doing business with Alemite LLC. This manual addresses specific quality management system requirements for suppliers in addition to those specified by ISO 9001. Some areas of concern include: production control, control and reduction of process variation, non-conforming product and waste, continual improvement, QMS weaknesses and preventing potential defects within the supply chain. This manual applies to all external suppliers of Alemite LLC., who manufacture and/or assemble prototype and production materials, products, services and components. Distributors or retailers of “off the shelf” items do not fall under the scope of this manual but must be able to demonstrate compliance to the Purchase Order and its stated requirements upon request.



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# Supplier Quality Manual

## General Requirements

Alemite Suppliers are encouraged and in some cases required to have their Quality Management Systems registered to **ISO 9001 - IATF 16949** by an accredited third-party certification body. All potential Suppliers are required to fill out an Alemite Supplier Evaluation Survey as the initial step towards becoming an approved Supplier. Suppliers are to notify Alemite of any changes with third party certifications, including copies of updated certificates.

Alemite suppliers are expected to provide and maintain a control system, which shall assure all materials conform to purchase order requirements, whether manufactured, processed, or procured from subcontractors. Suppliers shall ensure proper flow-down of Alemite specifications and requirements to any of their sub-tier supplier or subcontractor. Suppliers shall perform all inspections and tests required substantiating product conformance to product drawings, specifications, and purchase order requirements.

Suppliers will be routinely evaluated on the basis of quality and delivery. In the event a supplier's performance becomes unsatisfactory, an on-site assessment may be performed to evaluate the supplier's operating and quality system. These on-site assessments will be performed by qualified Alemite personnel capable of determining the supplier's effectiveness in functional areas such as procurement, engineering, manufacturing, and quality.

Suppliers are responsible for ensuring that all materials, products and services are produced and provided using the procedures specified in this manual. Suppliers are responsible for ensuring they have the latest revision of this manual by periodically checking for revisions which can be downloaded from Alemite's website at [www.alemite.com](http://www.alemite.com) or obtained from the Alemite Purchasing Group.

Failure of Alemite to reference this Supplier Quality Manual in a request for quote, purchase orders or supplier agreement does not exclude suppliers from conformance to its requirements. Compliance to this manual is specified in the Purchase Order Terms and Conditions.



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## 1 RFQ Process

- 1.1 Request for Quotations shall be issued to existing and potential suppliers for new products and existing commodities.
- 1.2 RFQ's may include the following:
  - 1.2.1 Specifications / Alemite drawings
  - 1.2.2 Quantities
  - 1.2.3 Excel Spreadsheet optional based on number of items being quoted.
  - 1.2.4 QA216 "Terms and Conditions of this Order"
  - 1.2.5 Terms and Conditions beyond standard requirements
  - 1.2.6 Tooling Requirements
  - 1.2.7 Gaging Requirements
  - 1.2.8 Testing Requirements
  - 1.2.9 Lead Time for PPAP/ First Article, Prototype and Production
  - 1.2.10 Target Pricing
  - 1.2.11 Close Date
- 1.3 All RFQ's need a written confirmation with an expected submission date to Buyer requesting quote or supplier must notify Buyer of no quote submission via fax or e-mail. Suppliers are to submit quotes in the same format as provided by the responsible Buyer.
- 1.4 Before submitting a quote the supplier must review and ensure all appropriate information for the following areas are available and used in the formulation of the quote. These include but are not limited to:
  - 1.4.1 Purchasing Data
  - 1.4.2 Engineering Print and Specifications
  - 1.4.3 Engineering Specifications referenced on the Engineering Prints
  - 1.4.4 Test Specifications
  - 1.4.5 Material and Processing Specifications (heat treat, plating, deburring, painting, welding, etc)
  - 1.4.6 Material Availability
  - 1.4.7 Process Controls and Special Characteristics
  - 1.4.8 Measurement System Analysis
  - 1.4.9 Special Gauging
  - 1.4.10 Error Proofing
  - 1.4.11 Safety, Government and Environmental Regulations
  - 1.4.12 New Equipment, Tooling and Facility Requirements
  - 1.4.13 Packaging Requirements, including labeling, barcode requirements, skids, shrink wrap, etc.
  - 1.4.14 Shipping Requirements including Art Work
  - 1.4.15 Capacity
  - 1.4.16 Consignment, Kanban or JIT requirements
  - 1.4.17 Training and having Appropriate Personnel
  - 1.4.18 Any exceptions to the quote must be included.
  - 1.4.19 Any Value Add and/or Value Engineering suggestions are encourage to be included.



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- 1.4.20 New programs must include careful review to prevent and avoid setting any operating precedents that lead to costly changes and corrective action down the road, which could have been avoided.
- 1.5 Suppliers shall be required to certify that:
  - 1.5.1 The product shall not contain more than the set limit of any substance listed as "P" (Prohibited) on GADSL (Global Automotive Declarable Substance List)
  - 1.5.2 SKF will be informed if the product contains more than the set limit of any substance listed as "D" (Declarable) on GADSL (Global Automotive Declarable Substance List) or on the candidate list of SVHC according to REACH .
  - 1.5.3 The product shall not contain Hexavalent Chromium in concentrations above 0.1% w/w on each homogenous material.
  - 1.5.4 No use of Hexavalent Chromium is made in the production of products supplied to SKF.

## 2 Contract Review

- 2.1 Each time a Purchase Order or Release is issued, the supplier must review it for accuracy and possible changes.
- 2.2 Any discrepancies or questions regarding accuracy or revisions must be addressed with the Buyer in writing.
- 2.3 If the requirements and/or terms and conditions of the Purchase Order cannot be met, the supplier must contact the Buyer in writing to address such concerns.

## 3 Engineering Practices

- 3.1 Alemite engineering drawings are the governing documents for the form, fit and function of materials, products, services and components purchased from suppliers and in some cases the packaging and labeling of those items. The Alemite purchase order will specify both the drawing number and revision level to which the parts are to be produced. In most cases, the ordered components must be made to the highest letter revision shown on the drawing. When an older revision part is needed, Alemite will provide the appropriate drawing revision along with a Temporary Deviation, (TA), see form QA137A.
- 3.2 Drawing revisions are noted by revision letter (A, B, C, etc.) and are recorded in a revision block on the drawing along with the revision date and an explanation of the changes made on the revision. (See attached drawing sample for reference).
- 3.3 All Alemite drawings are composed in the U.S. standard "third angle projection".
- 3.4 Alemite uses Geometric Dimensioning and Tolerancing (GD&T) in accordance with ANSI Y14.5M guidelines where applicable. However, there are many active older drawings that pre-date GD&T. In those cases, Tolerancing is stated by notes or dimensions at the appropriate locations.



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- 3.5 Standard dimensional tolerances are stated in the title block. Dimensions requiring tight or special tolerances are noted in the drawing details.
- 3.6 Raw material, heat treatment and finishes are stated in the appropriate blocks on the drawing. The Alemite material or process specifications or both may be included. Processing requirements may also be included in the notes on the drawings.
- 3.7 Where requested, the Alemite specifications sheets will be provided along with the purchase order. Any alternate materials or processing must be approved by Alemite prior to part production.
- 3.8 Surface finish requirements beyond generally accepted machining finishes are noted on the drawings by a check (tick) mark with the surface value in the notch of the check. Unless specifically stated on the drawing, surface finish values are stated in Ra (roughness average) with the U.S. Standard “micro-inches” with 5λc (cut offs) at .030” length each. If the available surface is not large enough to support the traverse length then reduce the cut off size to .010” each or contact Alemite for direction.

