

Reader Precision Solutions Supplier Quality Manual

INTRODUCTION

Welcome to Reader Precision Solutions

Reader Precision Solutions is a manufacturer of precision machined products that serves industrial, defense, healthcare, micro-machining and aerospace markets.

Introduction to Manual

In today's manufacturing environment, product that is found to be non-conforming at receiving, or during production, causes serious disruptions of the production and shipping schedules, resulting in high production costs. Even the best Receiving Inspection program cannot detect all defective material. Reader Precision Solutions requires suppliers to control the quality of material shipped to Reader Precision Solutions, so that Reader Precision Solutions does not need to inspect the product when it is received.

This manual describes Reader Precision Solutions' expectations of its suppliers in order to ensure that purchased material meets Reader Precision Solutions requirements. The Supplier Quality Manual and Appendix A - Supplier Quality Requirements (SQR) can be found on Reader Precision Solutions website <https://www.readerprecision.com/supplier/>. Suppliers are to ensure that they have the latest revision of both prior to accepting any PO from Reader Precision Solutions.

Scope

This information applies to all suppliers who have an interest in doing business with Reader Precision Solutions who provide component manufacturing, raw material or any other processes or services that affect the quality of our product.

Reader Precision Solutions Quality Policy:

It is the policy of Reader Precision Solutions to supply its clients with products and services of high quality, which meet or exceed their requirements.

To achieve this, Reader Precision is committed to a process of continuous improvement of its products, services, employees, and quality management system.

Table of Contents

INTRODUCTION.....	1
Welcome to Reader Precision Solutions	1
Introduction to Manual.....	1
Scope	1
Reader Precision Solutions Quality Policy:	1
Table of Contents.....	2
1.0 QUALITY MANAGEMENT SYSTEM REQUIREMENTS.....	4
1.1 Quality Management System	4
1.2 Quality Manual and Procedures.....	4
1.3 Control of Sub-tier Suppliers	4
2.0 SUPPLIER QUALIFICATION PROCESS	5
2.1 New Supplier Questionnaire	5
2.2 New Supplier Self-Assessment.....	5
2.3 On-Site Assessment	5
2.4 Periodic Reevaluation.....	6
2.5 Supplier Metrics	6
3.0 PART QUALIFICATION	6
3.1 First Article Requirements Checklist.....	6
3.2 Dimensional Inspection Report	7
3.3 Material Certification/Test Report	7
4.0 GAGE REPEATABILITY & REPRODUCIBILITY (R&R) STUDIES	7
4.1 Gage Correlation Studies	7
4.2 Process Capability Studies	8
4.3 Failure Modes and Effects Analysis (FMEA)	8
4.4 Control Plan	8
4.5 Electrostatic Discharge (ESD) Susceptibility.....	9
4.6 Safety Data Sheets (SDS).....	9
4.7 Agency Approvals and Compatibility Reports.....	9
4.8 Packaging & Labeling.....	9
4.9 Traceability.....	9
5.0 MANUFACTURING CONTROL.....	10
5.1 Process Control	10
5.2 Statistical Process Control.....	10
5.3 Process Performance Requirements.....	10
5.4 Process Improvement.....	10
5.5 Lot Control	11
5.6 Traceability.....	11
5.7 Workmanship	11
5.8 Safety.....	11
5.9 Maintenance	11
5.10 Electrostatic Discharge (ESD) Controls	12
6.0 DRAWINGS/CHANGES	12
6.1 Drawing and Change Control.....	12
6.2 Process Changes, Engineering Changes.....	12
6.3 Supplier Process Change.....	12
6.4 Supplier Deviation Request.....	13
7.0 PACKAGING & LABELING	13
7.1 Packaging.....	13
7.2 Labeling.....	14
8.0 CORRECTIVE ACTION SYSTEM	14
8.1 Corrective Action Process Approach.....	14
8.2 Supplier Corrective Action (SCAR).....	15
9.0 DOCK-TO-STOCK (DTS)	15
9.1 Dock-to-Stock Requirements	16
9.2 Dock-to-Stock Suspension.....	16
10.0 AUDITS	17
10.1 Supplier Audits	17
10.2 Inspection Audits.....	17
11.0 FIRST ARTICLE INSPECTION.....	18
12.0 SUPPLIER-FURNISHED LOT DOCUMENTATION.....	19

Table of Contents

13.0ORDER OF PRECEDENCE 19
APPENDIX A - SUPPLIER QUALITY REQUIREMENTS (SQR)..... 24

1.0 Quality Management System Requirements

1.1 Quality Management System

Each Reader Precision Solutions supplier is required to maintain an effective quality management system, preferably one that conforms to the latest ISO 9001 or AS9100 Quality Management System. In addition, the supplier must meet all other requirements of this manual. Other approved QMS to include but not limited to are NADCAP, A2LA, ISO17025.

1.2 Quality Manual and Procedures

The supplier, as requested, will furnish Reader Precision Solutions with a copy of the supplier's Quality Manual and supporting procedures. This includes detailed documents and work instructions specific to production of material for Reader Precision Solutions. This does not include any proprietary information.

1.3 Control of Sub-tier Suppliers

Suppliers are responsible for the quality of materials and components provided by their sub-tier suppliers and sub-contractors. Reader Precision Solutions suppliers must impose controls on their sub-tier suppliers that provide quality results and documentation comparable to the controls applied to suppliers by Reader Precision Solutions. The extent of the controls may vary, depending on the nature and complexity of the product and processes, but should normally include:

- Evaluation and qualification of sub-tier supplier facilities
- Control to ensure that raw materials used meet Reader Precision Solutions requirements
- Controls to ensure that the sub-tier suppliers of components used are those approved by Reader Precision Solutions. Where applicable.
- Ensure that sub-tier suppliers have an ESD control program that meets or exceeds the needs of Reader Precision Solutions if the parts or materials are ESD sensitive.
- Part qualification, including first article inspection and process capability studies of as applicable.
- Control of drawings/revisions
- Control of nonconforming material
- Corrective action program
- A continuous quality improvement program

Where appropriate, Reader Precision Solutions may specify the sub-tier suppliers that may be used, evaluate and qualify the sub-tier supplier's facilities, and assist the supplier in controlling the sub-tier supplier. Typically, this occurs when the sub-tier supplier is an essential component of the supply-chain process. *Reader Precision Solutions reserves the prerogative to evaluate the quality system and records of such sub-tier suppliers as necessary. In the event of Reader Precision Solutions involvement, it does not absolve suppliers of the ultimate responsibility for the quality performance of their sub-tier suppliers.*

2.0 Supplier Qualification Process

All suppliers of production materials to Reader Precision Solutions must be qualified suppliers. The extent of the qualification process is dependent upon the criticality of product purchased and other factors determined by Reader Precision Solutions. The qualification process in its most complete form consists of three parts:

- A questionnaire completed by the supplier.
- A quality management system self-assessment completed by the supplier, using the Reader Precision Solutions supplier assessment survey form. This is returned, along with the supplier's quality manual and documentation for review by Reader Precision Solutions.
- An on-site assessment by Reader Precision Solutions personnel or their authorized agents.

