



**SUPPLIER  
QUALITY  
MANUAL**

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# **SoundOff Signal**

## **QUALITY POLICY STATEMENT**

SOUNDOFF SIGNAL is committed to its customers through continuous improvement in on-time delivery of quality products; its employees through continuous improvement in their standard of living; its shareholders through continuous improvement of their return on assets, its community through social and environmental responsibility and its Strategic Business Partners through a mutually beneficial growth and business development strategy.

### **INTRODUCTION**

In order for SoundOff Signal to grow in the market, SoundOff Signal needs to deliver quality products on time at a fair and competitive price. To accomplish this, SoundOff Signal suppliers need to provide quality products on time to SoundOff Signal and at a competitive price. This manual outlines the expectations and requirements SoundOff Signal has for its strategic suppliers.

To help with the understanding and achievement of these requirements, SoundOff Signal will work with its suppliers to help them develop themselves where it may be necessary. SoundOff Signal is prepared to team with suppliers who have made or demonstrated a commitment to continuous improvement in their product quality by reduction of waste in their processes. It is our further intent to develop desirable and mutually beneficial long-term alliance with these suppliers.

Not all SoundOff Signal supplier requirements are addressed within this manual, just the basic supplier quality system expectations and requirements. Specific project requirements are not covered within this manual.

SoundOff Signal reserves the right to revise this manual at anytime without notice.

## **I. SUPPLIER EXPECTATIONS**

### **A. QUALITY EXPECTATIONS**

SoundOff Signal describes quality as providing products and services that meet or exceed customer needs and expectations over the life of the product or service at a cost that represents value.

SoundOff Signal expects that suppliers not only meet specifications but also continuously improve products and services by reducing variation and optimizing performance.

### **B. DELIVERY EXPECTATIONS**

The supplier is expected to have 100% on-time delivery to SoundOff Signal in order for us to support our customer expectations. If an order is going to be partial or late, suppliers are expected to provide SoundOff Signal Purchasing with a timely and accurate warning. Suppliers can assure on-time delivery by effective utilization of plant resources and implementing internal scheduling and communication systems.

On-time delivery is defined as the day the purchase order states and up to 3 days early.

Partial orders/shipments must be pre-approved by SoundOff Signal's buyer or the entire line item will be considered late.

### **C. COST REDUCTION EXPECTATIONS**

The supplier is expected to participate in the continuous improvement process by analyzing processes and submitting cost reduction proposals. Some areas to consider include, but are not limited to:

- Material changes
- Design changes to effect more efficient processing
- Process improvement/Kaizen activities
- Tolerance changes
- JIT/inventory consignment programs
- More economic packaging
- Freight consolidation
- Value-added activities/suggestions
- Returnable packaging
- Shipment Methods
- Kan Ban
- Payment Terms

#### **D. QUOTE PERFORMANCE EXPECTATIONS**

The supplier is expected to submit complete and on-time responses to requests for quotes. The supplier is held responsible for submitting a response by the date specified on the requests for quotes and for ensuring that all the necessary information such as cost, timing, tool cost and description, packaging data, etc. is complete and in the requested format. Any and all exceptions must be defined concisely on the quotation and must state to what level the quoted part will comply.

#### **E. COMMUNICATION PERFORMANCE EXPECTATIONS**

Maintaining open, effective and timely communication with the Buyer is encouraged. It is expected that the supplier will respond to all Purchasing, Engineering and Quality requests in the time specified.

## **II. QUALITY SYSTEM REQUIREMENTS**

All products manufactured for SoundOff Signal use are to be produced in accordance with the requirements of this manual.

### **A. GENERAL**

Supplier quality systems should assure products produced and supplied to SoundOff Signal meet all required specifications.

Any changes to production processes, product, material or pricing must be approved in writing by SoundOff Signal Quality and/or Engineering Department prior to being implemented. Suppliers are to make their request by submitting a SoundOff Signal Supplier Change Request (SCR) to SoundOff Signal's Quality Department. Any changes to production tooling must be requested with an SCR. Refer to Form A, Section VII for the Supplier Change Request form.

To enable SoundOff Signal personnel to evaluate the quality of products and systems, all suppliers are required to have quality-related documentation available for periodic review during the life cycle of the product or service.