## 3.9 Special Characteristics

- 3.9.1 Key (or special) characteristics are noted by numbered symbols at the appropriate locations on the drawings. Key characteristics can be safety related, critical to fit or function, or a customer requirement. Note that on older drawings, the key characteristics may simply be captured in numbered text notes.
- 3.9.2 See section on Process Capability.
- 3.9.3 The Circle Delta symbol  is used for safety related characteristics.
- 3.9.4 The Diamond symbol  is used for fit, function and performance characteristics.



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## 3.10 Example Drawing

Example Drawing Form with annotations:

- Revision history & explanations**: Points to the REVISIONS table header.
- Revision Date**: Points to the DATE column in the REVISIONS table.
- Standard tolerances**: Points to the TOLERANCES section in the UNLESS OTHERWISE SPECIFIED area.
- Third angle drawing format**: Points to the THIRD ANGLE symbol.
- Material, heat treat and finish descriptions and specification numbers**: Points to the MATERIAL, HEAT TREATMENT, and FINISH sections.
- Special Characteristics designations**: Points to the KEY CHARACTERISTICS and SAFETY/COMPLIANCE sections.
- Part Number or Drawing number**: Points to the DWG. NO. field (A Draw1).
- Revision Letter**: Points to the REV. field.

**Form Details:**

**REVISIONS**

| ZONE | LTR | REVISIONS | DATE | AUTH | APP |
|------|-----|-----------|------|------|-----|
|------|-----|-----------|------|------|-----|

**UNLESS OTHERWISE SPECIFIED:**

- DIMENSIONS ARE IN INCHES
- TOLERANCES:
  - 2 PLACES  $\pm .01$
  - 3 PLACES  $\pm .005$
  - ANGLES  $\pm 0^{\circ}30'$
- FILLETS & CORNERS .020 MAX RADIUS OR CHAMFER
- COUNTERSINK THREADED HOLES  $85^{\circ}/95^{\circ}$  TO A DIA .01-.34 LONGER THAN THREAD
- REMOVE BURRS & SHARP EDGES
- DO NOT SCALE DRAWINGS

**THIRD ANGLE** (Symbol)

**KEY CHARACTERISTICS:**

- SAFETY/COMPLIANCE (Symbol)
- FIT/ FUNCTION (CRITICAL) (Symbol)

**MATERIAL**

**HEAT TREATMENT**

**FINISH**

**DRAWN** DATE

**CHECKED** DATE

**APPROVED** DATE

**APPROVED** DATE

**RELEASE AUTHORITY**

**FIRST USED ON**

**ENG. REF. NUMBER**

**ALEMITE, LLC**  
JOHNSON CITY, TENNESSEE

**SIZE** **DWG. NO.** **REV.**

**A Draw1**

**SCALE: 1:2** **SHEET 1 OF 1**



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## 4 APQP – Advanced Product Quality Planning

- 4.1 APQP is an acronym for Advanced Product Quality Planning. It is a structured method of defining and establishing the steps necessary to assure that material, product, services and components satisfy all specification and requirements from the first day of production. It also facilitates communication with everyone involved to assure that all required steps are completed and completed on time.
- 4.2 All suppliers must have or work toward having documented APQP procedures in place and evidence of use.
- 4.3 All suppliers are strongly encouraged to have a copy of the AIAG APQP manual on hand, become familiar with its requirements and comply with its intent.
- 4.4 All suppliers which make product designated by the Buyer as automotive must comply with the APQP requirements as specified by the latest revision of the Advanced Product Quality Planning and Control Plan Manual.
- 4.5 The RFQ and / or Purchase Order will indicate which products are automotive and require PPAP submission.
- 4.6 APQP must be performed, implemented and documented before PPAP submission.

### 4.7 Team Feasibility Commitment

- 4.7.1 Non-automotive suppliers are strongly encouraged to perform a feasibility review for each new and revised product, material or component and share any concerns or value add/value engineering suggestion before the program or change is launched.
- 4.7.2 Automotive suppliers are required to perform a Team Feasibility Commitment per the APQP manual.

### 4.8 Flow Charts

- 4.8.1 All suppliers are required to have a process flow chart, process routing or similar document for each of the materials, products, services or components they provide Alemite.

### 4.9 FMEAs

- 4.9.1 All design responsible suppliers are strongly encouraged to create and use the Design Failure Mode Effects Analysis (DFMEA) while developing new products and design revisions of existing products.
- 4.9.2 All suppliers of materials, products, services and components are strongly encouraged to migrate toward and use Process Failure Mode Effect Analysis (PFMEA). PFMEAs created for families of like components, material or services are acceptable.
- 4.9.3 Suppliers that create and use FMEAs must comply with the guidelines stated in the latest revision of the AIAG manual titled “Potential Failure Mode and Effects Analysis”.
- 4.9.4 Although Alemite does not specify a threshold for RPNs, suppliers should regularly review FMEAs and address the failure modes with the highest RPN values first.



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## 4.10 Control Plans

- 4.10.1 Control Plans are required for all automotive suppliers and must follow the APQP format.
- 4.10.2 Control Plans must be developed and used for prototype, pre-launch and production products, materials, services and components.
- 4.10.3 Non-automotive suppliers are strongly encouraged to implement the use of Control Plans.
- 4.10.4 If Control Plans are not used on the manufacturing floor or at the point of inspection, then Inspection Instructions, Inspection Check Sheets or similar inspection check lists are required of all suppliers for use on the production floor by production operators, auditors and quality inspector are required of all suppliers for all products, services and components provided. These shall include each operation and inspection point of the production process including receiving inspections, final inspection, dock audits and annual inspections.

## 4.11 Special Characteristics

- 4.11.1 Special Characteristics are product features, which are dimensional, material or test requirements that have a significant impact on the assembly, fit, function, safety or performance of the product or subsequent assemblies.
- 4.11.2 These include features identified by;
  - 4.11.2.1 Customers
  - 4.11.2.2 Alemite
  - 4.11.2.3 Government agencies, or
  - 4.11.2.4 Suppliers
- 4.11.3 All customer drawings and other documentation will be checked for special characteristics. When special characteristics are designated by the customer, government agency or Alemite, they will be identified on the Alemite print and must be recognized, included and appropriately addressed in the PFMEA and Control Plan, supplier's prints and other part specific work instructions.
- 4.11.4 When specified on the Alemite drawing the supplier is required to statistically monitor and control variation of the noted feature.
- 4.11.5 Special Characteristics need to meet Initial Process Capability requirements outlined in the "PPAP" section for "Initial Process Capability".
- 4.11.6 The supplier should identify internal special characteristics for process, machine and/or product control. If they do, they should use SPC to monitor and control the variation.
- 4.11.7 Once stabilized, Special Characteristics should be targeted for reduction in variation and show continual improvement overtime.
- 4.11.8 The SPC records must be kept on file should the customer or Alemite request the records for review and for investigation of root causes.

## 4.12 Packaging and Service Guides

- 4.12.1 Service Guides, Shipping Packaging, Art Work, Multi-lingual Packaging, Bar Code Labeling and Date Coding must be considered for and planned during the APQP process.

## 4.13 Preventing Potential Failures and Health Risks

- 4.13.1 Other items such Error Proofing, Product and Manufacturing Safety and Environmental concerns must also be addressed as part of the APQP process. Suppliers should always be



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looking for ways to prevent health risks and prevent or minimize potential errors that can be costly, cause nonconforming product and/or production delays.

- 4.14 Upon request, APQP documentation shall be supplied to the Buyer or Supplier Quality Engineer prior to start up of production, delivery of prototypes or PPAP submission.
- 4.15 Suppliers shall incorporate into the advance product quality planning process lessons learned from previous experiences, process knowledge, test results or other sources of applicable information.
- 4.16 Alemite can be present to help with the APQP process.