Reader Precision Solutions periodically reevaluates suppliers through the use of quality performance data and/or on-site assessments.

2.1 New Supplier Questionnaire

In the early stages of the supplier selection process, potential suppliers are sent a questionnaire. This questionnaire solicits general information about the company such as location(s), size, capabilities, and financial stability as well as detailed questions regarding the Company's quality management system and quality history.

2.2 New Supplier Self-Assessment

When a new supplier is being considered, they are sent a quality management system self-assessment survey form. The supplier completes the self-assessment and returns it along with a copy of their quality manual and supporting documents. Reader Precision Solutions will review the quality manual, procedures, and survey to determine if the documented quality system meets Reader Precision Solutions requirements.

2.3 On-Site Assessment

For suppliers of critical components, an on-site assessment of the supplier's facility is performed. The on-site assessment includes three components:

- A quality assessment to determine whether the supplier's quality management system is in place and functioning effectively.
- A business assessment to determine whether the supplier has financial resources, production capacity, and other business resources needed to fulfill Reader Precision Solutions production needs.
- A technology assessment to determine whether the supplier has the needed technical resources, including production and inspection equipment, facilities, engineering resources, etc.

If the assessment team determines that the supplier meets Reader Precision Solutions requirements, Reader Precision Solutions qualifies the supplier to bid on new business and supply production materials.

2.4 Periodic Reevaluation

Reader Precision Solutions periodically reevaluates current production suppliers through the use of quality performance data and/or on-site assessments. If requested, the supplier shall make their facility available for on-site process verification by Reader Precision Solutions personnel, with reasonable notice.

2.5 Supplier Metrics

Suppliers will be measured on Quality and On-Time Delivery (OTD), see below goals:

- Quality
 - >98% (# of parts defective / # of parts delivered)
- On-Time Delivery: (5 Days Early and 0 Days Late on Dock)
 - OTD >98%: (# of Late Deliveries / # of Deliveries)

Percentage	Status
98.0 - 100	Partner
95.0 - 97.9	Good Standing
90.0 - 94.9	Marginal
0.0 - 89.9	Substandard

Suppliers not meeting the overall score of “Marginal” for three consecutive months may be moved to *PENDING* and an improvement plan from supplier may be requested. If appropriate, a Supplier Corrective Action (SCAR) can be issued and an on-site follow-up audit can be conducted. If no improvement is made after 6mos then a review is held with management to determine if removal of that supplier from the Approved Supplier List is appropriate and develop an exit strategy. All attempts will be made to develop a poor performing supplier.

3.0 Part Qualification

The supplier is responsible for submitting all First Article data requested by Reader Precision Solutions on the first article requirements checklist. Reader Precision Solutions and the supplier will agree on the number of the samples to be checked and submitted with the first article data. Where possible, all First Article documents should be submitted to the supplier quality engineer in electronic format (preferably Adobe Acrobat or Microsoft Office).

In some cases, Reader Precision Solutions personnel may wish to be present during the initial production run. This will allow Reader Precision Solutions to validate and verify the process before any product is shipped

3.1 First Article Requirements Checklist

For each new or changed part, Reader Precision Solutions may send the supplier a First Article Requirements Checklist, listing the steps and information that must be submitted for qualification of the component or assembly for production. The checklist items selected are based on the type of component or assembly to be supplied.

3.2 Dimensional Inspection Report

Reader Precision Solutions notifies the supplier of the quantity of parts to be inspected, typically five from each tool or cavity. The supplier inspects or tests each sample for all dimensions, drawing notes, and specification requirements listed on the current revision of the Reader Precision Solutions drawing and/or specification. The supplier records the results on the First Article Report form or equivalent. The supplier numbers a copy of Reader Precision Solutions drawing and/or specification to correspond with the supplier's results.

The dimensional inspection report must include the specification number, specified requirements, and the inspection/test results. A simple statement that the material meets the requirements is not acceptable. Each report must be traceable to the supplier's material, through lot/heat/coil/batch numbers or equivalent, and must be signed by the organization that performed the testing. For any requirements that the supplier does not have the equipment to inspect or test, the supplier may obtain reports from their sub-supplier or other test agency.

Parts inspected for the dimensional inspection report are randomly selected from a production run of parts. The minimum quantity for the production run is agreed upon between the supplier and Reader Precision Solutions. The parts must be produced under volume-production conditions, including material, machines, tooling, processing parameters, cycle times, etc. Any exceptions to the volume-production conditions must be approved in writing by Reader Precision Solutions and included in the data package submitted to Reader Precision Solutions.

3.3 Material Certification/Test Report

When requested, the supplier must provide a material certification/test report. This report must include the specification number, specified material and/or physical requirements, and the inspection/test results. A simple statement that the material meets the requirements is not acceptable. Each report must be traceable to the supplier's material and must be signed by the organization that performed the testing.

4.0 Gage Repeatability & Reproducibility (R&R) Studies

For those characteristics specified by Reader Precision Solutions, the supplier must perform gage R&R studies using procedures described in Measurement Systems Analysis published by AIAG. Reader Precision Solutions must approve R&R values greater than 10 percent of the tolerance.

Normally for variable gages, three different operators measure ten samples three times each. For attribute gages, the Attribute Gage Study (long method) is required. Reader Precision Solutions must approve any alternative methods.