Additionally, the supplier is expected to provide and maintain a quality system to assure that all material manufactured for SoundOff Signal conforms to the provisions of the purchase agreement, whether manufactured or processed by the supplier, purchased or sub-contracted.

SoundOff Signal must be afforded the right to verify the quality of product at the supplier's premises when requested.

### **B. ISO9000 CERTIFICATION or COMPLIANCE**

SoundOff Signal requires its suppliers, at a minimum, to be certified to or in compliance with ISO9000 – 2000.

If a supplier is not certified to ISO9000 – 2000, an audit may be conducted by SoundOff Signal's Quality Department or a self-audit conducted by the supplier. SoundOff Signal's Supplier Quality System Survey will be used for the audit.

## **C. CORRECTIVE AND PREVENTIVE ACTION**

Any corrective action taken to eliminate the causes of actual or potential nonconformities are to be at a degree appropriate to the magnitude of the problem and commensurate with the risk encountered.

Procedures for corrective and preventive action should include the:

- effective handling of complaints and reports of product nonconformities;
- investigation of the root cause of nonconformities relating to product, process and quality system, and recording the results of the investigation;
- determination of action needed to eliminate the cause of the nonconformities;
- application of controls to ensure action is taken and that it is effective.

Relevant corrective and preventive action information is to be submitted to SoundOff Signal's Quality Department for review. For more information, refer to the Corrective Action Process section of this manual.

## **D. CONTROL OF QUALITY RECORDS**

Quality records are to be maintained to demonstrate conformance to specified requirements and the effective operation of the quality system.

All quality records are to be legible and shall be stored and retained in such a way that they are readily retrievable in facilities that provide a suitable environment to prevent damage or deterioration and to prevent loss.

Retention times for quality records are to be at a minimum the life of the project plus 2 years. Alternative retention times may be set on a project-by-project basis.

Quality records are expected to be made available for evaluation by SoundOff Signal upon request.

## **E. TRAINING**

Personnel performing specific assigned tasks are to be qualified on the basis of appropriate education, training and/or experience, as required.

Appropriate records of training should be maintained and available for SoundOff Signal review.

## **F. PRODUCT AND PROCESS CONTROL**

Changing of approved process controls, equipment, material, sub-contractors, tooling or shipping is not to occur without first notifying SoundOff Signal and receiving written approval from SoundOff Signal.

For suppliers wanting to make changes, contact SoundOff Signal's Quality Department. The use of SoundOff Signal's Supplier Change Request form will be required. Refer to Form A of Section VII.

Should SoundOff Signal make a change, SoundOff Signal will send an Engineering Change Notice to the supplier. Refer to Form B of Section VII.

## **G. LABELING and SHIPPING REQUIREMENTS**

The following items may be required on product labels shipped to SoundOff Signal. If suppliers use a bar coded label, it should be human readable.

1. SoundOff Signal's Part Number
2. Part Number Revision Level
3. Part Name / Description
4. SoundOff Signal's Purchase Order Number
5. Supplier Lot / Traceability Number
6. Supplier Shipping Date
7. Country of Origin
8. Quantity
9. Julian Manufacturing Date

### III. PRODUCT SAMPLE SUBMISSION and APPROVAL PROCESS

**PURPOSE:** To ensure conformance to specifications or industry standards of products or components manufactured for SoundOff Signal.

#### A. PROCESS INSTRUCTIONS

1. Initial sample submissions must be submitted per the SoundOff Signal Part Submission Process. Submission warrants are required with all submissions. Warrants forms that may be used include SoundOff Signal's Warrant form (refer to Form C, Section VII) or the AIAG warrant form.
2. During SoundOff Signal's development review process the sample submission requirements will be determined. This includes the identification of special / critical characteristics. SoundOff Signal's Quality Department will provide a Sample Submission Checklist, (refer to Form E, Section VII) to the supplier to provide written requirements.
3. Sample submissions and sample parts are to be sent to the attention of SoundOff Signal's Quality Department.
4. SoundOff Signal's Quality Department will review the package for completeness and validity. Additional data may be requested, if deemed necessary.
5. If a supplier cannot meet a requirement, the supplier must submit data on capabilities to SoundOff Signal's Quality Department with a Supplier Change Request form.
6. Quality and Product Engineering will evaluate the request and provide an answer. If approved, the prints will be changed at that time. If not approved, a design review meeting may be called with the supplier. Inability to meet the specifications, if no specification change is judged possible, may require resourcing the part.
7. When product meets specifications, or SoundOff Signal Engineering approves variations from specifications, and appropriate documentation received, SoundOff Signal's Quality Department will sign the Part Submission Warrant, the Control Plan, and the Sample Submission Checklist. Copies will then be sent to the supplier for their records.
8. If SoundOff Signal finds nonconforming conditions within the sample submission, SoundOff Signal's Quality Department will sign the warrant rejected and submit copies to Purchasing and Product Engineering. The supplier will be required to correct the problem and resubmit.
9. If the sample submission is approved, SoundOff Signal's Quality Department will submit a copy of the submission warrant to Purchasing and to the supplier. The sample submission documentation will be placed in a part file located in SoundOff Signal's Quality Department. The accepted first piece will also be placed in the Quality Department for future reference.