## 5 PPAP (Production part Approval Process) or First Article

- 5.1 The procedure referred to as “First Article” now follows after the AIAG PPAP Requirements and may be called “PPAP” or “First Article”
- 5.2 The purpose of the PPAP requirement is to provide evidence that all customer engineering design record specifications and test requirements can be met by the supplier’s manufacturing process with production tooling, during an actual production or “PPAP” run.
- 5.3 Automotive Suppliers are required to comply with the PPAP requirements set by the latest revision of the AIAG manual titled “Production Part Approval Process”.
- 5.4 Any PPAP or First Article must be submitted to the Buyer, under a PPAP or First Article P.O. Number issued by the Buyer and with the documents and samples as specified in this manual and/or in the P.O.
- 5.5 A PPAP or First Article must be submitted, to Alemite, prior to the first production run of parts or assemblies.
- 5.6 The required PPAP Level for a supplier is noted below under “**Required PPAP Level**”
- 5.7 The requirements of each submission level is noted below under “**PPAP Requirement Table**”
- 5.8 During the production life of a product, suppliers must notify the Buyer, in writing, of any product or processing changes listed in Table 3.1 on pages 13-14 of the PPAP manual. Alemite will notify the supplier in writing if a PPAP is required and whether production may resume with the proposed changes.
- 5.9 Assistance will be provided to any supplier requesting help toward compliance of these requirements.
- 5.10 Any exceptions to these requirements require written approval.

### 5.11 Required PPAP Level

- 5.11.1 Level 1 = Engineering Changes for Dimensional Only
- 5.11.2 Level 2 = Engineering Changes for Dimensional, Material and/or Test Specifications, Processing Changes, Annual PPAP’s, Correction of Discrepancy (results only for those items which were not to specification)
- 5.11.3 Level 3 = **IATF 16949** Registered Suppliers – New Components, New Supplier
- 5.11.4 Level 4 = ISO Registered Suppliers – New Components, New Supplier
- 5.11.5 Level 5 = Non-Registered Suppliers – New Components, New Supplier
  - 5.11.5.1 For more details reference the PPAP manual in Table 3.2 on page 15.



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## 5.12 PPAP Requirement Table

| Requirements                                                                                                                                                                                     | Level 1  | Level 2  | Level 3  | Level 4  | Level 5  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|
| PSW (Part Submission Warrant)                                                                                                                                                                    | S        | S        | S        | S        | S        |
| Numbered Samples (submit a min. of 3 samples)                                                                                                                                                    | S        | S        | S        | S        | S        |
| Master PPAP Sample (retained by Supplier)                                                                                                                                                        | R        | R        | R        | R        | R        |
| Service Manual                                                                                                                                                                                   |          |          | S        | S        |          |
| Finished Packaging with Artwork and/or Dock to Stock Bar Code Labeling                                                                                                                           |          |          | S        | S        |          |
| Design Record (w/each item numbered)<br>-Customer Print<br>-Engineering Specification<br>-Test Specification                                                                                     | S        | S        | S        | S        | S        |
| Engineering Change Documents, if any<br>-Approved TA (Temporary Approval)<br>-Approved ECR (Engineering Change Request)                                                                          | S        | S        | S        | S        | S        |
| Dimensional Results                                                                                                                                                                              | S        | S        | S        | S        | S        |
| Material Test Results                                                                                                                                                                            |          | S        | S        | S        | S        |
| <b>PDSP Compliance Document</b>                                                                                                                                                                  | <b>S</b> | <b>S</b> | <b>S</b> | <b>S</b> | <b>S</b> |
| Performance Test Results                                                                                                                                                                         |          | S        | S        | S        |          |
| Measurement System Analysis Studies<br>-Gage R & R Study is required for each:<br>-Gage Used to measure a Special Characteristic<br>-Gage Owned by Alemite<br>-Specialized or Part Specific Gage |          |          | S        |          |          |
| Initial Process Study<br>-Required for each:<br>-Special Characteristic<br>-Supplier Designated Special Characteristics                                                                          |          |          | S        | S        |          |
| Process Flow Chart                                                                                                                                                                               |          |          | S        |          |          |
| Process FMEA                                                                                                                                                                                     |          |          | S        |          |          |
| Control Plan                                                                                                                                                                                     |          |          | S        |          |          |
| Inspection Instructions, Plans or Check Sheets                                                                                                                                                   | R        | R        | R        | S        | S        |
| Copy of Supplier Registration Certificate                                                                                                                                                        | R        | R        | S        | S        |          |
| Copy of Sub-supplier Registration Certificates                                                                                                                                                   |          |          | S        | S        |          |
| Copy of Registration Certificate of each 3 <sup>rd</sup> Party Laboratory Used to Report Results                                                                                                 |          |          | S        | S        |          |
| Pictures of Alemite Owned Tooling, if any                                                                                                                                                        |          |          | S        | S        |          |
| Pictures of Alemite Owned Gaging, if any                                                                                                                                                         |          |          | S        | S        |          |

S = Submit to Alemite (retain copies of all submitted documentation)

R = Retain at Supplier Facility (make available upon request and on-site verification)



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## 5.13 Inspection and Test Results

- 5.13.1 All features, notes, test specifications, materials must be inspected for and included in the PPAP on the appropriate report forms.
- 5.13.2 Dimensional results must be reported as variable data unless inspected using an attribute method.
- 5.13.3 Inspection of threads must be with Go/No-Go Thread Gages according to the following standards:
  - 5.13.3.1 Straight threads: Any questions regarding gaging techniques of fit for “go” or “no-go” thread gages should be addressed with Alemite’s QA Dept. through the Buyer.
  - 5.13.3.2 NPTF, PTF-SAE SHORT, NPSF, and NPSI threads: Reference ASME B1.20.5 for gaging techniques.
  - 5.13.3.3 NPT, NPSC, NPSM, NPSL, and NPSH: Reference ASME B1.20.1 for gaging techniques.
- 5.13.4 Suppliers of products (fully assembled and functional products, i.e., grease guns) must provide test results to the specified performance standards and provide results on the appropriate AIAG report forms. When specified, layouts for each individual unassembled component may be required in the PPAP submission with number samples of each.
- 5.13.5 Product Packaging Art Work and Service Guides must be inspected for accuracy and results reported in the PPAP.
- 5.13.6 Suppliers of services such as Heat Treat, Plating, Deburring, Painting, etc. must submit inspection and test results for their respective processing, i.e., hardness, effective case depth, plating thickness, salt spray results, cleanliness, burr size, color, adhesion, etc. The results must be reported either on the appropriate AIAG forms or include in certifications with lot traceability information.
- 5.13.7 Suppliers of material must provide the test results for the appropriate chemical properties and mechanical results when specified, either on the appropriate AIAG forms or included on material certifications and/or DFARS certification per 252.225-7014 for specialty metals, with lot traceability information.

## 5.14 Initial Process Capability Requirements

- 5.14.1 Process Capability Studies shall be defined, implemented and maintained per the AIAG *Statistical Process Control Manual*, current edition.
- 5.14.2 Initial Process Capability Studies are required for all Special Characteristics noted on the Alemite print and must be submitted with the initial PPAP.
  - 5.14.2.1 The Circle Delta symbol  $\bigcirc$  is used for safety related characteristics.
  - 5.14.2.2 The Diamond symbol  $\diamond$  is used for fit, function and performance characteristics.
- 5.14.3 Any other characteristic(s) the supplier deems as important to their process monitoring and/or a tool for process control shall be included in the PPAP in the form of an initial process capability study and must meet the same requirements.
- 5.14.4 An initial process capability study is required for each machine, tool or process stream planned to run production.
- 5.14.5 These are considered short term studies which use the Pp and Ppk indices, see PPAP manual.
  - 5.14.5.1  $Ppk \geq 1.67$  is acceptable.



