



dukes, inc.

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**Supplier Quality
Assurance Provisions
Manual**

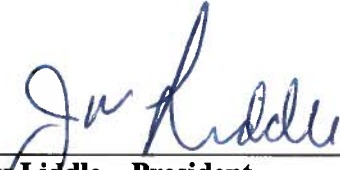


Rev	Reason For Change	Date
N/C	Complete rewrite	July 18, 2006
A	Rewritten for clarity	Sept. 5, 2006
B	Domestic material requirements moved to Section 2	Sept. 27, 2006
C	Added Supplier Control & Evaluation to Section 1 Added use of Dukes approved suppliers required for Sub-Tier Control Added ANSI/NCSL Z540 to 6)D	July 8, 2008
D	Added Supplier Notification of Change	June 17, 2010

INTRODUCTION

Dukes, Inc. (herein referred to as Dukes or the Company) is responsible for assuring the quality of the products we deliver to our customers. The Quality Management System at Dukes is based on the international standard, AS9100B and requires that Dukes establish procedures for selecting suppliers, performing periodic reviews, and assessing the effectiveness of the control of purchased materials. It is of extreme importance that our suppliers be able to consistently deliver high quality products, materials, and services.

This manual defines the contractual Supplier Quality Assurance Provisions that appear on Dukes Purchase Orders. The "General" Quality Assurance Requirements in Section 1 are applicable to all purchase orders. The specific Quality Assurance Requirements in Section 2 apply when referenced by code on the applicable purchase order. Questions and comments in regards to these requirements should be addressed directly to the cognizant purchasing representative at Dukes, Inc.



Jim Liddle – President

Date: 6/21/2010



Don Klein – Director of Engineering and Quality Assurance

Date: 6/17/2010



Supplier Quality Assurance Provisions (SQAP)

Section 1

General Requirements

The general quality requirements herein are applicable to all Dukes, Inc. purchase orders. Purchase order specific or unique quality requirements imposed are described in detail in Section 2.

Supplier Control

Dukes, Inc. evaluates and selects suppliers based upon their ability to supply products and/or services in accordance with specified requirements.

Dukes, Inc. maintains a Qualified Supplier List (QSL). This list is prepared and maintained by Supplier Quality Assurance (SQA) and utilized by purchasing buyers for selecting a supplier.

Supplier Evaluation (Initial)

The supplier evaluation process is performed as follows:

The names of supplier candidates are unidentified by the buyer and forwarded to quality with a request to perform a supplier evaluation.

SQA will determine the scope of the evaluation based upon the suppliers quality system and Dukes, Inc. purchasing requirements.

Supplier surveys, either on-site or mailed, will be conducted by Dukes SQA to evaluate the suppliers quality system and their capability of meeting Dukes, Inc. purchase order requirements. Survey results shall be noted on QA Form #003, Supplier Quality Assurance Survey.

Consideration for supplier approval shall be based upon on-site survey results, the type of supplier quality system, their quality manual if available, the submitted survey results, third party certifications/accreditations and any other factors such as submitted product samples, scope of approval, etc.

Supplier Evaluation (On-going)

Suppliers are continually evaluated as it relates to quality and their performance. Suppliers failing to demonstrate minimum performance criteria will result in Dukes SQA re-evaluation through the corrective action system.

All suppliers will be required to provide a Supplier Quality Assurance Survey request every 3 years or as directed by the Quality Assurance Director for changes in the quality system requirements.



Sub-Tier Control

The supplier shall be responsible for flow down of all the requirements and provisions of the Dukes, Inc. purchase order applicable to the supplier's sub-contractors. The use of Dukes, Inc. approved suppliers is required when sub-contractors are used. Suppliers sub-contractor may be used when a Supplier Control System is in place and is approved by Dukes, Inc.

Facility Access

During the performance of any Dukes purchase order, the suppliers quality assurance or inspection and manufacturing process are subject to review and analysis by Dukes, Inc., our customer, and/or government representative. This requirement is applicable to the supplier's facilities where Dukes, Inc. products and services are processed as well as the supplier's sub-tier facilities.

Reworked / Replaced Material

When returning previously rejected material to Dukes, the supplier shall reference the discrepancy report number and purchase order number on the shipping document, and shall state if the items have been replaced or reworked.

