



# Supplier Quality Requirements Manual

**CORPORATE HEADQUARTERS:**

OPTEK Technology  
1645 Wallace Drive  
Carrollton, TX 75006

**MANUFACTURING:**

Optron de Mexico  
Avenue Rio Bravo #1551-A  
Parque Industrial Rio Bravo  
Cd. Juarez, Chihuahua 32557

RELEASED  
DATE: 5/30/2018  
Document Control

Note: The holder of this document is cautioned that the information contained herein is uncontrolled and should be utilized only as authorized by TT electronics / Optek Technology, hereafter called OPTEK. Printed copies of this document are for reference only and may be updated periodically by OPTEK. Please refer to OPTEK's website at [www.ttelectronics.com](http://www.ttelectronics.com) for a downloadable copy of the most recent version of this document. Suppliers are responsibly for obtaining and using the current revision of this document.

## Table of Contents

	Page
<b>1. Introduction</b>	<b>5</b>
<b>Purpose</b>	<b>5</b>
<b>Scope</b>	<b>5</b>
<b>2. OPTEK Philosophies</b>	
<b>Quality Policy</b>	<b>6</b>
<b>Mission Statement</b>	<b>6</b>
<b>Supply Chain Philosophy</b>	<b>6</b>
<b>Gifts and Gratuity Policy</b>	<b>7</b>
<b>Press Releases</b>	<b>7</b>
<b>Environmental – Responsible Environmental Management</b>	<b>7</b>
<b>Supplier Compliance to Safety, Environmental and Government Regulations</b>	<b>8</b>
<b>Lead Free</b>	<b>8</b>
<b>Supplier Disaster Contingency Plan</b>	<b>9</b>
<b>3. OPTEK Supplier System Requirements</b>	<b>9</b>
<b>Packaging, Handling, Storage Preservation and Delivery</b>	<b>9</b>
<b>Scheduling</b>	<b>10</b>
<b>Contingency Plan</b>	<b>10</b>
<b>4. OPTEK Production Part Supplier Management Program</b>	<b>11</b>
<b>The Supplier Certification Process</b>	<b>11</b>
<b>Suppliers to Automotive Programs</b>	<b>11</b>
<b>Suppliers to Non-Automotive Programs</b>	<b>11</b>
<b>Record Retention</b>	<b>12</b>
<b>Supplier Development</b>	<b>12</b>
<b>Supplier Performance Rating and Performance Monitoring System</b>	<b>12</b>
<b>Supplier Performance Rating Procedure</b>	<b>13</b>
<b>Introduction</b>	<b>13</b>
<b>Supplier Evaluation</b>	<b>13</b>
<b>Criteria and Data</b>	<b>13</b>
<b>Use of Information Collected</b>	<b>13</b>
<b>Results</b>	<b>13</b>
<b>Rating</b>	<b>13</b>
<b>Preferred Supplier</b>	<b>13</b>
<b>Approved Supplier</b>	<b>13</b>

RELEASED  
 DATE: 5/30/2018  
Document Control



<b>Provisional Supplier</b>	<b>13</b>
<b>Scoring Criteria</b>	<b>13</b>
<b>Parts Per Million (PPM)</b>	<b>14</b>
<b>Supplier Corrective Action Defect Issues (SCAR)</b>	<b>14</b>
<b>Response to Corrective Actions</b>	<b>15</b>
<b>PPAP or FAI Delivery</b>	<b>15</b>
<b>On-Time Delivery to Schedule</b>	<b>15</b>
<b>Cost Reduction</b>	<b>15</b>
<b>Supplier Performance Monitoring Process</b>	<b>15</b>
<b>Parts Per Million Supplier Requirements</b>	<b>15</b>
<b>On-Time Delivery Supplier Requirements</b>	<b>15</b>
<b>Number of Quality Issues Reported (SCARS)</b>	<b>15</b>
<b>Response Timing (SCARS)</b>	<b>15</b>
<b>5. Supplier Approval Process</b>	
<b>Potential Suppliers, New Purchases with a New Supplier</b>	<b>16</b>
<b>Assessment Results</b>	<b>16</b>
<b>Approved</b>	<b>16</b>
<b>Conditional</b>	<b>16</b>
<b>Temporary</b>	<b>17</b>
<b>Disqualified</b>	<b>17</b>
<b>New Purchases from Existing Supplier</b>	<b>17</b>
<b>Non-Automotive Suppliers</b>	<b>17</b>
<b>Automotive Suppliers</b>	<b>17</b>
<b>On-Site QMS Process Approval Audit</b>	<b>18</b>
<b>Standard or Off-The-Shelf Item Suppliers</b>	<b>18</b>
<b>Second Party Audits for Automotive Suppliers</b>	<b>18</b>
<b>6. Advanced Product Quality Planning (APQP)</b>	<b>18</b>
<b>Design Review and Annual Product Verification Testing</b>	<b>18</b>
<b>Component Deviation Request</b>	<b>19</b>
<b>7. Production Part Approval Process (PPAP)</b>	<b>19</b>
<b>New Component PPAP</b>	<b>19</b>
<b>PPAP Timeliness</b>	<b>20</b>
<b>Existing Production Components PPAP Timeliness</b>	<b>20</b>
<b>Supplier Product or Process Changes</b>	<b>20</b>
<b>Automotive Products</b>	<b>20</b>
<b>Non-Automotive Products</b>	<b>21</b>
<b>8. Certified Part Number Process</b>	<b>21</b>
<b>9. Suppliers Continuous Improvement</b>	<b>21</b>