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- 5.14.5.2 Ppk  $\geq 1.33$  to  $< 1.67$  is marginal. Contact Buyer or SQE (STA) for review of results before submission of PPAP.
- 5.14.5.3 Ppk of less than 1.33 Must be improved before PPAP can be approved.
- 5.14.5.4 The above limits are based on individual data and assume the distribution curve is relatively normal in shape.
- 5.15 All PPAP documentation must include the Alemite blueprint revision date and level for which the PPAP is being submitted to.
- 5.16 The submitted samples must be numbered to correspond to the results reported in the dimensional, material and performance reports.
- 5.17 The supplier must retain a copy of all documentation submitted to Alemite and at least one Master Sample representative of those submitted in the PPAP.
- 5.18 Dimension inspection, material inspection and testing and performance tests can be performed by 3<sup>rd</sup> party labs or services. A copy of the inspection or testing company QMS or Lab certification with scope must be included in the PPAP.
- 5.19 The PPAP documents and sample(s) must be submitted to the Buyer and identified with a bright orange label titled PPAP. The part number, blueprint revision date and level and P.O. number must be included on the label and to the attention of the Buyer
- 5.20 Once submitted, the PPAP will be reviewed and samples measured and/or tested to verify correlation of supplier results, compliance to specifications and to disposition the PPAP Warrant.
  - 5.20.1 If Alemite cannot correlate its results with supplier results, finds results out of specification, documentation is not correct or in order, or engineering will not approve a deviation from specifications or ECR, then the PSW (Parts Submission Warrant) will be noted as “Rejected”, signed and dated. A copy will be retained for Alemite records and the original returned to the supplier for corrective action.
    - 5.20.1.1 The supplier is then expected to fix the discrepancies and re-submit a PPAP for “Correction of Discrepancy”.
  - 5.20.2 If Alemite finds its results correlate with the supplier, all characteristics meet stated specifications and test requirements and all documentation is acceptable, then, Alemite will note the Part Submission Warrant as ‘Accepted’, sign and date it, retain a copy and return the original to the supplier.
  - 5.20.3 The signed and approved warrant is documented authorization to begin production to the Purchase Order or release requirements.
  - 5.20.4 Final payment for associated tooling and/or other agreed upon start up costs is dependent on obtaining a signed and “Approved” PPAP warrant for the print revision date and level specified.
  - 5.20.5 In some cases the PPAP may be marked as “Interim”. This may allow minimal quantities to be produced until corrections can be made. The conditions of the Interim Approval will need to be documented until such time the supplier has resubmitted for corrections and received the full Approved status, see PPAP manual for details.
  - 5.20.6 The supplier must maintain PPAP records for a period greater than the length of time the product is active plus two years.
  - 5.20.7 Questions regarding the active status of a product can be directed to the Buyer.



# Supplier Quality Manual

## 6 Process and Production Controls

- 6.1 Suppliers are required to have controls in place that will prevent nonconforming product from being produced and to detect nonconforming product if it is produced.
- 6.2 Suppliers are strongly encouraged to create control plans for each Alemite product or at a minimum must create inspection instructions, or equivalent, to document and specify to employees the following:
  - 6.2.1 Alemite part #
  - 6.2.2 B/P Revision date and level
  - 6.2.3 Operation Name
  - 6.2.4 Characteristic to be checked
  - 6.2.5 The specification
  - 6.2.6 What to use to check the characteristic
  - 6.2.7 How many to check
  - 6.2.8 How often to check.
- 6.3 Control Plans or Inspection Instructions must also include receiving inspection and final inspection requirements.
- 6.4 Suppliers are required to plan production with appropriate lead times, according to Alemite Purchase Orders and/or releases, and control production in order to supply acceptable product on time.
- 6.5 Suppliers are required to contact their Buyer, if delivery will not be on time.
- 6.6 Suppliers are also required to notify their Buyer, in writing, when product cannot be made to print, see Temporary Authorization (deviation) procedure.
- 6.7 Suppliers shall conduct in-process and outgoing audit inspections or tests as defined in their control plan. Inspection data shall be retained by the supplier and shall be made available upon request.
- 6.8 Suppliers must allow Alemite, its customer (s), its customer's representative (s), government or regulatory agencies the right to verify at the supplier's premises that the purchased product conforms to specified requirements.
- 6.9 Verification by Alemite, its customer (s), or its customer representative (s), shall not absolve the supplier of the responsibility to provide acceptable products or components, nor shall it preclude subsequent rejection by Alemite or its customer (s).



# Supplier Quality Manual

## 7 Traceability

- 7.1 The supplier shall identify all parts according to Alemite's drawing and/or purchase order. Some Alemite drawings may require certain identification (date codes, part numbers, direction signs and etc.)
- 7.2 The supplier shall establish and maintain traceability of product with a unique numbering system from receipt of raw material or components, during all stages of production and through delivery at Alemite.
- 7.3 Traceability includes being able to provide shipping, production and inspection history for a given shipped lot as received at Alemite.
- 7.4 Alemite P.O. # numbers must be included on the shipping label and Packing Slip of each shipment.
- 7.5 Supplier lot numbers, work order number or other unique tracking number must be included on the shipping label and Packing Slip of each shipment.
- 7.6 The supplier's lot number, work order number or other unique tracking number must be included on each container, box or tote.
- 7.7 Traceability must extend to Material Certifications, Performance Tests, Dimensional Results, Plating Certifications and any work performed by outside Accredited Labs.
- 7.8 Alemite reserves the right to perform an on-site audit or request appropriate, timely documentation to verify conformance to traceability requirements.

## 8 Statistical Techniques

- 8.1 Suppliers shall monitor process performance using the appropriate statistical techniques in accordance with the latest revision of the AIAG Statistical Process Control Manual.
- 8.2 The Supplier shall evaluate and determine the best statistical control charting (SPC) method for monitoring all Special Characteristics, noted on the Alemite print.
  - 8.2.1.1 The Circle Delta symbol  $\bigcirc$  is used for safety related characteristics.
  - 8.2.1.2 The Diamond symbol  $\diamond$  is used for fit, function and performance characteristics.
- 8.3 The Supplier shall monitor and address sources of special causes to stabilize the process and natural causes to reduce variation long term and to document those activities.
- 8.4 Control charts and capability studies must be lot traceable.
- 8.5 All records must be maintained for at least 12 months and available for review at the request of Alemite and for use in root cause analysis.

### 8.6 Long Term Process Capability Requirements

- 8.6.1 Long Term Process Capability must achieve and maintain the following results.
- 8.6.2 These require the use of the Cpk index.
- 8.6.3 If the process is stable, then the following requirements apply:
  - 8.6.3.1  $Cpk \geq 1.67$  is acceptable, continue production and improvement activities.
  - 8.6.3.2  $Cpk \geq 1.33$  and  $< 1.67$  with all data points within control limits is considered marginal.



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- 8.6.3.3 Cpk  $\geq 1.33$  and  $< 1.67$  with one or more data points outside control limits and evidence of special causes of variation is marginal and requires documented action plans to correct.
- 8.6.3.4 Cpk  $< 1.00$  is not acceptable and requires corrective action before production can continue. All product must be 100% inspected back to the last known in control point.
- 8.6.4 It is expected that some trends, targeting of the high or low and/or shifts may be intentional to maximize tooling and balance operations within a production stream or from stream to stream.

## 8.7 Other Statistical Methods and Uses

- 8.7.1 Suppliers are required to use other statistical tools or methods to monitor production and QMS performance, which include but not limited to the following:
  - 8.7.1.1 Scrap Reporting
  - 8.7.1.2 Productivity
  - 8.7.1.3 Downtime/Uptime
  - 8.7.1.4 Pareto Charts
  - 8.7.1.5 Trend Charts
  - 8.7.1.6 Regression Analysis

## 9 Records

- 9.1 Records – Suppliers shall maintain appropriate records on file according to requirements of the supplier, Alemite, and any regulatory bodies.
- 9.2 Quality performance records, including control charts, inspection and test results must be retained for one calendar year after the year in which they were created, unless otherwise noted by Alemite's Quality department. (Aerospace documentation shall be kept on file for **ten** years).