Production First Article Reports

Compliance to requirements shall be demonstrated by submitting a First Article Inspection Report with the first lot shipment of product and with the first lot shipment of each subsequent revision for those dimensions/conditions affected by the revision. Catalog parts are excluded; for catalog parts such as MS, NAS, AN, etc, a certificate of conformance to all purchase order requirements are required. First article inspection reports shall include serial numbers (when applicable), all dimensions, general notes, tolerance ranges, actual measurements, and where physical testing is required, the results of the tests. First article parts shall be identified as "First Article" by paper tagging or any other suitable means of identification. Dukes recommends suppliers adopt the AS9102 format as the foundation for their first article reporting.

Castings and parts manufactured using fixtured tooling are exempt from production first article reports as they are a product of the tooling.

Additional first article inspection shall be performed when:

- Either new manufacturing processes or new methods are used that could affect compliance to the drawing requirements,
- New, reworked or transferred tooling is in use,
- A drawing revision affects the operation performed by the supplier,
- A new supplier is contracted to manufacture the part,
- As required by Dukes, Inc. in writing.



Supplier Non-conformance Requests

For consideration by Dukes, Inc. for any departures from drawings, specifications, or other purchase order requirements, such non-conformances shall be documented and submitted on a Supplier Non-conformance Approval Request form (SNAR). Dukes, Inc. Engineering and quality shall review the SNAR for the non-conformance submittal and either approve or disapprove the supplier request. If disapproved, the supplier cannot ship the discrepant material to Dukes. Non-conforming material cannot be knowingly shipped from a supplier to Dukes without being accompanied by an approved SNAR signed by both Dukes engineering and quality. A copy of the signed SNAR shall accompany the product. Dukes' quality group shall also forward a copy to Dukes receiving inspection for use upon receipt of the product from the supplier.

Non-conforming Materials Corrective Action (Rejection Notices)

Upon notification from the buyer that material furnished by the supplier has been found discrepant upon receipt, the supplier shall promptly notify the buyer, in writing, of adequate, acceptable, and effective corrective action taken to eliminate the cause of the discrepancy. The supplier shall also notify the buyer, in writing, of adequate and effective preventative action to prevent recurrence of the non-conformance. The supplier's response shall include root cause analysis addressing the cause, root cause, corrective action for both the cause & root cause, actions to prevent recurrence, effectivity point of corrective action, and effectivity date.

Supplier Notification of Change

The supplier is required submit written notification of any changes in product and/or process definition and obtain appropriate approvals from Dukes, Inc.

Repair

Under no circumstances shall a supplier or supplier's sub-tier perform any repairs or salvage procedures or operations without specific written authorization and an approved repair procedure from Dukes, Inc.

Preservation

Material subject to corrosion, contamination, etc. shall be packaged and/or coated with an acceptable preservative to prevent corrosion while in transit and storage. Please contact your purchasing representative for information for appropriate preservatives.

General Certification Traceability

All certifications shall be traceable to the material submitted and shall contain the signature and title of the authorized representative of the seller. Serial numbers shall be listed if the components are serialized. Computer generated facsimile signatures will be acceptable.



Records Retention

The supplier shall maintain adequate records of all first articles, in-process, final inspections, test, and part data history as imposed by purchase order requirements. Inspection records shall indicate the nature and number of observations made, the number and type of deficiencies

discovered, the quantities approved and rejected, and the nature of corrective action taken, as appropriate. The First Article Inspection Reports (FAIR) shall include all drawing dimensions, general notes, and tolerance range along with actual measurement results. Dukes, Inc. recommends and may impose First Article Inspection (FAI) in accordance with AS9102 (latest rev). Additional clause specific detail may be found within the applicable clause requirements.

This information and all supporting documentation such as raw material certifications, special processing records and certifications, manufacturing records, i.e. route sheets, and travelers, shall be retained by the Supplier in accordance with the terms of the purchase order. When the purchase order is complete, such records shall be maintained and available to the buyer on request for a period of not less than seven (7) years from the closing of the purchase order unless stated otherwise in accordance with the terms of the purchase order.

