

SUPPLIER EXCELLENCE MANUAL

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*Customers Talk
We Listen*



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Table of Contents

Introduction.....3-4

 Company Overview.....3

 Strategic Vision.....4

Purpose of SPT Supplier Excellence Manual.....4

Quality System Requirements Specific to SPT.....4

 Corrective Action.....4-5

 Change Management.....5

 Nonconforming Material/Request for Deviation.....5

 Material Certificates of Analysis.....5

 Handling of Returnable Containers/ Dunnage.....5

 Inventory Management.....5

 JIT Delivery.....5

Fortive Part Qualification Process (FPQP)6

 FPQP Submission Requirements.....6

 Special Product Characteristics.....6

 Special Product Characteristic Capability Requirements.....6

Supplier Performance Evaluation.....6-8

Supplier Development.....9

Sub-Tier Supplier Control.....9

Supplier Cost of Poor Quality (SCOPQ)9-10

 Charge Back Policy.....10-11

Document Revision History.....12

Introduction

1.1 Company Overview

Best-in-class solutions for today's global industrial automation market
Specialty Product Technologies (SPT)—a business unit of the Fortive Corporation—is a group of nine core-technology companies that have combined their resources and expertise to be able to deliver the manufacturing/operational efficiencies, cost-effective solutions and high quality products demanded by today's industrial automation marketplace.

Our brands are all leaders in their respective fields—represent the finest products and technologies currently available, and which now can be procured from a single source. Each of our brands has earned a “best in class” reputation, built on a solid foundation of achievement over a long period of time. Each offers a select group of premier brand products all having proven their reliability again and again—even in the most rigorous and demanding applications.

The products that SPT-member companies manufacture are considered essential components in the markets and applications they serve.

These include:

- **Eagle Signal Controls**—Timers (Mechanical, Electromechanical & Electronic)
- **Veeder-Root**—Counters (Mechanical, Electromechanical & Electronic), Totalizers, Controllers, Indicators & Relays
- **Joslyn Clark**—AC & DC Contactors, Medium Voltage Vacuum Contactors, Motor Starters, Rheostats & Fire Pump Controllers
- **Superior Electric**—Variable Transformers, Connectors & Power Quality Solutions
- **NAMCO** —SNAP-LOCK® Limit Switches, Solenoids & WFI Proximity Sensors
- **Thomson**—Nyliner™ Bearings, Bushings & Engineered Products.
- **Bindicator**—Point and Continuous Level Measurement Products
- **Kistler-Morse®**—Total Weighting Solutions
- **Niagara Meters®**—Liquid, Gas & Steam Flow Measurement



1.2 Objective

Specialty Product Technologies (SPT) is committed to continuously improve all aspects of our business, including the design, manufacturing and support of our products. This will ensure continued customer satisfaction, long-term competitiveness, and growth of SPT and its suppliers. In addition, continuous improvement will increase productivity, and reduce inspection and losses due to variation.

SPT utilizes Fortive Part Qualification Process (FPQP) and require its suppliers to develop and maintain process controls. For new part numbers and product/process changes, SPT works with suppliers to develop, approve and monitor processes using Process Flow Diagrams, Control Plans, Capability Studies, Gage R&R and other quality tools, as applicable. The supplier's upper management shall provide the required resources, time and training to effectively use these tools.

2.0 Purpose of SPT Supplier Excellence Manual

The purpose of this manual is to communicate expectations to our suppliers and the core set of tools, processes and systems that are to be used in the manufacture, design and development of parts, products and services supplied to SPT.

SPT believes that the implementation of this manual will assist our suppliers in the development of their business and manufacturing processes, contributing to mutually enhance future competitiveness and success.

In this manual, the terms 'shall' and 'must' mean that the described requirement is mandatory, while the term 'should' means that the described requirement is needed and expected with some flexibility in how it can be completed.

3.0 Quality System Requirements Specific to SPT

3.1 ISO 9001:2015 Certification is preferred and may be required of suppliers based on SPT and / or SPT customer requirements. At a minimum, suppliers shall have a quality program in place to ensure the consistent provision of product compliant to specifications. New production suppliers who are not ISO 9001:2015 certified shall provide SPT a gap analysis through the completion and submission of FTV Supplier Evaluation Tool Form to be downloaded from SPT's online website

(<https://www.specialtyproducttechnologies.com/about/suppliers>).

3.2 Suppliers are required to notify SPT of any change to their Quality System Certification status and upon issuance of new registration certificates.

3.3 Additional Quality Systems Requirements specific to SPT are described in paragraphs 2.2.1 through 2.2.8.

3.3.1 Corrective Action

In the event of a quality, delivery, audit, or other type of issue related to a supplier's product, the supplier will be issued a Supplier Corrective Action Request (SCAR). There are two types of SCARs: "Notification Only" or "Corrective Action".