**NOTE:** Product being revised requires sample submission and approval as if it were a new product.

## B. Sample Submission REQUIREMENTS

The following are potential requirements for supplier sample submissions to SoundOff Signal.

Requirements	Submission Levels				
	Level 1	Level 2	Level 3	Level 4	Level 5
1. Drawings and/or Specification Sheets	R	S	S	*	R
2. Process Flow Diagrams	R	R	S	*	R
3. Dimensional Results (°1)	R	S	S	*	R
4. Numbered Blue Print	R	S	S	*	R
5. Material Certification / Performance Test Results (°2)	R	S	S	*	R
6. Initial Process Capability Study (°3)	R	R	S	*	R
7. Measurement System Analysis Studies (°4)	R	R	S	*	R
8. Qualified Laboratory Documentation / Certification	R	S	S	*	R
9. Control Plan	R	R	S	*	R
10. Part Submission Warrant (PSW)	S	S	S	S	R
11. Appearance Boundary Samples	S	S	S	*	R
12. Sample Product (°5)	R	S	S	*	R
13. Master Sample (°6)	R	R	R	*	R
14. Checking Aids (°7)	R	R	R	*	R
15. Records of Compliance With Customer-Specific Requirements	R	R	R	*	R
16. Shipping Label	S	S	S	S	S
17. Sample Material Label	S	S	S	S	S

S = The supplier shall submit to SoundOff Signal during product approval activity and retain a copy of records or documentation items at appropriate locations, including manufacturing.

R = The supplier shall retain at appropriate locations, including manufacturing, and make readily available to a SoundOff Signal representative upon request.

\* = The supplier shall retain at appropriate locations, and submit to SoundOff Signal upon request.

° = defined below

NOTE 1: Shipping Labels are to be provided with every sample submission and are to contain the requirements as stated in the purchase order.

For quoting purposes, SoundOff Signal's Purchasing Department will provide the submission level required. Once an order is placed, a checklist indicating requirements to suppliers will be provided. The checklist may modify some of the requirements and will indicate quantities where required.

- °1 Dimensional Results – this is an Initial Sample Inspection Report that requires a 100% dimensional layout of 3 pieces. The report is to include a numbered print corresponding with the dimensional layout data.
- °2 Material Performance Test Results – this is a material certification that includes the composition of the material and it's test performance specification and test data.
- °3 Initial Process Studies - are capability studies (Cp and Cpk values) normally based on a 30 piece sample on all identified critical with special / critical dimensions. SoundOff Signal will indicate how many parts will be needed on the checklist.
- °4 Measurement System Analysis Studies – these are Gage Repeatability and Reproducibility (R & R) Gauge Studies for all gauges/fixtures to be used for inspection of the product.
- °5 Sample Product – these are parts that come from the production sample run and will be used for evaluation by SoundOff Signal. SoundOff Signal will determine the quantity required on the checklist.
- °6 Master Sample – this is 1 of the 100% layout parts and will be used as a master part for both dimensional and appearance criteria.
- °7 Checking Aids – either duplicate checking aids (gauges or fixtures) are to be provided to SoundOff Signal for approval and use by SoundOff Signal or pictures of the checking aids with written instructions are to be provided to SoundOff Signal's for review and approval.

The SoundOff Signal Sample Submission Checklist (Form E, Section VII) is to then to be checked and signed by the supplier and provided with the sample submission package.