Drawings, Specifications, and Quality Requirements

The supplier's quality system shall assure the latest applicable drawings, specifications, and quality requirements are compatible with current purchase order agreements and are available and in use by the supplier's manufacturing and inspection groups. Military standards and specifications utilized shall be to the latest revision in effect upon the date of the purchase order, unless otherwise specified.

Packaging, Handling, and Marking

In performance of the contract, the supplier shall assure that all articles are packaged in a manner and with materials necessary to prevent deterioration, corrosion, or damage. Requirements for packaging shall consider conditions affecting the article while at the supplier's plant, transportation to destination, and the expected or specified conditions at the destination.

The Supplier shall provide sufficient packaging for articles sensitive to handling damage. Electrostatic sensitive components shall be handled in accordance with the latest DOD-STD-1686 and EIA-625, "Electrostatic Discharge Control Program for the protection of electrical and electronic parts, assemblies and equipment." During fabrication and processing, special carts, boxes, containers and transportation vehicles shall be used as necessary to prevent damage due to handling. Material or articles affected by UV or sunlight shall be packaged for protection from such sources. When packaging any material or articles, the use of staples shall be avoided.

Marking shall be applied as specified by the engineering drawing or specification; if the engineering drawing or specification does not define marking method, marking shall be applied as instructed by specific purchase order notation.



Inspection Sampling – In Accordance With Dukes, Inc. Requirements

Unless otherwise specified in the purchase order and SQAP's, the supplier may use sampling procedures when tests are destructive or when quality history, inherent characteristics, statistically controlled processes or operation repeatability due to numerically controlled machines justify less than 100% inspection. Sampling plans shall be in accordance with ANSI Z1.4. Suppliers must submit their sampling plan as part of the first article inspection package for the product delivered. Sampling plans other than from ANSI Z1.4 must be approved in writing by Dukes, Inc. for usage on Dukes products. Dukes, Inc. will not approve any sampling plan which permits acceptance with defectives in the population sample.



Supplier Quality Assurance Provisions (SQAP)

Section 2

Specific Requirements

(Reference Purchase Order Codes)

1) Certificate of Conformance

A legible and reproducible copy of a Certificate of Conformance must accompany each shipment. The certificate must include the following as a minimum:

1. Supplier name and address
2. Dukes, Inc. purchase order number and quantity shipped
3. Part number
4. Drawing revision
5. Manufacturing plan revision (when applicable)
6. Operation number (when applicable)
7. Signature and title of authorized representative
8. All processes performed, required by blue print, specification and/or purchase order, to include:
 - Process
 - Specification
 - Process certification number and Dukes, Inc. approved supplier used for processing (when applicable)
9. Sub-assembly part number with latest revision (when applicable)
10. Sub-assembly process, specification, certification number and Dukes, Inc. approved supplier used (when applicable)
11. Lot serialization (when applicable)
12. Indication that products were manufactured from materials on which the seller has records of material conformance.

The certificate of conformance must contain a statement that all inspection and tests have been performed as required by drawing, specification and/or purchase order. The certificate must list each special process that appears on the drawing such as heat treat, non-destructive examination, and plating or coating, etc. Perishable products controlled by batch number or cure date and products controlled by heat number will have an applicable controlling number on the individual certificate. Blanket statements of conformance are unacceptable as are statements of belief rather than fact.



2) Source Surveillance By Dukes, Inc.

When this SQAP is imposed, the Dukes quality representative shall perform an evaluation & acceptance of product at the supplier's facility. This will include surveillance of the products and supplier's systems, procedures, and facilities. The supplier shall furnish at no cost, the necessary facilities and equipment, supply data, and perform tests/inspections as required by applicable drawings, specifications, or Dukes directed inspection instructions under the surveillance of the Dukes supplier quality representative.

3) Source Inspection By Government Agency or Dukes Customer

- a. Mandatory government inspection – Government inspection is required prior to shipment from your plant. Promptly notify the government representative who normally services your plant so that appropriate planning for government inspection can be accomplished. On receipt of this order, promptly furnish a copy to the government representative who normally services your plant. In the event of the representative or office cannot be located, contact the cognizant Dukes, Inc. purchasing agent immediately.
- b. Government/Customer access clause – During performance of the purchase order, your quality assurance or inspection system and manufacturing process are subject to review, verification and analysis by authorized government/customer representatives. Government/Customer inspection or release of products prior to shipment is not required unless you are otherwise notified. A copy of the purchase order will be furnished to your Government/Dukes, Inc. customer representative upon request.