## 10 Document Control

- 10.1 Supplier must ensure the latest revision of any document is readily available at the point of use.
- 10.2 Any previous, outdated or obsolete documents must be destroyed or clearly identified as such and located to prevent unintended use.
- 10.3 Any questions regarding the latest revision levels of Alemite documents must be addressed with the Buyer.
- 10.4 Documents, drawings, and tooling are considered “proprietary” and shall be safeguarded in an appropriate and reasonable manner.



# Supplier Quality Manual

## 11 Customer Owned Tooling, Gaging and Equipment

- 11.1 Suppliers shall permanently mark all tooling, gaging and equipment owned by Alemite with the Alemite name and Part Number, Gage or Equipment Number as appropriate.
- 11.2 Any equipment which is not practical to permanently mark must be identified appropriately for ownership. Ideas include a serial number, sticker labels, tags, containers, cases, etc.
- 11.3 All tooling and gaging owned by Alemite must be recorded by the supplier on a 'Alemite Owned Equipment List', reviewed and updated as changes occur and available upon request.
- 11.4 The 'Alemite Owned Equipment List' must include the following:
  - 11.4.1 Date of tooling, gage or equipment, if known
  - 11.4.2 Tooling, gage or equipment number (model number)
  - 11.4.3 Part number it is used for, if applicable
  - 11.4.4 Serial number if used
  - 11.4.5 Short name or description of the item.
- 11.5 Any new tooling, gaging or equipment owned by Alemite must also be photographed with pictures included in the PPAP and a copy included with the "Alemite Owned Equipment List."
- 11.6 Tooling, Gaging and Equipment purchased or owned by the supplier should not be included on the "Alemite Equipment List".
- 11.7 Perpetual Tooling should not be included on the list, (tooling original purchased by Alemite but must be maintained, repaired and refurbished at suppliers cost).
- 11.8 Any Alemite owned tooling, gages and equipment which falls into disrepair as a result of normal use and wear or as a result of inappropriate use and/or neglect must be brought to the Buyers attention in writing. An evaluation will be performed and a determination made by Alemite regarding repair, replacement or obsolescence.

## 12 Gage Control

- 12.1 The supplier shall establish a system and document evidence for gage calibration and verification of accuracy to standards traceable to a national standard.
- 12.2 System shall include all gages, measuring and test equipment needed to provide evidence of conformity of product to requirements.
- 12.3 Weigh scales used to weigh count shipped or received material, components or products must be included in the calibration system and checked periodically to traceable standards for weight accuracy.
- 12.4 This applies to supplier owned, employee owned gages in non-production departments and customer owned equipment.



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## **12.5 Statistical Gage Verification**

- 12.5.1 The Supplier shall set as a goal, statistical verification of gage capability using at a minimum Gage R & R Studies.
- 12.5.2 This applies to ‘types’ or ‘families’ of gages, test equipment when applicable and all gages used to measure Special Characteristics.
- 12.5.3 The methods specified in the latest revision of the AIAG manual “Measurement System Analysis” shall be implemented.

## **12.6 Customer Owned Gages**

- 12.6.1 See section on “Customer Owned Tooling, Gaging and Equipment”

## **13 Final Inspection**

- 13.1 Suppliers shall establish a Final Inspection, Final Audit or Dock Audit function to verify compliance of material, products or services, packaging and documentation before it is shipped to Alemite.
- 13.2 Supplier shall keep records of this inspection and shipping activity which shall be traceable through the supplier’s internal production and inspection process to original raw materials used in the product.
- 13.3 Material Certifications (Product Certifications) or Certificates of Compliance should be created from the results of the final inspection and before shipment to Alemite.

## **14 Storage and Preservation**

- 14.1 It is the supplier’s responsibility to ensure all materials, products or components, which are put into storage, either as in-process goods or finished goods, are preserved against damage or deterioration.
- 14.2 Damage may include exposure to water, dirt, foreign materials, effects of extreme heat or cold or deformation when containers are stacked or crushed, etc.
- 14.3 Deterioration may include rusting, fading appearance, cracking, effects of extreme heat or cold, expiration of chemicals used in processing or coating, etc.
- 14.4 When material, products or components are retrieved from storage, it must be inspected to ensure that no damage or deterioration has occurred and is acceptable for continued processing or shipment.
- 14.5 This also applies to customer owned tooling, gages, fixturing and other equipment.



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## 15 Material Certifications, DFARS Certificates and Certificates of Compliance

### 15.1 Material Certifications, Product Certifications and/or DFARS Certifications

- 15.1.1 Are required for each of the following items on each shipment. All other materials, components, products or services require a Certificate of Compliance for each shipment, see below:
  - 15.1.1.1 All Bar Stock Raw Material
  - 15.1.1.2 Spherical Balls for AS Fittings
  - 15.1.1.3 Springs and Spring Wire for AS Fittings
  - 15.1.1.4 Lubrication Fittings
  - 15.1.1.5 Plating for AS Fittings
  - 15.1.1.6 Heat Treatment for AS Fittings
- 15.1.2 Certifications must include the following information:
  - 15.1.2.1 Alemite Part Number
  - 15.1.2.2 Alemite P.O. Number
  - 15.1.2.3 Alemite Work Order Number
  - 15.1.2.4 Quantity of Parts in Shipment
  - 15.1.2.5 Number of Containers in Shipment
  - 15.1.2.6 Supplier Packing List Number or Job Number
  - 15.1.2.7 Supplier Lot Number, if different from Job Number
  - 15.1.2.8 Description of the Product, Material or Service Rendered.
    - 15.1.2.8.1 Example: AS Fitting, Hex Bar Stock, Zinc w/ Clear Chromate, Case Hardening, etc.
  - 15.1.2.9 Material or Test Standard
    - 15.1.2.9.1 SAE 1021, Zinc w/ Clear Chromate .0005" Max., Eff. Case Depth .010", etc.
  - 15.1.2.10 Actual Test or Inspection Results
  - 15.1.2.11 Statement of Certification
  - 15.1.2.12 Date Certified
  - 15.1.2.13 Signature of Person Certifying the Results is Compliant
  - 15.1.2.14 The spec that the raw material was tested to (i.e. ASTM A510) on the cert.
  - 15.1.2.15 The name of the testing lab on the cert.
  - 15.1.2.16 A statement that the lab is certified to 17025 on the cert.
  - 15.1.2.17 A copy of the latest 17025 cert from the lab on file and it should include a lab scope.
- 15.1.3 The information on the Material Certificate, DFARS Certification for Specialty Metals or Product Certification must be traceable back through the supplier's production process to the original material and must be kept on file and available upon request for the life of the product plus ten years.

### 15.2 Certificates of Compliance (Not Certification)



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- 15.2.1 Certification of Compliance differ from Certifications, they do not include any test or inspection results or a statement of certification.
- 15.2.2 Any raw material, product, component or service other than those listed above require only a Certificate of Compliance, and must include the following information:
  - 15.2.2.1 Alemite Part Number
  - 15.2.2.2 Alemite P.O. Number
  - 15.2.2.3 Alemite Work Order Number
  - 15.2.2.4 Quantity of Parts in Shipment
  - 15.2.2.5 Number of Containers in Shipment
  - 15.2.2.6 Supplier Packing List Number or Job Number
  - 15.2.2.7 Supplier Lot Number, if different from Job Number
  - 15.2.2.8 Description of the Product, Material or Service Rendered.
    - 15.2.2.8.1 Example: AS Fitting, Hex Bar Stock, Zinc w/ Clear Chromate, Case Hardening, etc.
  - 15.2.2.9 Statement of Compliance
  - 15.2.2.10 Date of Inspection or Compliance
  - 15.2.2.11 Signature of Responsible Person
- 15.2.3 The information on the Certificate of Compliance must be traceable back through the supplier's production process to the original material and must be kept on file and available upon request for the life of the product plus one year.