### **C. Sample Submission Approval Types**

- 1. Full Approval – all required items are present and are accepted.
- 2. Interim Approval - Issues exist that need to be corrected. This could include missing documentation or capability studies, or none critical dimensions are out of specification that are either being corrected or going through an Engineering Change.
- 3. Rejected - Items are missing or existing issues need to be corrected.

#### IV. SUPPLIER EVALUATION PROCESS

##### A. SUPPLIER EVALUATION

Supplier Performance will be communicated on a quarterly basis showing the following measurements:

1. On Time Delivery (30% of score) – material is expected to be delivered on the date requested by SoundOff Signal and in the quantity ordered. On-time delivery is defined as the day the purchase order states and up to 3 days early.

The point system for on-time delivery is as follows:

On-time or 3 days early	4 points
1 day late or 4 days early	3 points
2 days late or 5 days early	2 points
3 days late or 6 days early	1 point
4 or more days late or 7 or more days early	0 points

The score is then a percentage based on the number of points earned vs. the total possible.

Example: If a supplier has 10 line items, the total points possible is 4 points x 10 line items = 40 points. If their total points earned is 36 out of the 40 that would be a 90% rating.

The 90% earned is 90% of the 40% for an On-time Delivery rating of 36 points.

2. Product Quality (30% of score) – The Product Quality rating will be the percentage of shipments without issues against the total number of shipments.

Example: If SoundOff Signal has issues with one out of 10 shipments of a product, the Product Quality rating for the supplier would be 90%.

The 90% would then be multiplied by the 40% for a Product of Quality rating of 36.

3. Pricing (40% of score) – Pricing (40% of score) – Pricing is subjective and determined by Purchasing.

Price reduction	110%
Price stability	100%
Price increase	90%

Market driven price increases will be evaluated on a case-by-case basis.

Suppliers working with SoundOff on new product ideas, technology and process improvements may get an increased pricing score.

## B. EVALUATION SCORES

ISO9000/QS9000/TS16949 certified with a score of:

85% - 100% = Certified Supplier

70% - 84% = Approved Supplier

50% - 69% = Probationary Supplier

49% or less = Non-Ranked Supplier

If a supplier is not certified to a standard, the supplier would need to pass a SoundOff Signal audit using SoundOff Signal's Supplier Quality System Survey to become a Certified Supplier.

Supplier ratings are calculated and distributed quarterly.

## C. SUPPLIER RANKINGS

Supplier evaluation scores will determine the supplier's ranking within the categories as defined below.

1. **Certified Approved Supplier** – acceptable supplier rating, with product self certification ability. No inspection data or warranty is required with self-certified product unless quality issues arise.
2. **Approved Supplier** – acceptable supplier rating, product not self-certifiable. Inspection data and work warranty may be required with shipments of product.
3. **Probationary Supplier** – a new supplier, or one that needs development, or has an unacceptable supplier rating. All product must come in certified.
4. **Non-Ranked Supplier** – a supplier applying for quoting status or has been removed due to major issues and can not be used until issues are removed.

If a supplier had a rating classification of Certified Supplier and then their rating dropped below 80%, inspections/test data or certification may be required with product upon delivery. SoundOff Signal's Quality Department will make the determination.

If a suppliers rating drops into the Probation or Non-Ranked classification, they will not be awarded new business and may have current product pulled from them.

Suppliers dropping into the Probation or Non-Ranked classification will have a letter indicating Probation or Non-Ranked sent to their Quality Management representative and Plant Management representative.

## V. NONCONFORMING PRODUCT

### A. MATERIAL REJECT NOTICE

When SoundOff Signal receives nonconforming supplier product, a Material Reject Notice (MRN) will be sent to the supplier.

1. If the supplier becomes aware they sent nonconforming product prior to SoundOff Signal detecting it, the supplier is to immediately notify SoundOff Signal's Quality or Purchasing Department. The supplier will need to provide the following product information:
  - a. SoundOff Signal Part Number
  - b. Shipping Date
  - c. Product Lot / Traceability Number
  - d. Quantity of suspect product

**NOTE:** If the supplier notifies SoundOff Signal of the potential nonconforming product and it does not cause SoundOff Signal a production disruption, it will not count against the supplier's quality rating and a reject fee will not be charged against the supplier.