4) Inspection Data Required

All final dimensional inspections shall be documented and submitted with the shipment to Dukes, Inc. utilizing the requirements and documentation format as Section 1, Production First Article Reports.

5) Process Approvals

Special process sub-tiers such as x-ray, welding, heat treating, plating, coating, non-destructive testing, etc must be performed by Dukes or Dukes customer approved sources, as imposed by purchase order requirements and/or referenced technical data. The current approval status of processing sub-tiers must be confirmed with Dukes, Inc. prior to performing the process. Contact your Dukes Purchasing Agent to ascertain current approval status. All inspection data, test results, etc must ship with the product unless otherwise instructed by Dukes, Inc. Radiographic film shall be maintained at the performing source for a minimum period of one year unless a specific request is made to ship the film to Dukes.



6) Quality Assurance System Requirements

- a. Supplier shall maintain a quality program in compliance with ISO 9002 or AS9100 requirements based on processes performed by the supplier. Dukes quality department shall detail specific element compliance based on engineering & quality requirements imposed for awarded product.
- b. Supplier shall maintain an inspection system in accordance with ISO 9002 or AS9100 QMS model requirements. Dukes suppliers may also maintain MIL-Q-9858 or MIL-I-45208 quality systems in lieu of a formal QMS model.
- c. Supplier shall comply with “Standard Inspection Requirements” FAR 52.246 (latest Rev).
- d. Supplier shall maintain a calibration system in compliance with MIL-STD- 45662, ANSI/NCSL Z540 or ISO10012-1 (latest rev).

7) Metallurgical First Article

The supplier shall furnish evidence that all material qualification tests and inspections have been performed and results meet applicable material specifications and drawings. Samples of physical properties test such as case depth, etc shall be included in the shipment when applicable.

8) First Article Requirement

Compliance to contractual first article conformity shall be verified by a First Article Inspection Report (FAIR). FAIR's shall include serial number when applicable, all drawing dimensions, general notes, and tolerance ranges along with actual measurement results, and where physical testing is required, the results of the tests. First article parts shall be identified as “First Article” by tagging, separately packaging them or other suitable means. If required by contract or purchase order requirements, the first article shall be in accordance with AS9102 (latest rev).

Subsequent FAIR conformity shall be performed when any of the following conditions exist:

- Either new manufacturing processes or new methods are used that could affect compliance to the drawing requirements,
- New, reworked or transferred tooling is in use,
- A drawing revision affects the operation performed by the supplier,
- A new supplier is contracted to manufacture the part,
- As required by Dukes, Inc. in writing.

9) Cast Test Bars

The supplier shall furnish two test bars representative of each heat treat lot, poured from the same melt as the casting supplied and perform chemical & physical testing as directed. Test bars shall be permanently identified with the supplier's name or trademark, melt, heat treat lot number, and alloy type. The supplier shall retain the test bars for a period of not less than seven (7) years, and must be made available to Dukes, Inc. upon request. Test bars stored at the supplier's facility shall not be destroyed without written approval from Dukes, Inc. purchasing.



10) Physical and Chemical Test Reports

Each shipment must be accompanied by a physical/chemical test report as required by the applicable material specification. The report must contain the signature and title of the authorized representative of the facility performing the tests and shall assure specification conformance.

11) Functional Test Certifications

Each shipment must be accompanied by a legible and reproducible copy of the suppliers certification identifiable with submitted material specifying test reports are on file and available for examination. This certification must contain the signature of the authorized representative and assure conformance to specified requirements.

- a. Actual test results required
- b. Test certificate of conformance required

12) Statistical Process Control

When imposed on the purchase order, the supplier will submit one (1) copy of the required Statistical Process Control charts to verify control improvement and analysis of processes (i.e. X Bar R charts, histograms, etc). Capability analysis may be imposed by purchase order to demonstrate supplier's process performance.

13) Process Certification

Each shipment must be accompanied by a legible and reproducible copy of a certificate containing the signature of an authorized representative for all processes used, such as heat treating, welding, surface preparation and treatment, etc. The certificate shall include the process used, the specification to which it conforms, results of any testing and the name of the sub-tier that performed them if other than the supplier. When parts are serialized, the serial number shall appear on the certification.