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## 16 Shipping

- 16.1 The expectation for On-Time Delivery is 100%, Products must be shipped to arrive at Alemite within plus or minus (5) days of the delivery due date. Suppliers are required to contact an Alemite Buyer, if delivery will not be on time.

### 16.2 Documentation

- 16.2.1 Unless alternate methods have been agreed upon in writing with Alemite, all production shipments must include or be preceded by a Material Certification (Product Certification) or Certificate of Compliance based on the requirements above. **Heat Treaters and Plating subcontractors are required to supply CQI 9 and CQI 11 annually.**

### 16.3 Packaging

- 16.3.1 The supplier must work with Alemite Engineering Dept. to establish and maintain packaging which will protect against damage and preserve materials, products and components in transit.
- 16.3.1.1 Examples include: scuffing or wear of painted surfaces, bending, crushing, nicks, dents or scratching of finished surfaces, contamination with foreign materials, protection against weather, to maintain cleanliness of product, and preservation against rust, etc.
- 16.3.2 Packaging Specifications do exist on a limited number of products. They must be adhered to in order to protect the product in transit to Alemite and to the end user.

### 16.4 Labeling

- 16.4.1 Each box or container must be labeled and include the following information:
- 16.4.1.1 Alemite P.O.#
  - 16.4.1.2 Alemite Part #
  - 16.4.1.3 Quantity
  - 16.4.1.4 Supplier Lot#
- 16.4.2 Each skid or pallet must be labeled with a shipping label on two sides, the front and either the left or right side.
- 16.4.3 "Dock to Stock" parts must have each box or container labeled with a bar code label per Bar Code Label Print #340202

### 16.5 Packing Slips

- 16.5.1 Each shipment of product to Alemite must include a Packing Slip.
- 16.5.1.1 Put the Packing Slip inside one of the boxes or containers and mark the box to identify which one has the Packing Slip.
  - 16.5.1.2 Do NOT attach packing slips on the outside of containers. They may become mutilated, damaged by weather or otherwise removed.
- 16.5.2 The Packing Slip must include or list the following at a minimum:
- 16.5.2.1 Full Alemite P.O. Number
  - 16.5.2.2 Alemite Part Number
  - 16.5.2.3 Quantity of each part number in the shipment
  - 16.5.2.4 Supplier Lot# for each lot shipped



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## 17 Receipt of Nonconforming Product

- 17.1 It is the supplier's responsibility to produce and ensure that all products, materials components and services are produced and performed in compliance to all specifications and shipped to be delivered on time to Alemite's dock.
- 17.2 Nonconforming, defective or discrepant product is defined as material, components or products, which have one or more characteristics, which are not generally accepted or expected or do not comply with established and documented specifications. Documented specification can include; customer blueprints, design records, drawing specifications, engineering standards, performance or test standards, purchase order requirements, Alemite product and process specifications, industry standards, government regulations, environmental regulations, e-mails or letters, boundary samples or boundary pictures.
- 17.3 Material, product or component characteristics include but are not limited to the following: dimensional features, appearance, color, texture, burrs, corner breaks, chemistry, metallurgical features, hardness, mechanical properties, magnetism, cleanliness, applied coatings for preventing or inhibiting rust, performance results to test standards, noise, smell, finishes, handling or processing damage, etc.
- 17.4 Alemite's Material Review Disposition report (MRD) is used by the Purchasing group to notify suppliers of nonconformance's and discrepancies.
- 17.5 An MRD may be initiated upon detection of nonconforming product at receiving inspection, during assembly, as a finished product or product returned from a customer of Alemite.
- 17.6 Once an MRD is issued, Alemite may require all product to be quarantined at all levels based on the severity of the problem, its effect on production, delivery to the customer, safety or creating additional defects due to handling, Alemite may take any of the following courses of action:
  - 17.6.1 Return product to the supplier to be 100% sorted and certified, reworked and certified, scrapped or returned to sub-contractor.
  - 17.6.2 Supplier to sort at Alemite under controlled conditions.
  - 17.6.3 Require a 3<sup>rd</sup> party inspection company sort at Alemite at supplier's cost.
  - 17.6.4 Alemite to sort at supplier's cost.
  - 17.6.5 Suppliers may be required to visit Alemite, review the non-conforming product and determine a course of action in order to maintain production requirements.
  - 17.6.6 Any costs associated with shipment of nonconforming product may be billed to the supplier. Following are some possible charges:
    - 17.6.6.1 Alemite sorting charges of \$30.00 per man hour.
    - 17.6.6.2 Customer charges
    - 17.6.6.3 3<sup>rd</sup> Party Inspection charges of \$40 per man hour.
    - 17.6.6.4 3<sup>rd</sup> Party Repair charges of \$60 per man hour
    - 17.6.6.5 Alemite administrative fee of \$125 per incident.
    - 17.6.6.6 Line shut down charges
    - 17.6.6.7 Reduced production rates for inline sorts, interruptions, etc.
    - 17.6.6.8 Scrap loss
    - 17.6.6.9 Expedited freight



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- 17.7 A Supplier Corrective Action Report may be issued to the supplier as a result. See section on Supplier Corrective Action Report (SCAR)

## 18 Supplier Correction Action Reports (SCAR)

- 18.1 Any time Alemite rejects supplier supplied product for being nonconforming, the supplier may be required to provide corrective action to fix the cause(s) of the problem.
- 18.2 The Alemite Corrective Action Request (form #QA404) shall be used to document the actions taken to contain and correct the problem.
- 18.3 Addition documented evidence may also be required in conjunction with the report to provide details that the problem was address completely and will not reoccur.
- 18.4 The form shall be supplied by Alemite for each incident which requires corrective action. Information regarding the nonconformance will be included on the form by Alemite.

### 18.5 Initial Response

- 18.6 Once the CAR is issued, the supplier will have 3 business days to provide an “Initial Response” in writing on the Corrective Action Request with the following information:

#### 18.6.1 #1. Team Members

- 18.6.1.1 The supplier must identify each of the team members and their position or responsibility within the organization, which have been assign to the specific corrective action.
- 18.6.1.2 The Champion of the corrective action team must be noted also.

#### 18.6.2 #3. Containment Actions

- 18.6.2.1 The supplier must quarantine all containers of in house stock/inventory, anything in storage, currently in a hold area and determine if any are in transit to Alemite.
- 18.6.2.2 All lots and quantities must be listed on the Supplier Corrective Action Report, using the back if needed.

#### 18.6.3 #4. Short Term Action(s)

- 18.6.3.1 These actions address the disposition of each container listed in the Containment Actions.
- 18.6.3.2 The supplier must determine if the suspect product, material or components will be 100% sorted, reworked, returned to sub-contractor or scraped.
- 18.6.3.3 A copy of the supplier’s Quality Alert must be included in the response.
- 18.6.3.4 If the supplier must continue production to prevent Alemite from shutting down production, the supplier will provide a description of how product will be 100% sorted before it is shipped to Alemite.
- 18.6.3.5 Any shipments sent to Alemite that have been 100% sorted must be labeled with a Certification Label, which states the part number, quantity sorted, what was it sorted for, the date certified and the Quality Manager’s signature.
- 18.6.3.6 The Certification Label must be removable, bright, easily identified and located on all four sides of the skid or next to the shipping label for small boxes.
- 18.6.3.7 Alemite will not accept nonconforming product unless authorized in writing with a TA (Temporary Authority), see section on Temporary Authority.