4.1 Gage Correlation Studies

For characteristics specified by Reader Precision Solutions, the supplier must perform a gage correlation study. This consists of the supplier identifying, measuring, and recording a specified number of production parts. The supplier then sends the parts to

Reader Precision Solutions for measurement. Reader Precision Solutions compares their measurements with the supplier's measurements to determine the correlation between the gages.

4.2 Process Capability Studies

Process Capability (C_{pk}) is a comparison of the inherent variability of a process output to specification limits *under statistically stable conditions*. There are a number of techniques for assessing the capability of processes. Reader Precision Solutions suppliers must use methods defined in Statistical Process Control (SPC) published by AIAG for determining process capability and process performance unless an alternate method is approved in writing by Reader Precision Solutions.

A Cpk of at least 1.67 is required for Reader Precision Solutions critical dimensions.

4.3 Failure Modes and Effects Analysis (FMEA)

When requested, the supplier must perform a Process Failure Modes and Effects Analysis (PFMEA), and submit it for approval. For parts and assemblies that are designed by the supplier, the supplier should also perform a Design Failure Modes and Effects Analysis. The PFMEA considers all reasonably foreseeable potential failure modes of each process. Based on the potential seriousness and likelihood of the problem, the supplier develops manufacturing controls. The PFMEA should be a living document, and should be updated when process changes occur, or when defective material is produced. PFMEA methods and examples can be found in Potential Failure Mode and Effects Analysis published by AIAG.

4.4 Control Plan

When requested, the supplier must develop a control plan and submit it for approval. The control plan and is a detailed description of the supplier's proposed processing steps required to produce the part, and the controls that are put into place to control the quality at each step. The control plan must include all in-house processing, external processing, inspection, packaging, and shipping. Suppliers may use their own format. Measuring devices and fixtures designed and built to check Reader Precision Solutions parts must be identified with a gage number and drawing, and must be listed on the control plan.

The control plan must include all critical characteristics. Where detailed instructions are required, the supplier details those instructions in a work instruction, or equivalent, which must be listed in the control plan. Inspection methods, sample sizes, and sampling frequencies should be based on the process capabilities, seriousness and likelihood of potential non-conformances, and process stability. Critical characteristics that do not meet Reader Precision Solutions process capability requirements must be inspected 100%, unless Reader Precision Solutions approves alternate control methods in writing.

4.5 Electrostatic Discharge (ESD) Susceptibility

When components or assemblies supplied to Reader Precision Solutions are susceptible to ESD, the supplier shall establish ESD susceptibility information for them. Procedures, methods, and equipment used for determining the ESD susceptibility shall be provided to Reader Precision Solutions. ESD failure modes shall be considered in PFMEAs, and ESD controls shall be included in control plans and packaging.

4.6 Safety Data Sheets (SDS)

As applicable, Safety Data Sheets (SDS) must be provided during the First Article process.

4.7 Agency Approvals and Compatibility Reports

The supplier is responsible for providing the proper agency approval test reports per Reader Precision Solutions requirement. Examples are UL, CE, FCC, TUV, etc. The supplier is also responsible for agency test reports from their sub-supplier or other outside test agencies.

The supplier is responsible for submitting test results that verify compatibility as required (USB, 1394 etc.). Testing may be done by the supplier or by a test facility certified by the supplier.

4.8 Packaging & Labeling

The supplier must adequately plan for packaging of material shipped to Reader Precision Solutions. The supplier will provide a documented packaging plan including container size, number of parts per container, packaging configuration, etc. Packaging will be designed to provide protection from any damage that may occur. For static sensitive components, ESD packaging shall be provided. Packaging, labeling, and shipping materials must comply with the requirements of common carriers to secure the least transportation costs.

4.9 Traceability

The supplier must plan for traceability of components. The supplier will provide a written plan specifying how components will be marked with serial or lot numbers and date codes if required, or how containers will be identified with lot numbers or date codes if component marking is not required. The plan will also include sizes of lots or batches. Where possible, batch sizes should be minimized to aid in containment should quality problems be found.

5.0 Manufacturing Control

5.1 Process Control

Reader Precision Solutions suppliers are required to control all manufacturing processes in accordance with the control plan, which is approved during part qualification.

5.2 Statistical Process Control

Where specified in the control plan, the supplier is required to apply effective statistical process controls. Effective controls must include:

- The control chart displays control limits that are correctly calculated (specification limits may not be used as control limits).
- The control chart is at the process area, visible to the operator, or persons who are responsible for controlling the process.
- For each out-of-control condition, actions are taken to bring the process back into control. Actions taken to bring the process back into control are recorded.
- Product produced during any out-of-control condition is sorted, scrapped, reworked or dispositioned through the supplier's material review process

5.3 Process Performance Requirements

Process Performance (P_{pk}) is the comparison of the actual process variation to the specification limits. When required to submit process performance data to Reader Precision Solution, the supplier must report process performance using the following method:

Critical Characteristics: A P_{pk} at least 1.33 is required. Any critical characteristic failing to meet the minimum requirement requires a containment plan and an improvement plan.

Other Characteristics: A P_{pk} of at least 1.00 is required. The supplier is not required to calculate and report process performance for non-critical characteristics, unless requested by Reader Precision Solutions. When specified by Reader Precision Solutions, other characteristics failing to meet the minimum requirement also require a containment and improvement plan.

5.4 Process Improvement

Out-of-control or unstable processes (which have assignable causes) and processes that do not meet the minimum C_{pk}/P_{pk} requirements must be identified and corrected and require 100% inspection to the 1.67 Cpk is met. The Supplier must also improve processes with low yield rates.

5.5 Lot Control

A lot consists of product of one part number and revision that are made at the same time, under the same processing conditions, from the same heat lot of raw materials. The primary purpose for identifying lots is to determine the scope of actions that must be taken when problems arise during further manufacturing or with customers. Each container of material shipped to Reader Precision Solutions must be identified with the Supplier's lot number. Inspection records must be traceable to lot numbers.

The following are typical conditions that result in a change of lot numbers:

- Change of part number or revision
- Change of part number or revision of components
- Interruption of continuous production (Set-ups)
- Change to a different heat lot of raw materials
- Significant Process changes (Machine platform changes)

5.6 Traceability

Traceability ties the finished product back to the components used in the product. When traceability is specified, the traceability marking should be effective down to the individual component, i.e., lot code, batch or serial should be identifiable throughout Reader Precision Solutions processes.