- "Notification Only" SCARs are issued to notify the supplier of an issue they are expected to correct, but no formal response is required to be submitted.
- "Corrective Action" SCARs are issued when a formal corrective action response is being requested from the supplier. The supplier shall submit a formal corrective action response (SCAR) through the supplier portal, including but not limited to implementation dates and objective evidence of implementation.

The SCARs are created and managed through the SCAR Portal. When a SCAR is created, an email is sent to the supplier and additional contacts including a brief description of the non-conformance as well as a link to the full SCAR report. The supplier is to provide their response by clicking the link and populating the required fields in the SCAR tool. The following are requirements for response:

- Initial Response (Acknowledgement of the issue and containment action taken) is required within 24 hrs.
- Formal corrective action plan is required within 14 calendar days unless otherwise specified. SPT may require more frequent updates to corrective actions for some issues. The expectation for SPT Suppliers is to close SCAR's within 30 days. SPT considers a SCAR to be overdue after 30 days from initial communication or if the date(s) in the formal corrective action plan is/are past due without justification.

3.3.2 Change Management

Suppliers must notify SPT in advance of any intended product or process changes and receive SPT approval prior to implementation. Suppliers shall use the SPT Supplier Change Request Form (available at [SPT Website](#)) to notify SPT of planned changes. Suppliers should also make this a requirement of their supply chain.

3.3.3 Nonconforming Material/Request for Deviation

Non-Conforming Product is defined as deviation from drawings, specification and purchase order requirements. On an exception basis, suppliers may submit to the buyer an SPT Supplier Deviation Request Form (available at [SPT Website](#)) for SPT review and approval. Written approval is required prior to the shipment of any nonconforming products. A copy of the signed (approved) SPT Supplier Deviation Request shall accompany the shipment. The use of this form should be minimized as much as possible and shall not be construed as acceptance of future lots that do not meet specification. Samples for deviation request evaluation may be required.

3.3.4 Material Certificates of Analysis

For drawings that have raw material characteristics identified as critical or major, the supplier shall submit a Material Certification Analysis report with each shipment. The certification will have the part number, revision, quantity, purchase order number, specification number(s), signature and title of the authorized company representative and date. Actual tests performed to verify material analysis may include material hardness, chemical composition, tensile strength, carbon / de-carbon, wedge test, thread lap, etc., depending on the drawing requirement. Certificates from material manufacturer are acceptable.

3.3.5 Handling of Returnable Containers/ Dunnage

Suppliers shall provide for proper storage and maintenance of returnable containers. Suppliers are responsible for cleaning each container to ensure parts are free of debris prior to repackaging parts. SPT shall be notified of any dunnage issues.

3.3.6 Inventory Management

Suppliers shall use an inventory management system to optimize inventory turn over time, assure stock rotation via FIFO process along with purging material deemed as non-conforming. This cannot impact the stocking levels/agreement(s) negotiated with SPT.

3.3.7 Supplier On-Time Delivery (SOTD)

SPT Production System works in a on-demand manufacturing environment. Suppliers shall establish a system to support 100% on-time shipments to meet production and service requirements. Suppliers shall communicate to the SPT Buyer/Planner/Purchasing Manager of potential late delivery problems in advance of the due date via Open Order Report. When 100% on-time shipments are not maintained, the supplier shall implement and submit a corrective action via SCAR

Tool (if requested by SPT) to improve delivery performance along with participate in scorecard discussions.

4.0 Fortive Part Qualification Process (FPQP)

4.1 FPQP Submission Requirements

SPT requires compliance to the FPQP submission requirements outlined in the Quality Plan provided by the Purchasing Department. The requirements are designated taking into consideration the part's complexity, application, customer requirements, among others. The First Article Qualification Package Forms must be used for FPQP submission unless otherwise specified. Completed workbook shall be e-mailed to the Purchasing contact requesting package submission. Any documents that cannot be attached directly in the workbook shall be sent with the workbook as .pdf documents. If the supplier is unable to use the workbook the supplier shall contact SPT Supplier Quality for direction. First Article Inspection and additional samples as applicable are to be clearly identified on the outside of the shipping container and sent to the attention of the requestor along with a hard copy of the First Article Qualification Package documents. Suppliers shall obtain a copy of the approved First Article Qualification Package Worksheet prior to shipping production product to SPT.

4.2 Special Product Characteristics

SPT do not use a standard symbol to designate special product characteristics such as critical, major, safety related, etc. given the pre-existing formats used in each of the core companies merged. However, special product characteristics should be noted on SPT drawings with a symbol. If no special characteristic is noted in drawing, supplier is responsible for inquiring direction on which characteristics are major/critical/safety-related for proper process/product control due to impact in product safety, customer satisfaction, fit, form and/or function.