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- 18.6.3.8 Any costs associated with sorting, scraping of parts, material or components, returns to sub-contractor or rework is the sole responsibility of the supplier.

## **18.7 Final Response**

- 18.8 Within 15 business days of the Date Issued the supplier must respond with a Target Date on the SCAR and for the following items:

### **18.8.1 #5. Root Cause(s)**

- 18.8.1.1 The supplier shall begin investigating and determine the root cause or causes of the nonconforming product.
- 18.8.1.2 At a minimum the investigation should include a review of all assignable causes found on the fishbone diagram: material, machine, method (tooling), man (operator, inspector and management), environment, and gaging.
- 18.8.1.3 The root cause(s) must be listed on the SCAR.
- 18.8.1.4 A true determination of root cause is the ability to turn the problem on and off at will.

### **18.8.2 #6. Corrective Actions (Produced)**

- 18.8.2.1 The supplier must address each of the root causes identified.
- 18.8.2.2 Every effort must be made to put error proofs in place for each of the causes, if possible
- 18.8.2.3 At a minimum, a detection method must be put into place so that if the causes occur again, they can be discovered and stopped before additional nonconforming product is made or shipped to Alemite.

### **18.8.3 #7. Corrective Actions (Shipped)**

- 18.8.3.1 Every effort should be made to prevent nonconforming material from shipping.
- 18.8.3.2 Error proofing should also be used here.
- 18.9 If the supplier determines the Long Term Corrective Actions and Preventive Actions cannot be completed within 15 business days, the supplier must provide a reasonable date they will have all plans completed.
- 18.10 Alemite reserves the right to visit the supplier to verify the information provided on the CAR, review the process, tooling, gaging or request the associated documentation be submitted.
- 18.11 All Corrective Action Request responses must be sent to the Supplier Quality Engineer and copied to the Buyer.
- 18.12 The supplier will be asked to return CAR responses to the Corrective Action Coordinator if the Supplier Quality Engineer is not available.
- 18.13 Each time a CAR is revised the report date and revision level must be updated at the bottom left corner of the report.
- 18.14 CARs and associated documentation must be kept on file by the supplier for the life of the product plus three years by the supplier



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## 19 Temporary Authority

- 19.1 The purpose of a Temporary Authority (TA) is to allow use of products that deviate from current drawing specifications or other requirements for a specified time period or quantity of product. It applies to all products defined by Alemite drawings or specifications.
- 19.2 Proper uses of a TA:
  - 19.2.1 Authorize the use of a specified quantity or length of time of supplier parts, material, services or subassemblies, which are not to specification.
  - 19.2.2 Authorize shipment of products, which are not to drawing specification.
  - 19.2.3 Authorize deviation from a print-specified supplier.
  - 19.2.4 Authorize the use of alternate parts when there is a shortage of the required parts.
  - 19.2.5 Authorize the use of a substitute raw material having differences from the specified physical properties, which may affect product performance.
  - 19.2.6 Only temporary deviations are to be placed on a TA
- 19.3 All supplier requests for Temporary Authority must be submitted on QA137A (see forms index) and forwarded to the appropriate Alemite buyer. The request will be processed through Alemite's TA system. No product shall be shipped until an *approved* TA, with a TA Number, has been forwarded to the requesting supplier. All sections of the Temporary Authority Request form must be completed in order to process the request.

## 20 Requests for Engineering or Process Changes of Existing Product

- 20.1 Suppliers often have suggestions to help prevent rising costs, reduce cost, increase quality or increase reliability or product performance. This may require changes to materials, more efficient processing or product specification changes.
- 20.2 When the supplier makes suggested changes Alemite must document and investigate the proposed changes using an engineering change request database.
- 20.3 The supplier must notify the Buyer in writing of the proposed changes (e-mail is acceptable).
- 20.4 The buyer shall begin the process by submitting the change request to engineering to begin the process of investigating the proposed change.
- 20.5 Upon completion of the proposed changes the Buyer will notify the supplier of the disposition of the submitted suggestion(s).
- 20.6 If accepted, engineering changes to the Alemite print will take place and a PPAP submission to the new revision will be required to document the supplier's ability to produce the accepted changes. See section on First Articles or PPAP.



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## 21 Approved Supplier List

- 21.1 Alemite maintains a list of approved suppliers.
- 21.2 All production materials, components, products and services are purchased only from suppliers on the Approved Supplier List.
- 21.3 Potential Suppliers may be added to the list based on criteria outlined in internal procedures.
- 21.4 The first step for the potential supplier is to perform a self audit and complete the QA 521 form.
- 21.5 The process may also include but is not limited to submission or evaluation of the following:
  - 21.5.1 QMS Registration status
  - 21.5.2 Commercial standing (Dun & Bradstreet)
  - 21.5.3 Company background, years in manufacturing
  - 21.5.4 Preliminary On-Site Evaluation results
  - 21.5.5 Capability to provide the materials, components, products and/or services required by Alemite.
- 21.6 The Purchasing Department should be contacted for information about doing business with Alemite.
- 21.7 In the event that Alemite needs to purchase prototype or test samples, Purchasing can elect to use a supplier which is not on the Approved Supplier List.
- 21.8 Current suppliers may be removed from the list for any one or combination of the following concerns: poor performance in quality or delivery, Supplier Scorecard history, QMS registration status, commercial standing, competitiveness, business practices, etc.
- 21.9 Customer Approved Sources
  - 21.9.1 Suppliers which are specified by contract, by Alemite customers, to perform or supply products are not absolved from meeting or exceeding the requirements of this manual or making product which meets Alemite specifications.

## 22 Supplier Rating System

- 22.1 All suppliers of automotive and industrial products will be monitored and rated for performance in two areas, delivery and quality.
- 22.2 Points will be awarded in both areas, based on supplier records.
- 22.3 Both Delivery and Quality weigh equally in importance toward the Overall Performance rating, which is as follows:
  - 22.3.1 Good
  - 22.3.2 Needs Improvement
  - 22.3.3 Unacceptable – Corrective Action May be Issued
- 22.4 The actual Overall Performance numeric ratings, Supplier Overall Performance Score and details about delivery and quality performance are reported on the Supplier Score Cards.
- 22.5 Automotive and Industrial Suppliers will be rated once per quarter and will receive a copy of their score card shortly after. A rating less than “Good” may require corrective action.
- 22.6 Help in the form of supplier development is offered to any supplier with a rating less than “Good”.
- 22.7 Actions Plans for improvement will be verified and/or monitored by the Supplier Quality Engineer and assisted by the Buyers.



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## 23 Supplier Quality Management System Development

- 23.1 Alemite develops its supply base towards **ISO 9001** compliance first.
- 23.2 Alemite will assist suppliers in developing their QMS toward **IATF 16949** compliance.
- 23.3 We also support our suppliers by giving the necessary information, expressing clearly its expectations and arranging meetings for exchange of knowledge and experience in QMS development directly and through application of the various QMS requirements.
- 23.4 New or potential suppliers are required to perform a self audit using the Supplier QMS Audit (QA 521).
- 23.5 Re-evaluation of suppliers may be required when there is a merger, acquisition, or affiliation to verify the continuity of the supplier's quality management system. The evaluation will be initialized via the completion and submittal by the supplier of a Supplier Evaluation Report, QA 521 (supplier self audit).
- 23.6 The employees are considered as the most important resources of the supplier. Alemite therefore requires its suppliers to develop their personnel through documented training and use motivation systems to encourage their continuous improvement **and review their employee's competence**.
- 23.7 Suppliers are expected to participate in any planned Supplier Development activities for continual improvement of Supplier Quality Management Systems.