5.7 Workmanship

When workmanship standards are not referenced on Reader Precision Solutions drawings or specifications, the supplier is expected to follow industry-accepted standards (e.g. ANSI, IPC). When in doubt, consult with Reader Precision Solutions for clarification.

5.8 Safety

At no time should any customer, or person at a Reader Precision Solutions facility, be exposed to hazardous material or situations that are not inherent in a component's structure. Residues, films, out-gassing products and packaging materials should comply with OSHA (Occupational Safety & Health Association) standards. For items with inherent hazards, safety notices must be clearly observable. As applicable, MSDS sheets must be provided during the First Article process.

5.9 Maintenance

The supplier must maintain all facilities, manufacturing machines, tools, measuring devices, and other equipment in such a manner that the supplier can support Reader Precision Solutions production requirements, and the quality of parts manufactured for Reader Precision Solutions is not degraded in any way.

5.10 Electrostatic Discharge (ESD) Controls

If the supplier furnishes ESD-sensitive materials, the supplier must maintain an effective ESD program that meets all requirements for the material produced.

6.0 Drawings/Changes

6.1 Drawing and Change Control

The supplier must have a documented system for assuring that the latest Reader Precision Solutions drawings are in effect at their facility. The supplier's quality management system must contain a documented procedure that describes the method used for the receipt, review, distribution, and implementation of all changes to drawings and specifications. In addition, the procedure must address control of obsolete drawings and specifications. A documented procedure should also detail the method used to contain new or modified parts until approved by the customer.

6.2 Process Changes, Engineering Changes

Suppliers must have systems in place to control changes to drawings, specifications, processes, or produced parts. Systems should be capable of handling changes being requested by the customer, and also changes requested by the supplier.

NOTE: The First Article approval process is directed at a given part number for a specified revision level produced in a specific area of the manufacturer's facility. **Suppliers may not make any changes in their process, location, material, or to the part without written approval from Reader Precision Solutions.** The supplier must formally request a process change on all Reader Precision Solutions components.

6.3 Supplier Process Change

A Supplier Process Change to a released part, process, drawing, or specification must be approved by Reader Precision Solutions prior to making the change. Reader Precision Solutions encourages changes for process improvement with the stipulation that before the change, the supplier thoroughly reviews their FMEA and control plan to assure that all process-related issues have been addressed and resolved.

The originator of an process change includes the following information:

- Drawing or part number
- Drawing or part title
- Description of problem or recommended change
- Reason for change or "rationale"
- Proposed effective date

The supplier submits the process change with the revised FMEA and control plan (if applicable) to Reader Precision Solutions for evaluation of the following:

- Supplier-demonstrated process capability and stability
- Comparison to First Article data
- Industry standards
- Supplier process engineering capabilities

- Supplier's adherence to control plan

After Reader Precision Solutions has completed the review, and concurs with the supplier, Reader Precision Solutions will notify the supplier as to the final disposition of the process change and part submittal requirements and dates.

When monitoring is required, the appropriate markings must be identified on the lots etc. for a specified time frame as decided jointly with Reader Precision Solutions and the supplier.

6.4 Supplier Deviation Request

A supplier is never permitted to knowingly ship product that deviates from the print, specification limits, or design intent without written authorization from Reader Precision Solutions. If such a condition exists, the supplier may request Reader Precision Solutions to allow shipment of the product. This is accomplished by initiating a Deviation Request.

If directed by Reader Precision Solutions, the supplier must send samples of non-conforming items to Reader Precision Solutions for evaluation. The cost of any testing required to determine the acceptability of the product will be charged to the supplier. Reader Precision Solutions will determine the item's acceptability and what corrective actions (if any) are required beyond the deviation. If approved, Reader Precision Solutions will send a written deviation approval to the supplier.

The deviation is only intended to be an interim action and **is not** to be construed as an engineering change. The supplier must begin work immediately to correct the condition in question. This must be accomplished within the time frame stated on the deviation. Failure to comply with the mutually agreed upon closure date for the deviation may result in the supplier's rating being affected.

In all cases, the supplier must fully contain all product suspected of being non-conforming at their facility. In addition, the supplier may be required to sort any suspect product at Reader Precision Solutions. Reader Precision Solutions may also request a Corrective Action to be submitted with the deviation request.

Any parts sent to Reader Precision Solutions that have been approved on a Deviation must be clearly identified on the box / container, Cert of Compliance, Packing Slip or other appropriate markings decided jointly by Reader Precision Solutions and the supplier.

7.0 Packaging & Labeling

7.1 Packaging

Each supplier must adequately plan for packaging. Reader Precision Solutions encourages supplier-initiated packaging improvements. Suppliers will provide packaging that provides protection from any damage that may occur. Packaging, labeling, and shipping materials must comply with the requirements of common carriers, in a manner to secure the lowest transportation costs.

Packaging for ESD sensitive items must meet appropriate ESD packaging requirements. Contamination is a serious concern to Reader Precision Solutions. Packaging must protect the components from contamination, including fibers from the packaging materials.

Expendable materials and packaging must be legal and safe for standard "light industry" disposal. The preferred maximum weight of manually handled packs is 40 lbs. The maximum acceptable weight is 45 pounds, unless approved by Reader Precision Solutions in writing.

Whenever possible, only one part number and one supplier lot is to be packaged in a shipping container. When more than one part number or lot number is packaged in a shipping container, each part number and/or lot number must be separately packaged (i.e. bags or boxes) inside the container, with each labeled as to the contents.

7.2 Labeling

Each shipping container or inside package must contain the following information:

- Reader Precision Solutions part number (if no Reader Precision Solutions number exists, supplier part number is used)
- Quantity
- Supplier's Name
- Purchase Order Number
- Lot identification
- Required ESD Susceptibility Label on packaging for ESD sensitive items, using the Electronic Industries Association Standard symbol or equivalent.

8.0 Corrective Action System

Reader Precision Solutions requires suppliers to utilize a closed-loop corrective action system when problems are encountered in their manufacturing facility, or after nonconforming product has been shipped to Reader Precision Solutions. Deviation requests may also require a corrective action.