---

<b>10. Suppliers Corrective Action Process</b>	<b><u>Document Control</u></b>	<b>22</b>
Return Material Request		22
Corrective Action Response		23
Corrective Action Failures – Lessons Learned		25
Accountability and Cost of Quality		25
Supplier Sub-Contractors		26
Warranty		26
<b>11. Quality Clauses Referenced on Optek Purchase Orders</b>		<b>26</b>
<b>12. Glossary</b>		<b>34</b>
<b>13. Forms</b>		<b>37</b>
Certificate of Compliance Restricted, Toxic, Hazardous Material and Dioxin		38
Advanced Deviation or Part Change Request – Control of Nonconforming Product		39
Non-Conforming Material		39
Advanced Deviation or Product Change Request Form		40
Approvals and Revision History		41

## 1. Introduction

---

### Purpose

The intent of this document is to define the quality requirements necessary to ensure a successful partnership between OPTEK and our suppliers. This manual documents the required quality standards for products and services purchased from suppliers, and outlines Optek's overall expectations.

- Suppliers must be capable of providing defect-free products that meets design intent, and on-time delivery.
- All proposed material or process changes must be communicated in writing to OPTEK Supplier Quality Engineer or Supplier Quality Development, Product Engineer, or Purchasing.
- All proposed manufacturing location changes must be communicated in writing to the appropriate Purchasing and SQD personnel prior to the move; and when required by the customer the move plan must be approved in advance by OPTEK.
- All design changes must be communicated to the appropriate Product Engineer, Purchasing, Supplier Quality Engineering and Supplier Quality Development personnel well in advance, and when determined necessary PPAP submission is required.

### Scope

This document is applicable to all existent suppliers, and potential new suppliers of purchased production material or services to OPTEK. It outlines the minimum activities and quality performance required of the supplier's quality management system and of delivered products or services. We team with suppliers who have made or demonstrated a commitment to continuous improvement in their product quality. It is our intent to develop desirable and mutually beneficial long-term alliances with these suppliers.

OPTEK intends to be the highest quality and lowest cost manufacturer of standard, selected and application specific electronic sensing solutions products. In order to accomplish this, Optek is teaming with suppliers that share our vision of the future and are committed to these goals. These suppliers can enhance OPTEK's success and ensure their own future by supplying zero-defect products, competitively priced, in a reliable supply chain environment.

RELEASED  
DATE: 5/30/2018  
Document Control

This manual:

- Outlines the process for initially becoming an Approved Supplier to OPTEK and ~~describes the tools for continuous improvement necessary~~ to become a Preferred Supplier, and ongoing performance monitoring system.

Production Part Suppliers should refer to Section 3 for those items specific to production part suppliers. This section will discuss OPTEK's appropriate Quality Level Evaluation System, the Supplier Approval Process, Performance Monitoring Metrics, Advanced Quality, Planning, Part Approval Processes, and Supplier Corrective Action Requests.

## 2. OPTEK Philosophies

### OPTEK Quality Policy

OPTEK is dedicated to delivering Reliable World Class competitive products on time to meet the requirements of our customers. OPTEK is committed to its Quality Management System, Quality Objectives and will continually improve their effectiveness.

### Mission Statement

The mission of OPTEK is to provide to a worldwide customer base a growing variety of electronic sensors. The sensors are either discrete or assemblies containing devices manufactured to the highest quality standards, employing Optoelectronics, Magnetic, or Fiber Optic component technologies.

### Supply Chain Philosophy

RELEASED

DATE: 5/30/2018

Document Control

OPTEK is a global provider of optoelectronic, magnetic, and fiber optic components. OPTEK will source the highest performance, lowest cost materials from only those suppliers who are willing and able to compete on a global basis. Quality, Delivery Service, Integrity and Value are the cornerstone criteria by which we measure our suppliers and ourselves.