2. For all nonconforming product SoundOff Signal receives and detects, suppliers will receive a MRN. Upon receiving the MRN, Suppliers are required to respond in the time frames listed below using SoundOff Signals 8 – Step Corrective Action form, or their own corrective action should it contain the required information:
  - a. Containment Action Plan with a description of the problem within two (2) hours
  - b. Short-term Corrective Action plan within 24 hours
  - c. Long Term Corrective Action plan within 5 business days
  - d. Timely progress reports / updates until the issue is resolved, verified, and closed by SoundOff Signal.

All corrective action plans are to be submitted in writing to SoundOff Signal's Quality Department.

### B. REJECT AND SORT / REWORK FEES

1. Reject Fee: When SoundOff Signal detects nonconforming product from a supplier, that supplier may be charged a reject fee to offset the cost associated with SoundOff Signal dealing with the material. The reject fee is at the discretion of the Buyer.
2. Sort / Rework Fee: If SoundOff Signal is required to sort or rework nonconforming product from a supplier in order to keep a shipment on time, the number of man-hours used to sort/rework the product may be tracked and charged to the supplier. The sort / rework fee is at the discretion of the Buyer.

When scheduling time allows, SoundOff Signal will provide the supplier the opportunity to sort/rework the nonconforming product themselves, bring in a 3<sup>rd</sup> sorting party, or provide certified replacement product.

3. SoundOff Signal's Customers Charges: Costs incurred for failures at SoundOff Signal's customers caused by a supplier's product may be charged back to the supplier. This includes engineering time, manufacturing time, travel expenses, warranty costs, and customer penalty charges.

## **C. DISPOSITION OF NONCONFORMING PRODUCT**

When a supplier receives a Material Reject Notice, the supplier has 2 business days to issue a return authorization number to SoundOff Signal Quality Department for product disposition.

Product disposition can be either returning the product to the supplier at the suppliers expense or SoundOff Signal scrapping the product out for the supplier. If SoundOff Signal scraps the product any cost associated with scrapping the product may be charged back to the supplier.

When special situations arise, accumulation of nonconforming product may be allowed at SoundOff Signal's discretion.

## VI. CORRECTIVE ACTION PROCESS

Suppliers are required to provide corrective actions using either SoundOff Signal's 8-Step Corrective Action form (Form G, Section VII) or their own if it provides the same information.

### 8-STEP PROBLEM SOLVING PROCESS

#### STEP 1 Description of the Problem

What was the problem, when did it or does it occur, where did it or does it occur, and how many parts were found.

This includes how the problem occurred and how nonconforming product made it to the customer.

#### STEP 2 Containment and Short Term Corrective Action

Containment is to be implemented within 2 hours of notification. This action is a step to immediately contain the problem and isolate the effect of the problem from any internal or external customer. Generally for part specific problems this would entail checking (100% sorting) all stock on hand, in transit to the customer, and at the customer.

Short Term Corrective action to ensure no additional nonconforming product reaches the customer is to be implemented within 24 hours.

#### STEP 3 Define the Root Cause(s) of the nonconformance and how it escaped to the customer.

All potential causes which could explain why the problem occurred, what went wrong, and where and when did it go wrong are identified. To identify these, review inspection and test data and trend reports (scrap & rework) and using tools such as "Brainstorming" and cause and effect analysis. The root cause is then isolated and defined.

All potential causes of how the nonconformance escaped the supplier and reached the customer is also to be identified. Why was the nonconformance not detected?

#### STEP 4 Develop Long Term Corrective Action(s) for the nonconformance and the escape of the nonconformance.

The best permanent corrective action(s) is determined and the action plans to implement the actions(s) are put in place along with the necessary ongoing controls and data collection is begun to assure that the root cause is eliminated.

**STEP 5**      **Implement and Verify Corrective Action**

Collect and review data to verify that corrective action has been effective.

**STEP 6**      **Implement Permanent Corrective Action**

The responsible Department manager implements the actions into the quality system.

**STEP 7**      **Implement Preventive Action**

After analysis of similar processes and work operations which may affect quality, customer deviations, internal audits, quality records, service reports and customer complaints, if it is determined that the nonconformance can occur in other areas, modify the procedures or work instructions, operations and designs to prevent recurrence of this problem in similar systems or part numbers.

**STEP 8**      **Supplier closes out internally and sends to SoundOff Signal for approval.**

Completed corrective actions and are returned to SoundOff Signal's Quality Department for review with supporting evidence for approval and closure.