## 24 Environmental and Work Environment Policy

- 24.1 Alemite encourages all its suppliers to achieve ISO 14001 registration.
- 24.2 Alemite expects suppliers to comply with federal, state and local laws concerning environmental regulations and safe practices. For example:
  - 24.2.1 Certain heavy metals are not permitted.
  - 24.2.2 Lead is only permitted under certain conditions and material must comply with RoHS 2011/65/EU and REACH No 1907/2006
  - 24.2.3 The product shall not contain more than the set limit of any substance listed as "P" (Prohibited) on GADSL (Global Automotive Declarable Substance List). SKF will be informed if the product contains more than the set limit of any substance listed as "D" (Declarable) on GADSL (Global Automotive Declarable Substance List) or on the candidate list of SVHC according to REACH . The product shall not contain Hexavalent Chromium in concentrations above 0.1% w/w on each homogenous material. No use of Hexavalent Chromium is made in the production of products supplied to SKF.
- 24.3 It is very important that the supplier provides a work environment which is kept clean, organized and conducive to employee's good health and production of acceptable quality product.
- 24.4 Some Alemite customers may require evidence of compliance to certain government environmental standards, which in turn will be required of the supplier. The Dodd-Frank Act is one of those requirements. The supplier shall report their compliance with the use of a Conflict Minerals



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Reporting Template (CMRT) or a letter of acknowledgment to Alemite. **Suppliers may also be requested to supply evidence of compliance to Prop 65 requirements.**

All materials used in, or incorporated into Alemite products shall satisfy current governmental and safety constraints on restricted, toxic and hazardous materials; as well as environmental, electrical, and electromagnetic considerations applicable to the country of manufacture and sale. A Safety Data Sheet (SDS) must be submitted for all items as defined under the Clean Air Act, OSHA, or any other applicable regulations.

## 25 Continual Improvement

- 25.1 Continual improvement is one of Alemite's main business objectives. It is essential to keep and extend Alemite's position in the market through the consistent delivery of high quality product. The impact that our suppliers have on Alemite's performance require the extension of the continual improvement philosophy throughout our suppliers' organization. Continual improvement of our suppliers must include: quality of parts, delivery, service, value added/value engineering and price.
- 25.2 The supplier should develop specific action plans for continual improvement in processes that are most important to the customer once those processes have demonstrated stability and acceptable capability.
- 25.3 Examples of continual improvements include but are not limited to the following:
  - 25.3.1 Machine downtime, machine set up, die change, machine change overtime
  - 25.3.2 Excessive cycle time
  - 25.3.3 Scrap, rework, and repair
  - 25.3.4 Non-value added use of floor space
  - 25.3.5 Excessive or unexplained variation
  - 25.3.6 Waste of labor and materials
  - 25.3.7 Excessive cost of poor quality
  - 25.3.8 Difficult assembly or installation of product or components
  - 25.3.9 Excessive handling and storage
  - 25.3.10 Marginal measurement system capabilities
  - 25.3.11 Customer dissatisfaction
- 25.4 Suppliers need to learn and implement various tools or techniques for analyzing and improving internal processes. Following are some of those tools:
  - 25.4.1 Statistical Process Control
  - 25.4.2 Machine Capability
  - 25.4.3 Design of Experiments (DOE)
  - 25.4.4 Value Analysis/Value Engineering
  - 25.4.5 Tracking Cost of Poor Quality
  - 25.4.6 5-S principles
  - 25.4.7 Cause and Effect Analysis
  - 25.4.8 Benchmarking
  - 25.4.9 Error Proofing



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- 25.4.10 Brainstorming
- 25.4.11 Cross Functional Teams
- 25.4.12 PPM Analysis

## 26 Forms List

- 26.1 Supplier Temporary Authority Request, QA-137A
- 26.2 Supplier QMS Audit, QA-521
- 26.3 Supplier Engineering Change Request, QA-584
- 26.4 SCAR Supplier Corrective Action Report, QA-605

## 27 Revisions Record

| Revision       | By     | Description                                                                                                                                                                                                                                                                                                                                                                                                | Page(s)                             |
|----------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 10-09-2007 (1) | Saylor | Previous revision 09-29-2006 (0) was completely revised. Various sections were re-written, removed and others added and the whole manual was renumbered and restructured.                                                                                                                                                                                                                                  | All                                 |
| 03-17-2009 (2) | Kurfes | Revised Cover Page name of Quality Manager and name and title of Director of Engineering to Engineering Manager previous revision General Requirements stated all OEM and Non-automotive suppliers to be ISO 900:200 registered at a minimum. Revised to Alemite Suppliers are encouraged and in some cases required to be registered to ISO 9000:2000. Revised 4.5 to added will require PPAP submission. | 1, 5, 10                            |
| 03-17-2010 (3) | Kurfes | Revised Shipping 16.1 to reflect Expectation for On-Time Delivery is 100%.                                                                                                                                                                                                                                                                                                                                 | 26                                  |
| 08-17-2010 (4) | Kurfes | Revised ISO/TS 16949:2002 to ISO/TS 16949:2009. ISO9001:2000 to ISO9001:2008                                                                                                                                                                                                                                                                                                                               | Cover, 29, 2, 5                     |
| 4/25/2011 (5)  | Frye   | Revised quality policy to SKF Quality Policy & update cover sheet                                                                                                                                                                                                                                                                                                                                          | Cover 1                             |
| 1-4-2012 (6)   | Frye   | Spelling corrections in section 18                                                                                                                                                                                                                                                                                                                                                                         | 26                                  |
| 8-26-2014 (7)  | Frye   | Changed Supply Chain Name                                                                                                                                                                                                                                                                                                                                                                                  | Title Page                          |
| 8-20-2015 (8)  | Frye   | Updated approvals page, added Dodd-Frank, REACH requirements, revised 8-D to CAR, added supplier sign off page, updated charges for non conforming product (sort, rework, and admin fee)                                                                                                                                                                                                                   | 1,24, 29,32                         |
| 11-3-2015 (9)  | Jones  | Updated to reflect re-evaluation of supplier                                                                                                                                                                                                                                                                                                                                                               | 29                                  |
| 4/18/2017 (10) | Frye   | Updated ISO – IATF dates, added Prop 65 requirements, Lab specs for raw material , Updated TS to IATF, EMS requirements added                                                                                                                                                                                                                                                                              | Cover, 2, 5, 12, 15, 18, 21, 29, 30 |
| 1/18/2018      | Frye   | Made corrections to verbiage on several pages and clarified note on CQI 9 & 11 – Approval is not required by all for this correction.                                                                                                                                                                                                                                                                      | 23                                  |
| 7/2/2015       | Frye   | Updated Cover page to read Brad Edler<br>Will not send out to customer – just cover name change                                                                                                                                                                                                                                                                                                            | Cover                               |



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|            |      |                                                                                                                                                                |           |
|------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 12/16/2020 | Frye | Updated Cover page to read Leanne Loggins<br>Will not send out to customer – just cover name change – but will give update to communications to update website | Cover     |
| 11/17/2021 | Frye | Added PDSP to the PPAP checklist & Updated cover to remove Leanne                                                                                              | Cover, 13 |
| 12/15/2021 | Frye | Add the Supply Chain Manager to the cover page                                                                                                                 | Cover     |
| 2/28/2022  | Frye | Added the Quality Manager to the cover page                                                                                                                    | Cover     |



# Supplier Quality Manual

I \_\_\_\_\_ (Print Name) representing \_\_\_\_\_ (Company Name)  
declare that I have read, understand, and agree to comply with the requirements of the Alemite  
Supplier Quality Manual.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

(Please return a signed copy to the Alemite buyer as soon as possible)