OPTEK's supplier development program will actively and continuously seek out competitive suppliers to enhance OPTEK's ability to manufacture more effectively.

Suppliers who partner with OPTEK may expect to obtain the fiscal and planning benefits of a long-term relationship.

OPTEK will remain at the forefront of technology by implementing joint development programs with suppliers who can contribute expertise and enthusiasm in bringing new ideas and methodologies to the design and manufacture of sensor and component products.

Suppliers may be required to sign a confidentiality agreement with OPTEK as determined by OPTEK.

OPTEK's Purchasing is responsible for all aspects of procurement, logistics, warehousing, and delivery. The choice of suppliers in any of these areas may be the result of investigation and deliberation amongst various departments within OPTEK but

all price negotiation and commitment to purchase authority rests solely with the appropriate procurement member of Purchasing. No other OPTEK employee can make financial commitments. Consistent with our corporate values, OPTEK will treat all its suppliers and their representatives fairly and impartially.

### **Gifts and Gratuity Policy**

OPTEK's policy on gifts and other gratuities emphasizes our determination to conduct business based on the superior value of the goods and services we purchase from our suppliers. It is the intent that each employee conducts OPTEK's business with integrity and adheres to our policy as stated in this manual. Our policy is global in scope and application. The following is a summation of our policy:

*As a matter of sound procurement practice and basic business integrity, we at OPTEK must make our purchasing decisions solely on the basis of obtaining the best value for the goods and services we require. We will not do business in any manner that suggests our purchasing decision was influenced by any irrelevant or improper considerations.*

*Consequently, it is OPTEK's policy that no OPTEK employee accepts any gifts (other than items with small intrinsic value) or other gratuity from any supplier to OPTEK or bidder for OPTEK's business. This policy applies to all employees whether or not they are directly involved in the purchasing activity.*

### **Press Releases**

Except as required by applicable law, a governmental authority or regulatory requirements, suppliers will not issue a press release, grant an interview to the press, or otherwise make a general public announcement, regarding the subject matter of any relationship, agreement, etc., with OPTEK without the prior written consent of TT electronics/OPTEK. Consent will be granted only under exceptional circumstances.

Suppliers may be required to sign a confidentiality agreement with OPTEK as determined by OPTEK.

### **Environmental - Responsible Environmental Management**

RELEASED  
DATE: 5/30/2018  
Document Control

OPTEK is required to comply with customer & regulatory environmental material reporting directives and standards. In order to comply with these directives and

standards, OPTEK requires suppliers to report product structure, material, and substance information for existing and new product. This information is to be submitted prior to or at PPAP submission for automotive suppliers.

In order to collect this information in a format acceptable to the customer, OPTEK requires that suppliers report all product information via MSDS product data sheet or as specific customer requirements mandate.

OPTEK holds suppliers accountable for non-compliance with this reporting mandate. ~~Failure to report affects your supplier rating and may lead to a loss of current and future business with OPTEK.~~

### Supplier Compliance to Safety, Environmental and Government Regulations

OPTEK is committed to ensuring that all of its operations are conducted in a manner that preserves and protects our natural resources, the environment, and safeguards the health and safety of its employees and the public.

**Lead Free:** Due to environmental concerns, the need for lead-free solutions in electronic components and systems is receiving increasing attention within the semiconductor and electronics industries. OPTEK's goal is to eliminate all lead from our products and to achieve compatibility of all of our products with lead free processes unless specifically required otherwise by OPTEK's customers.

**REACH / SVHC:** Due to environmental concerns, the need for REACH – SVHC compliance is receiving increasing attention within the various industries. Optek's goal is to eliminate all SVHC (substance of very high concern) from our products and to achieve compatibility of all of our products within the approved guidelines.

Environmental compliance is an OPTEK requirement for all suppliers. The supplier is expected to demonstrate environmental compliance by maintaining a documented system and by performing outside or internal audits to show compliance to ISO 14001 or equivalent system. OPTEK requires the supplier to meet the requirements listed below and/or to meet customer specific requirements when applicable.

- Suppliers must ensure their products comply with all current applicable government regulations. All production materials used in manufacturing shall satisfy current applicable governmental and safety constraints on restricted, toxic and hazardous materials, as well as environmental, electrical and electromagnetic considerations applicable to the country of manufacture or sale, prior to shipment of any products that fall into this category. .

Suppliers may use certificates, warrants, product labels, material specification reports, etc., to demonstrate that their products comply with applicable government regulations.