4.3 Special Product Characteristic Capability Requirements

4.3.1 Characteristics that are designated as **Critical or Safety Related** must have one or more of the following that provides appropriate detection to insure product is made within print specifications: 100% inspection, Poka-Yoke, Process Control limits with defined inspection frequency and reaction plan, and/or demonstrated Cpk value of ≥ 1.67 , unless otherwise specified

4.3.2 Characteristics that are designated as Major must have one or more of the following that provides appropriate detection to insure product is made within print specifications: Inspection frequency suitable to insure any non-conforming product is detected and contained, Poka-Yoke, Process Control limits with defined inspection frequency and reaction plan, and/or demonstrated Cpk value of ≥ 1.33 , unless otherwise specified

5.0 Supplier Performance Evaluation

SPT recognizes supplier quality achievement on a regular basis using measured results and takes the appropriate action regarding, expanded business or de-sourcing based on these results. In order to review performance, several types of meetings may be held with suppliers including; Quarterly Business Reviews, Supplier Performance Improvement Program (SPIP), Supplier Visits, etc. Key quality information is generated and monitored internally. We encourage the supplier to request a Supplier Scorecard to clearly understand your performance to SPT

5.1 Supplier Report Card

The supplier report card is the framework for measuring supplier performance in Quality and Delivery. Scorecards may be sent to specific suppliers based on SPT internal evaluation. Suppliers that achieve an overall level of "Excellent" or "Good" will have preference of being awarded new business along with being granted access to come to SPT and look for more opportunities that fit the supplier's core competencies.

Suppliers that receive a rating of “Needs Improvement” or “Unacceptable” rating may be required to submit an action plan to show in detail what actions are going to be taken to by the supplier to improve in the next quarter.

5.1.1 Quality

The Quality score is based on PPM and responsiveness of corrective actions to SCAR’s.

The delivered quality of production parts is measured in PPM:

$$PPM = 1,000,000 \times \frac{\text{Total Pieces Defective}}{\text{Total Pieces Received}}$$

Total pieces defective will be counted as follows (Refer to Table 1 for examples):

SCARs dispositioned:

- Use As Is - Product deemed as acceptable (does not count as defective)
- RTV - Entire lot will be counted unless the supplier notifies SPT within 7 working days the number of defective parts found in their 100% inspection of the product returned.
- Sort - If supplier sorts, or arranges for a third party to sort at SPT or another location, the defective pieces found will count.
- Rework - Estimate of defective product based on percent of defective in sample.

Table 1: Examples of PPM Calculation based on Types of Rejects

Non-Conformance	Lot Qty.	# of Boxes	Sample Size	Reject Qty. (Actually Found)	Reject Qty. for PPM Calculation
Product Specification Defects	1000	10	50	5	100 (use percentage)
Label Issue - Packaging	1000	10	All	10 (Every Box Mislabeled)	1
Issue with a label integrated into the part	1000	10	50	5	100 (use percentage)
Shipping Damage	1000	10	All	All	0 (unless packing specification exists)
Mixed Parts	1000	10	50	25	500 (use percentage)
Certification Errors	1000	10	50	20	1 per lot

PPM Defective (60% Weighting) :

Score	PPM Defective
5	< 200
4	201 - 700
3	701 - 2000
2	2001 - 3500
1	3501- 5000
0	> 5000

Problem Elimination (40% Weighting): The number of incidences of overdue SCARs past due for one or more quarters.

Score	Incidences of Overdue SCARs
5	0

4	1
3	2
2	3
1	4
0	5 or greater

The Quality element score is calculated per the following formula:
Quality Score = 60% * PPM Score + 40% * Problem Elimination Score

5.1.2 Delivery

The ability to deliver what we want, at the right time, in the right way. A delivery is considered on-time if it is received by the required due date with the correct quantities, as specified on the purchase order or kanban signal. Not adhering to the requirements of this supplier excellence manual such as lack of packing list, improperly labeled boxes and missing material certifications will also count as a delivery instance.