8.1 Corrective Action Process Approach

The corrective action system utilized should be similar to the process outlined below this is considered an 8D RCCA methodology. The focus should be on identifying the root cause(s) of the problem and taking action to prevent its recurrence.

- Use a team approach
- Describe the problem
- Contain the problem
- Identify and verify root causes(s)
- Implement permanent corrective actions
- Verify corrective action effectiveness
- Close the corrective action

8.2 Supplier Corrective Action (SCAR)

Reader Precision Solutions issues a Supplier Corrective Action Request (SCAR) to a supplier when non-conforming parts are found at incoming inspection, in production, in test, or by a Reader Precision Solutions customer. They can also be issued as a result of a supplier audit. The supplier is required to respond by returning the SCAR back to Reader Precision Solutions with the “Team Response” fields completed. The following provides a brief outline of the SCAR procedure that suppliers to Reader Precision Solutions should comply with:

- Reader Precision Solutions requires that the supplier take immediate containment action upon notification of the nonconformance. The supplier must submit a written response to Reader Precision Solutions, reporting the Supplier’s initial observation and defining the interim containment plan within 48 hours of notification. The Supplier’s Initial Observation is an acknowledgement that the Supplier has been informed of the problem, and has begun to gather information about the problem.
- The containment plan must clearly define the containment actions at the supplier’s facility to assure that no nonconforming product is shipped to Reader Precision Solutions. If suspect product has already been shipped, the supplier must address all suspect stock in transit and any stock at Reader Precision Solutions. The supplier will assist Reader Precision Solutions in identifying customer risk by identifying all suspect lot numbers and associated quantities involved.
- Within 2 weeks after the original notification, the supplier must report the results of the Supplier’s investigation into the cause of the problem.
- Within 3 weeks from the initial notification date, the supplier must submit the corrective action to be taken to prevent recurrence of the problem, and the effectivity date (the date the corrective action will be implemented.). Actions such as “train the operator,” “discipline the operator,” or “increase inspection,” are typically not acceptable corrective actions.
- The supplier is required to keep Reader Precision Solutions informed of progress towards implementing the corrective action. When corrective action implementation is complete, the supplier and Reader Precision Solutions verify that the corrective action is effective in preventing the problem’s recurrence.

9.0 Dock-to-Stock (DTS)

Reader Precision Solutions utilizes a Dock-to-Stock program to reduce the problems associated with receiving nonconforming product from suppliers, while minimizing incoming inspection and speeding up the process of moving product to production.

Suppliers with all parts on DTS and high ongoing quality performance are Preferred Suppliers. Preferred Suppliers are given first opportunity to quote for new business and are given preference for increased volumes when consolidating suppliers for multiple-source items.

Reader Precision Solutions administers the DTS program on a part-by-part basis. DTS applies to all material and components purchased for use in released product at Reader Precision Solutions. It does not include pre-released parts, samples, prototypes, pilot runs, First Articles for new tooling, and other low volume applications. DTS material will be moved directly into production, bypassing incoming inspection.

9.1 Dock-to-Stock Requirements

The supplier attains Dock-to-Stock status with each proposed part by meeting the following criteria:

- For non-critical parts, the part achieves DTS status upon First Article qualification, assuming all other requirements are met as detailed below.
- For critical parts, the supplier must be qualified through an on-site quality management system assessment. At Reader Precision Solutions discretion, the formal on-site assessment may be waived with a fully completed supplier self-assessment.
- For critical parts, the most recent five lots received must have passed all incoming inspections
- The part must have no outstanding supplier corrective action requests (SCARs) for issues affecting form, fit, function, reliability, or customer acceptance.
- The 5-lot requirement may be waived for a part if any of the following conditions are met, the provided a mutual agreement is reached between Reader Precision Solutions and the supplier:
 - The part was modified from an existing part on DTS by a part number or revision change, and the changes did not affect form, fit or function.
 - The part has less than 5 lots received within 5 years.
- For products that are considered commercial off the shelf items (COTS) or Standard Hardware from a supplier, Reader Precision Solutions will determine if that product may be placed as DTS immediately. This decision is based on the supplier test and manufacturing process/capability and availability of equipment to do meaningful testing.

If a supplier produces a part in more than one facility, each facility must qualify individually for DTS.

9.2 Dock-to-Stock Suspension

The supplier is placed on DTS suspension when any of the following conditions occur:

- A lot fails an incoming inspection audit.
- A supplier-caused CAR is initiated for an issue affecting form, fit, function, reliability, or customer acceptance.
- The supplier fails a quality management system assessment.
- A control plan audit shows the supplier is not following their approved control plan.

If DTS is suspended, Reader Precision Solutions personnel investigate and determine whether the suspension extends to other part numbers furnished by that supplier, issues a Supplier Corrective Action Request (SCAR), if a SCAR has not already been issued, and works with the supplier to correct the problem.

When the supplier's DTS status is returned to good standing, Reader Precision Solutions notifies the supplier of the change in status.

If a supplier does not implement effective corrective action, or if the supplier is put on suspension repeatedly, Reader Precision Solutions determines whether the supplier's DTS status should be discontinued. This decision may also include a decision to move the business to an alternate supplier.

Supplier Monitoring

Reader Precision Solutions continually monitors its suppliers to ensure they continue to meet Reader Precision Solutions requirements, and to ensure that the supplier continues to ship acceptable parts. This may consist of:

- A quality management system and product surveillance audit at the supplier's facility
- An on-site audit of the supplier's control plan
- A random incoming inspection audit of a batch of product
- Source inspection of product at the supplier's facility
- First Article Inspection
- Review of supplier-furnished data packages
- A supplier progress review meeting conducted periodically at the supplier's site or Reader Precision Solutions to review supplier performance and progress

10.0 Audits

10.1 Supplier Audits

Periodically, Reader Precision Solutions may audit the supplier's quality management system. The supplier must make their facility available for on-site process verification by Reader Precision Solutions personnel at any time, with reasonable notice. This may be a full or abbreviated documentation and on-site audit. The purpose is to evaluate any changes that may have occurred in the supplier's quality management system, and to assess the supplier's continuing commitment to quality improvement.