RELEASED

DATE: 5/30/2018

Document Control

**Disaster Contingency Plan.-** This is an organized set of steps to be taken if an emergency or disaster (fire, hurricane, injury, robbery etc.) strikes. The process of developing such a plan involves convening a team representing all sectors of the organization, identifying critical resources and functions and establishing a plan for recovery based on how long the enterprise can function without specific functions. The plan must be documented and tested until it works effectively. Also called a "disaster plan", a contingency plan must be updated continuously.

Optek Suppliers shall provide evidence of having this Contingency Plan and share documentation for Optek that proves it is in place.

### 3. Optek Supplier System Requirements

All product shall be packed, packaged, marked and otherwise prepared for shipment in a manner which is (a) in accordance with good commercial practice unless otherwise specified in a specific manner: (b) acceptable to common carriers for shipment at the lowest rate that could include ocean shipment for the particular suppliers; and (c) adequate to insure safe arrival of the material. The label and character size should be legible and of adequate size to allow ease of reading.

The supplier shall mark each container, rack, box, or pallet with necessary lifting, handling and shipping information. The supplier shall assure that all packaged items are permanently and legibly identified.

Identification requirements may include any or all of the following as specified by OPTEK: Bar Code labels must be Human Readable.

- a.) Part Identification, complete OPTEK Part Number and Revision Level
- b.) Name of Manufacturer
- c.) Lot Number and/or Date Code (date of manufacture)
- d.) OPTEK's Purchase Order Number
- e.) UL and CSA (when required by drawing)
- f.) Identification and Quantity of Parts per Carton
- g.) Certificate of Origin

RELEASED  
DATE: 5/30/2018  
Document Control

Identification of Shelf Life Material:

Supplier shall identify item(s), and/or package(s) container(s) of shelf life material with the manufacture date or the expiration date along with special storage and handling conditions, in addition to the normal identification requirements of manufacturer name, part number, revision, type, size, quantity, etc.

When the item/material/product is age control sensitive and requires shelf-life data to accompany each shipment. If not otherwise specified minimum of 75% shelf life must be remaining upon receipt at OPTEK.

Itemized packing sheet:

An itemized package sheet must accompany each shipment.

## Scheduling

OPTEK encourages suppliers to be EDI (Electronic Data Interchange) capable.

OPTEK will establish the shipping frequency for each production part. Supplier must ship to the exact quantities, dates, and times specified on the release: no over, under, early or late shipments. To provide our suppliers with added flexibility, Optek will accept material as delivered "on-time" if received up to 5 calendar days in advance of the due date shown on the Purchase Order and 0 days late. All OPTEK schedules will be in standard or specified pack. Suppliers must have shipping capability that matches the OPTEK manufacturing site normal production schedule. Suppliers must use OPTEK specified freight forwarder when at all possible.

~~If applicable, Advanced Shipping Notifications (ASN) will be sent preferably electronically at the time of shipment~~

If for any reason the supplier is unable to meet the schedules communicated, it is the responsibility of the supplier to notify proper OPTEK Purchasing or Supply Chain Management personnel immediately and receive authorization for the under-shipment or late shipment. Suppliers will make up all under-shipments via supplier paid premium transportation on OPTEK authorized carriers to meet the originally scheduled destination window.

Supplier caused premium transportation or transportation costs for material returned due to early and/or over-shipment will be the sole responsibility of the supplier.

Suppliers will use authorized carriers for all modes of transportation, including supplier fault premium transportation. Excess transportation or premium transportation costs incurred by OPTEK and/or its customers will be the sole responsibility of the supplier, including make-up for under shipments.

If OPTEK and/or its customer's production is interrupted by the failure of the supplier to deliver contracted goods within the terms, all costs and/or penalties that are incurred by OPTEK and or/its customers will be the sole responsibility of the supplier.

### **Contingency plan**

Optek requires suppliers to establish contingency plans to prevent failure of the supplier to deliver contracted goods within the terms of the contract/Purchase Order/Release in the event of an emergency such as utility interruptions, labor shortages, key equipment failure and field returns. Optek reserves the right to review the supplier's contingency plan and the supplier must review their contingency plan annually at a minimum.

If OPTEK and/or its customer's production is interrupted by the failure of the supplier to deliver scheduled goods within agreed to terms, all costs and/or penalties that are incurred by OPTEK and or/its customers will be the sole responsibility of the supplier.

RELEASED  
DATE: 5/30/2018

Document Control

## **4. OPTEK Production Part Supplier Management Program**

### **The Supplier Certification Process**

Suppliers are expected to implement a robust Quality Management System (QMS) that promotes defect free products through prevention, monitoring, and ongoing improvement.