Delivery metric is measured in OTD:

$$\% \text{ OTD} = \frac{\text{Total Lines Received On Time}}{\text{Total Lines Received}} \times 100$$

A line is received on time if the requested date \geq receipt date

On-time Delivery:

Score	On Time Delivery
5	95% - 100%
4	90% - 95%
3	87% - 89%
2	84% - 86%
1	80% - 83%
0	<80%

Overall Supplier Score = 60% * Quality + 40% * Delivery

6.0 Supplier Development

Supplier Development/Improvement activities will vary based on supplier performance and impact associated with products being furnished. These activities may include but are not limited to:

Overall Score	Supplier Quality Level	Supplier Development Activity
4.50 – 5.00	<u>Excellent</u> Isolated quality or delivery issue	<ul style="list-style-type: none"> • No formal development required beyond review of SCARs
4.00 - 4.49	<u>Good</u> Singular large quantity quality issue or some OTD issues	<ul style="list-style-type: none"> • No formal development required beyond review of SCARs
3.50 – 3.99	<u>Fair</u> Periodic quality or delivery issues	<ul style="list-style-type: none"> • Review of SCARs • Regular supplier conference calls with activity summary issue tracking • Consideration for on-site supplier process audit on “problem” part(s)
2.60 – 3.49	<u>Needs Improvement</u> Frequent quality or delivery issues	<ul style="list-style-type: none"> • Same Activities as Fair Level along with: <ul style="list-style-type: none"> ○ High consideration for on-site supplier process audit on “problem” part(s) ○ Potential candidate for Supplier Performance Improvement Program
< 2.60	<u>Unacceptable</u> Chronic quality or delivery issues	<ul style="list-style-type: none"> • Same Activities as Needs Improvement along with: <ul style="list-style-type: none"> ○ High consideration for on-site supplier process audit on “problem” part(s) ○ High consideration as candidate for Supplier Performance Improvement Program ○ Formal Corrective Action plan may be required ○ Consideration for resourcing if issues are recurring

7.0 Sub-Tier Supplier Control

The supplier must maintain quality and technical qualifications for sub-tier suppliers/contractors and the products purchased through these sub-tier suppliers. SPT reserves the right to specify, approve, and/or audit sub-tier suppliers contracted by its suppliers for work performed on SPT material. Audit arrangements will be arranged and coordinated between the designated buyer and supplier. This includes but is not limited to special process, materials testing services, distributors, and other subcontractors. Special processes include but are not limited to, Non-Destructive Testing, Heat Treating, Welding, Chemical Processing, Plating & Coatings.

Suppliers shall flow down to its sub-tier contractors, all relevant quality requirements imposed by this manual and other contractual documents, including government-regulatory and Nuclear requirements.

8.0 Supplier Cost of Poor Quality (SCOPQ)

SPT reserves the right to debit a supplier for all costs incurred that are associated with the failure of a supplier to meet SPT's quality requirements. A SCAR's Administrative Fee of \$250 may be charged due to costs associated with containment activities, issuing and dispositioning the SCAR as well as managing the corrective actions process. Costs incurred beyond this administration fee may be assessed; below is a sample list. The SCAR Administrative Fee may be debited or invoiced to suppliers after the SCAR is issued or upon SCAR closure.

The following is a list of examples of COPQ (Cost of Poor Quality) charges. The list should not be construed as exhaustive:

8.1 Receiving Process

- SCAR Administrative Fee (as described above)
- Sorting
- Rework
- Line disruption
- Premium freight
- Cost of increased inspection
- Premium product cost paid to support production
- Excess inventory
- Misidentified parts
- Shipping documentation errors

8.2 In-Process Fallout

- Downtime
- Overtime
- Line speed reduction
- Additional manpower
- Line changes due to material availability
- Equipment breakage
- Associated material losses
- Outside processing required
- Premium product cost paid to support production
- Rework-labor, tooling, and fixturing

8.3 Customer Issues

- Rework at customer premises, travel, manpower
- Replacement of material at customer
- Premium freight
- Reimbursement of all charges from customer
- Costs of Internal containment actions
- Added inspection, certification of product, etc.
- Warranty costs

8.4 Charge Back Policy

<u>Violation</u>	<u>Penalty</u>
More than one shipment shipped on the same day on separate bills of lading	Reversal of all freight charges
Failure to use designated carrier	Reversal of all freight charges
Failure to call for truckload routing	Reversal of all freight charges
Unauthorized Premium Freight	Reversal of all freight charges
No purchase order number on cartons or packing list	Administrative fee of \$50.00
Failure to follow UPS routing instructions	Administrative fee of \$50.00
SCARs, as designated by SPT Supplier Quality	\$250 Debit per SCAR
Nonconforming Product is sorted/reworked by SPT Personnel	\$50.00 per hour / inspector

Any questions should be directed to the SPT Purchasing Representative.

Document Revision History

Revision	Date	Comments
A	8/30/17	Initial Release
B	10/5/17	Remove Supplier Agreement Letter
C	2/8/18	Add Quality and Delivery Scoring System; add Supplier Performance Expectations; replace QF-19 for FTV Evaluation Tool; change reference from NCR corrective actions to SCAR tool.
D	3/22/19	Replacing NCR with SCAR, including additional details in 3.3.1 (Corrective Action), adding Venture Measurement's brands in Company Overview and contact information section. Changed JIT for supplier on-time delivery / on-demand manufacturing.

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