Periodically, Reader Precision Solutions may also audit the supplier's continuing conformance to the control plan approved in the First Article process.

10.2 Inspection Audits

Reader Precision Solutions expects its suppliers to furnish material that conforms to all requirements, and that does not need to be inspected when Reader Precision Solutions receives it. Material that has not achieved Ship-to-Use status, or that is on DTS suspension is inspected on a lot-by-lot basis. Reader Precision Solutions uses a C=0 sampling plan (see example in Table 1) that rejects the entire lot when a single non-conforming part is found in the sample. At Reader Precision Solutions discretion, in order to meet production requirements, 100% sorting may be done as necessary at the supplier's expense.

Reader Precision Solutions may inspect product at the supplier's facility to detect potential problems prior to shipment. Reader Precision Solutions may also inspect product at sub-tier suppliers.

Table 1
C = 0 SAMPLING PLAN

LOT SIZE	SAMPLE SIZE																
	.010	.015	.025	.040	.065	.10	.15	.25	.40	.65	1.0	1.5	2.5	4.0	6.5	10.0	
2 to 8	*	*	*	*	*	*	*	*	*	*	*	*	5	3	2	2	
9 to 15	*	*	*	*	*	*	*	*	*	*	13	8	5	3	2	2	
16 to 25	*	*	*	*	*	*	*	*	*	20	13	8	5	3	3	2	
26 to 50	*	*	*	*	*	*	*	*	32	20	13	8	5	5	5	3	
51 to 90	*	*	*	*	*	*	80	50	32	20	13	8	7	6	5	4	
91 to 150	*	*	*	*	*	125	80	50	32	20	13	12	11	7	6	5	
151 to 280	*	*	*	*	*	200	125	80	50	32	20	20	19	13	10	7	6
281 to 500	*	*	*	315	200	125	80	50	48	47	29	21	16	11	9	7	
501 to 1200	*	800	500	315	200	125	80	75	73	47	34	27	19	15	11	8	
1201 to 3200	1250	800	500	315	200	125	120	116	73	53	42	35	23	18	13	9	
3201 to 10,000	1250	800	500	315	200	192	189	116	86	68	50	38	29	22	15	9	
10,001 to 35,000	1250	800	500	315	300	294	189	135	108	77	60	46	35	29	15	9	
35,001 to 150,000	1250	800	500	490	476	294	218	170	123	96	74	56	40	29	15	9	
150,001 to 500,000	1250	800	750	715	476	345	270	200	156	119	90	64	40	29	15	9	
500,001 and over	1250	1200	1112	715	556	435	303	244	189	143	102	64	40	29	15	9	

*Indicates entire lot must be inspected
NOTE: The Acceptance Number in all cases is ZERO.

11.0 First Article Inspection

The supplier must perform First Article Inspections, compliant to AS9102C format, of each part to verify conformance of the part to the specification. This is also required if an engineering change affecting form, fit, or function occurs. The First Article requirement is not applicable to COTS or Standard Hardware parts.

For all sub-components, the manufacturing supplier is responsible to ensure that the components that make up each assembly are qualified and monitored through the supplier's own part qualification system.

At the discretion of Reader Precision Solutions, First Article can be requested at any time. Considerations such as component volume, program life cycle and supplier/part performance are used in the decision to pull in the requirement for First Article. If production has lapsed for more that 2yrs that a First Article will be required to verify conformance of the part to the specification.

12.0 Supplier-Furnished Lot Documentation

Reader Precision Solutions may require the supplier to furnish inspection, test, process performance, or other quality data with each shipment to ensure that the product meets Reader Precision Solutions requirements. When data submission is required, the data must accompany each shipment or be e-mailed or faxed to Reader Precision Solutions at the same time the lot is shipped. All documentation must be clearly identified with Reader Precision Solutions part number, and the supplier's lot number.

When specified by Reader Precision Solutions, the supplier must submit monthly data packages. Data packages typically consist of copies of control charts and process capability calculations for specified characteristics.

Once the supplier has completed two consecutive quarters of data submissions, the supplier may request elimination of the data submission if records show that the characteristic consistently satisfies Reader Precision Solutions requirements for process stability and process performance, and if the characteristic has caused no problems in Reader Precision Solutions production. Reader Precision Solutions will notify the supplier in writing if the data submission may be discontinued.

13.0 Order of Precedence

When there is a conflict between documents regarding supplier quality requirements the order of precedence is:

1. Purchase Order
2. Drawing
3. QS315FM Supplier Quality Manual
4. Appendix A Supplier Quality Requirements

Appendix A

Supplier Quality Requirements (SQR)

THESE REQUIREMENTS ARE CRITICAL. FAILURE TO COMPLY WITH ANY SPECIFIED CLAUSE IS CAUSE FOR REJECTION OF PRODUCT AND FOR WITHHOLDING OF PAYMENT FOR GOODS AND SERVICES.

SQR1 Right of Access: Reader Precision Solutions, its customers, and any regulatory agencies reserve the right of inspection to determine and to verify the quality of workmanship and materials at all stages of the manufacturing process at Suppliers facility. Review of proprietary information is not included in the right of access clause.

SQR2 DPAS Rated Order: This purchase order contains rated quantities certified for National Defense use and you are required to follow all the provisions of the Defense Priority and Allocation System regulations (15 CFR Part 70) only as it pertains to the related quantities. <https://www.bis.doc.gov/index.php/other-areas/strategic-industries-and-economic-security-sies/defense-priorities-a-allocations-system-program-dpas>

SQR3 Statistical Process Control (SPC): Statistical Process Control is required in processing items on this purchase order. If KEY CHARACTERISTICS are not identified on the drawing or specified on the purchase order, the Supplier, using their knowledge of the process involved, is to choose them. The supplier shall furnish with each shipment all control plans, measurement data, control charts and any other related documentation gathered during the process. A Cpk of 1.67 is required and if not achieved then a 100% inspection is required until a Cpk of 1.67 has been achieved.

SQR4 Non-Conventional Processes: The use of nonconventional machining methods (i.e. electro chemical, beam, discharge, abrasive jet, etc.) must also have prior written approval from Reader Precision Solutions.