14) Non-Destructive Test Reports

A legible and reproducible copy of actual non-destructive results identifiable with acceptance requirements and material submitted shall accompany each shipment. These reports shall contain the signature and title of the authorized representative of the agency performing the inspection and must assure conformance to specified requirements.

Fluorescent penetrant – magnetic particle, radiographic and other non-destructive evaluation processes as referenced on drawings and/or specifications shall be accomplished by an approved Dukes source in accordance with applicable standards.



Parts that have been accepted using fluorescent penetrant inspection or magnetic particle inspection shall be marked per the applicable non-destructive test specification. Unless otherwise specified, radiographic inspection of castings shall be performed after all operations, including snagging, heat treat, grit blasting, etc. Radiographic techniques shall be submitted to Dukes, Inc. for prior approval if required by the purchase order.

15) Heat Treat Report

Each shipment shall be accompanied by a legible and reproducible copy of the detailed heat treatment cycle used. Details to include: drawing requirement, specification, date, time, temperature, and quench method as applicable. Inspection reports must accompany the heat treat report. The report shall contain the signature and title of the authorized representative of the agency performing the tests and inspections.

16) Synthetic Rubber Components/Raw Material & Assembly Cure Date

Synthetic rubber products used in assemblies shall meet the age requirements of MIL-STD-1523. In addition, all assemblies shall be marked with the cure date of the oldest synthetic rubber part in the assembly as well as the date of assembly. Marking may be accomplished by decal, rubber stamp, or bag and tag.

Each package of synthetic rubber components shall be marked with date of cure, part number, purchase order number, quantity, compound number, and manufacturer's identification (if different than part number). Date of cure on "O" rings shipped to Dukes shall be defined on the supplier's certification and shall not exceed 8 quarters from the cure date to ship date and acceptance at Dukes.

Material or articles having definite age degradation characteristics shall be marked with manufacturing data and/or cure date, and date of expended useful life.

Material or articles affected by UV or sunlight shall be packaged for protection from such sources.

17) Raw Material Certification

Each shipment shall be accompanied with legible copies of the material certification as furnished by the raw material supplier or an independent test laboratory. Material certifications must agree in all respects with the raw material requirements of their applicable specifications. Unless otherwise specified, all certifications shall state as a minimum, the latest revision of the specification being certified to. The certifications shall contain a statement "We certify the listed material was used to fulfill the requirements of Dukes, Inc. purchase order _____." and shall be signed by an authorized quality representative.



18) Mill Heat Control/Mill Certification

- a. Assigned serial numbers must be consecutive within a mill heat.
- b. All items covered by this Purchase Order shall be from the same mill heat.
- c. Actual mill certification required.

19) Gears

In lieu of SQAP, Section 2, Clause #4, supplier shall submit a 10% red line report.

20) First Article Source Surveillance by Dukes, Inc.

Dukes quality representative shall perform a first article source evaluation & acceptance at the supplier's facility. This will include surveillance of the product and supplier's systems, procedures, and facilities. The supplier shall furnish at no cost, the necessary facilities and equipment, supply data, and perform tests/inspections as required by applicable drawings, specifications, or Dukes directed Inspection Instructions under the surveillance of the Dukes supplier quality representative.

21) Dukes/Customer Furnished Material

The supplier is required to assure all customer and/or Dukes, Inc. furnished raw material, partially processed components, sub-assemblies, etc, are free of shipping damage, etc, prior to processing.

Discrepant customer and/or Dukes, Inc. furnished materials, parts, sub-assemblies, components, etc, may be rejected at time of receipt. The supplier assumes responsibility of total value of material, components, sub-assemblies, and assemblies when scrapped as a result of processing subject articles. The supplier is not responsible for Dukes, Inc. controlled parameters but assumes responsibility for protecting Dukes, Inc. investment in raw material or partially completed items. Vendors processing on damaged Dukes, Inc. furnished items will be rejected at supplier's responsibility.

22) Domestic Material

When specified by purchase order requirements or imposed by DFARS 252.225-7014, all raw material incorporated into the delivered item must be manufactured in the United States, its outlying territories, or by specific qualifying countries as noted in the DFARS 252.225-7002.