SQR5 Certificate of Conformance (CoC): Material and/or processes to Reader Precision Solutions products, Customer and /or Government specifications are noted on the purchase order and/or drawing, for the material or processes on the order a CoC to these specifications is required. The specification must be referenced on CoC and actual readings referenced. CoC must be legible and include lot traceability, quantity and signed by authorized personnel of the company. Certifications must be kept on file for 10yrs., and available upon request from Reader Precision Solutions.

SQR6 Raw Material Certifications: An actual copy of the mill test report for material identifying chemical and physical properties for each material must be submitted to Reader Precision Solutions. Failure to furnish the required report is cause for rejection and for withholding of payment for goods or services.

SQR7 Calibration System: The supplier shall control all inspection and test equipment used for acceptance of deliverable items covered by this PO in accordance with ANSI-Z540-1, ANSI-Z540-3 or ANSI/ISO/IEC 17025.

SQR8 Sampling Inspection: In addition to all other requirements specified, final inspection results on all characteristics applicable to work performed must accompany each shipment.

Sample size to be determined by MIL-STD- 1916 (latest Rev) and/or ANSI/ASQ Z1.4 (latest Rev).

SQR9 DFAR Material: Material for this order MUST meet the requirements of DFAR252.225-7008, Restriction on Acquisition of Specialty Metals or DFAR 252.225-7701, Buy American statute. Material MUST be melted in the USA or a qualified country (225.003). In addition, all shipments to Reader Precision Solutions products MUST have the country of melt identified on the raw material certification or certificate of test and accompany the shipment. Not meeting this requirement of this clause will result in rejection of material/parts sent.

SQR10 First Article Inspection (FAI): A First Article Inspection shall be performed by the seller in accordance with the requirements of AS9102. When documenting the FAI, the seller may use forms contained within AS9102 or their equivalent, so long as the forms contain all the information required by AS9102. FAI is required for all first-time production runs, revision changes or lapse of 2yrs of manufacturing. A FAI can be requested at any-time by Reader Precision Solutions based on quality/performance issues.

SQR11 Frozen Process: Process documentation (e.g. Shop router, operation instructions) submittal is required with the FAI for approval. Once FAI approval is achieved, all processes associated with manufacture and/or processing of the part number(s) indicated shall be frozen. Changes in approved process shall not be made without written approval from Reader Precision Solutions prior to implementation.

SQR12 Source Inspection: US Government Source Inspection is required prior to delivery to Reader Precision Solutions. Upon receipt of this contract the Supplier shall promptly notify the US Government Representative who normally services the Supplier's Facility. If the Supplier can't locate the US Government Representative to arrange for the required source inspection, the Supplier is to notify Reader Precision Solutions immediately. Upon request, the Supplier shall make available to the US Government Representative any IMTA, facilities, records and personnel to facilitate the Government Source Inspection.

SQR13 Conflict Minerals: The SELLER agrees to comply with section 1502 of the Dodd-Frank Act regarding "Conflict Minerals". Seller shall immediately notify Reader Precision Solutions if material or manufactured product is affected by the requirement.

SQR14 Shelf Life/SDS: All material that have a shelf life must have a CoC accompanying the product with a minimum of 75% life remaining. CoC will contain expiration date, lot traceability. When applicable a copy of the Safety Data Sheet (SDS) will also be included with product. Not meeting this requirement of this clause will result in rejection of material/parts sent.

SQR15 ITAR / Export Control: This purchase order/agreement is associated with items and/or services controlled by US export control laws or regulations. Only US citizens and permanent resident aliens (green card holders) may have access to said items, data and/or services without the authority of a US Government export license, agreement or applicable exemption or exception. Seller agrees to comply with all applicable US export laws and regulations, specifically including, but not limited to the requirements of the Arms Export Control Act, 22USC 2751-2799, including the International Traffic in Arms Regulation (ITAR), 22 CFR 120-130; and the Export Administration Act, 50 QUSC app 2401-2420, including the Export Administration Regulations, 15 CFR 730-774, including the requirement for obtaining an export license or agreement, if applicable. Without limiting the foregoing, SELLER agrees that it will not transfer an export controlled item, data, or service, to include transfer to foreign persons employed by or associated with, or under contract to SELLER or SELLER's lower-tier supplier's, without the

authority of a US Government export license, agreement or applicable exemption or exception. Seller shall immediately notify Reader Precision Solutions if SELLER is, or becomes, listed on any Denied Parties List or if Seller's export privileges are otherwise denied, suspended or revoked in whole or in part by any US Government entity or agency. If SELLER is engaged in the business of either exporting or manufacturing (whether exporting or not) defense articles or furnishing defense services, SELLER represents that it is registered with the Office of Defense Trade Controls as required by the ITAR and maintains an effective export/import compliance program in accordance with the ITAR. SELLER shall be responsible for all losses, costs, claims, cause of action, damages, liabilities and expense, including attorney's fees, all expense of litigation and/or settlement, and court costs, arising from any act or omission of SELLER, its officers, employees, agents, suppliers, or subcontractors at any tier, in the performance of any of its obligations under this clause.

SQR16 Ethical Behavior and Contribution: All personnel must be aware of their contribution to product, or service conformity, product safety, and importance of ethical behavior.

SQR17 Counterfeit Parts/Materials Prevention: Suppliers shall establish and maintain a counterfeit prevention and control program using AS5553 and/or AS6174 to insure that no counterfeit work is delivered to Reader Precision Solutions products. Supplier shall provide chain traceability to the Original Manufacturer or authorized distributor upon request from Reader Precision Solutions.

SQR18 Foreign Object Debris/Damage (FOD) Prevention: Suppliers shall maintain a FOD prevention program in accordance with National Aerospace Standard NAS412 to insure that no parts and/or material contain any foreign contamination, embedded debris or other substances damage upon delivery to Reader Precision Solutions.

SQR19 Non-Disclosure Agreement (NDA): Supplier shall not disclose, publish or reveal any designs, specifications, or other informational material to any other party without written consent from Reader Precision Solutions.

SQR20 Non-Discrimination Employment: It is the policy of Reader Precision Solutions to provide equal opportunity to all qualified applicants and employees without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, protected veteran or disabled status, or genetic information.

SQR21 Notification Requirements: Supplier must provide notification of:

- Non-conforming product prior to shipment and/or released product subsequently found not to conform to the applicable design data.
- Obtain Reader Precision Solutions approval for non-conforming product disposition
- Provide written notification of changes in product and/or process changes of suppliers, changes of manufacturing facility location and, where required, obtain approval.
- Flow down to supply chain all applicable Reader Precision Solutions requirements including Reader Precision Solutions customer requirements
- Where required, maintain records for personnel that require qualification for special processing
- Provide written notification for change of controlled process status (i.e. suspension, disapproval or loss of quality management system or process certifications)

- Provide written notification of significant organizational changes such as company name, location or key personnel that would affect quality of Reader Precision Solutions product.

SQR22 Packaging: When the drawing, specification, or purchase order lacks specific packaging instructions, the supplier shall use best commercial practices to ensure that the quality of the delivered part(s) is maintained and that damage, deterioration, and loss in transit are prevented. Any packaging supplied by Reader Precision Solutions shall be reused to the maximum extent possible. If supplied packaging is degraded or cannot be re-used, the material supplied on this order shall be packaged as specified elsewhere in this order. Damage to specially-fabricated shipping containers shall be reported to the buyer before any repair is attempted. Packaged items shall be free of dirt and other contaminants that would contribute to deterioration of the item, or which would require cleaning by Reader Precision Solutions prior to use. Items susceptible to corrosion or deterioration shall be provided protection such as preservative coatings, volatile corrosion inhibitors, or a desiccated environment. Items requiring protection from physical and mechanical damage, or which are fragile, will be protected by wrapping, cushioning, or other means to mitigate shock and vibration, and to prevent damage during handling and storage. Cushioning or wrap can be any suitable, appropriate material; except newspapers may not be used when painted surfaces are involved. Partitions or divisions must be used when necessary. Items susceptible to damage by Electrostatic Discharge (ESD) shall be packaged in antistatic bags of conductive carbon ("black poly") or antistatic bags per MIL-PRF-81705 Type III. All external and internal packaging shall be properly identified with "ESD Sensitive Item" labels.

SQR23 Quality Record(s) Retention: The supplier will maintain records necessary to show conformance with all requirements of the purchase order/subcontract. These records include dimensional inspection records, process control charts, temperature recorder charts, x-ray film, nondestructive testing records, personnel certification documentation, nonconformance reports, process qualification data, and certifications of material & special processes. These records shall be maintained for a minimum of ten (10) years, or as required by the contract.

SQR24 Human Trafficking and Modern Slavery: Suppliers shall establish and maintain policy that will not tolerate or condone the use of slavery, forced, involuntary or coerced labor, child labor, human trafficking, or sex trafficking by any employee, agent, subcontractor, or supplier in their operations. The policy shall comply with the California Transparency in Supply Chains Act, the UK Modern Slavery Act, the Australian Modern Slavery Act 2018 (Commonwealth and New South Wales), and Federal Acquisition Regulations 52.222-50 and 52.222-56 (together, the Modern Slavery Laws).

SQR25 Toxic Substances Control Act (TSCA) including Per- and Polyfluoroalkyl Substances (PFAS): Suppliers must comply with TSCA by ensuring that all chemical substances are listed on the TSCA Inventory or have received an exemption. Suppliers must adhere to TSCA reporting, record-keeping, testing, and significant new use requirements. For products containing PFAS, suppliers must provide detailed information on their use, report any new use of PFAS, and comply with any restrictions or bans on certain PFAS chemicals. Additionally, suppliers should ensure that they are up-to-date with any specific TSCA regulations pertaining to PFAS and be able to provide the necessary documentation including providing a declaration statement to support compliance.

SQR26 Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH):

Suppliers must ensure that all substances used in their products are registered with the European Chemicals Agency (ECHA) if they are manufactured or imported in quantities of 1 ton or more per year. They must also ensure that the substances have undergone evaluation and, if applicable, authorization and restriction processes. Suppliers must provide Safety Data Sheets (SDS) and comply with the obligations regarding Substances of Very High Concern (SVHC) by communicating their presence in articles above the 0.1% weight/weight threshold and providing safe use information. The supplier shall be able to provide the necessary documentation including providing a declaration statement to support compliance.

SQR27 Restriction of Hazardous Substances (RoHS): Suppliers must ensure that their electrical and electronic products comply with the RoHS Directive by not exceeding the maximum concentration values for the restricted substances (Lead, Mercury, Cadmium, Hexavalent Chromium, PBBs, PBDEs, and the four phthalates DEHP, BBP, DBP, and DIBP). Compliance must be demonstrated through proper testing and documentation, including providing a declaration statement and maintaining technical files that prove compliance. Suppliers should also stay updated with any changes in the directive and ensure continuous compliance.

SQR28 California Prop 65: Suppliers must ensure that their products do not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm, as listed under California Proposition 65. If products do contain these chemicals, suppliers must provide a clear and reasonable warning before exposing individuals to them. Suppliers must review and comply with the latest list of chemicals published by the California Office of Environmental Health Hazard Assessment (OEHHA) and be able to provide all necessary documentation including providing a declaration statement.

End of SQR's

Revision Change Sheet

DATE CHANGED	REVISION	PAGE(S)	DESCRIPTION of CHANGE	APPROVAL
10-30-2018	~	All	New Release	Kevin T. Gable
12-07-2018	1	6	Added Sect 2.5 Supplier Metrics. Previously missing	Kevin T. Gable
10-31-2022	2	1	Updated the Quality Policy and the Header.	Maria Valadez
7-7-2023	3	6	Updated 2.5 Supplier Metrics	Maria Valadez
8-14-2024	4	15, 19, 20	Moved Appendix 1 to Table 1. Added SQR24 Human Trafficking and Modern Slavery, SQR25 Toxic Substances Control Act (TSCA) including Per- and Polyfluoroalkyl Substances (PFAS), SQR26 Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH), SQR27 Restriction of Hazardous Substances (RoHS), SQR28 California Prop 65.	Maria Valadez
12/30/2024	5	ALL	Appendix A – Supplier Quality Requirements (SQR) have been added to the end. Updated company name to Reader Precision Solutions and updated AS9102B to current AS9102C format for First Articles.	Maria Valadez