### **Suppliers to Automotive Programs**

OPTEK prefers suppliers of materials for the automotive industry to be certified to IATF 16949:2016 but will accept certification to ISO-9001:2015 as long as the suppliers demonstrate compromise to become certified to IATF 16949:2016. For those suppliers not meeting at least the ISO-9001 standard, Optek will work in conjunction with them to demonstrate that based on their performance they might be subject of receiving

approval from the End Customer to continue providing materials within the conditions ~~agreed by Optek and the customer. These conditions may include evidence of Supplier Development Plans, Continuous PPM Monitoring and evidence of placing an immediate Containment Plan in case of a quality emergency before those materials reach the Customer's applications.~~

Suppliers of materials to an automotive program, should reference current Automotive Industry Action Group (AIAG) manuals for Advanced Part Quality Planning (APQP), Production Part Approval Process (PPAP), Measurement System Analysis (MSA), Failure Mode and Effects Analysis (FMEA), and IATF 16949:2016.

RELEASED

DATE: 5/30/2018

Document Control

### Suppliers to Non-Automotive Programs

OPTEK prefers certification to ISO 9001:2008 in conjunction with OPTEK specific requirements as a minimum for supplier selection. OPTEK strongly encourages its suppliers to become certified to ISO 9001:2008 and may strategically require ISO certification in the future.

Provisions are made for suppliers that are not ISO 9001 / TS 16949 certified but who show objective evidence of a fully implemented Quality System. Every supplier is important at OPTEK.

OPTEK's commitment is to Develop Suppliers with willingness and potential to achieve certified status in our supplier classification system. Supplier shall take into consideration The Voice of The Customer during the design, implementation and training phases of their Quality System, documented statements of a quality policy and quality objectives.

**Record Retention:** Records may be in the form of any type of media, such as hard copy or electronic media. The control of records shall satisfy regulatory and customer requirements. Quality records for material/parts supplied to OPTEK for commercial product(s) are to be retained for 7 calendar years minimum. Records for material/parts supplied to Optek for automotive product(s) are to be retained for 10 calendar years minimum.

### Supplier Development

The SQD representative and/or or Purchasing representative shall perform supplier development using ISO 9001 ISO/TS16949 quality system as the basis. The level of development is dependent upon the needs of the supplier relative to the requirements of the Standard and the importance of the product or services they supply.

OPTEK employs the following activities for the supplier quality system development.

1. Technical Specification ISO 9001 ISO/TS 16949 Standard as the foundation
2. OPTEK's Material Specifications
3. Supplier Performance Reports

4. ~~Closed Loop Corrective and Preventive Action Program (SCARs)~~

5. On-Site Assessment or Supplier Self-Assessment

6. A hands-on approach for training at supplier facility

RELEASED

DATE: 5/30/2018

Document Control

## Supplier Performance Rating and Performance Monitoring System

### Introduction

Purchasing and Supplier Quality Development to evaluate OPTEK's Suppliers utilize OPTEK's Supplier Rating System. Through monthly Supplier Performance scores OPTEK rates suppliers by PPM calculations, and on-time delivery performance, and may include any or all of the following, PPAP delivery results, number of defect issues, supplier response to corrective action, cost reduction/prevention for cost reduction. This portion of the supplier manual illustrates the supplier rating procedure, the different scoring criteria, and their respective scales. (scales begin on page 15).

### Supplier Performance Rating Procedure

**Supplier Evaluation:** The Supplier Performance Rating System will not evaluate all suppliers to OPTEK on a regular basis. Monitoring supplier's performance rating will include, but not be limited to automotive suppliers and other suppliers including key suppliers and suppliers doing in excess of one hundred thousand dollars in sales annually as listed on Optek's Key Suppliers Rolling 12-Month Performance matrix.

OPTEK Purchasing and/or Supplier Quality including SQE's and or SQD representatives may issue a Supplier Performance Rating Scorecard to any supplier to OPTEK when requested by the supplier, or as deemed appropriate by OPTEK.

**Criteria & Data:** The data is not specific to a particular OPTEK location. It encompasses all OPTEK facilities.

**Use of information collected:** The data will be used to continually improve suppliers may be classified as:

- a) Preferred Supplier
- b) Approved Supplier
- c) Provisional Supplier

**Results:** OPTEK's purchasing personnel prior to making further allocations of business will take information collected by the Supplier Rating System into consideration.

- Preferred Suppliers: These suppliers are eligible to be recommended for all new business.

- Approved Suppliers: There will typically be no change in terms of priority of ~~awarding new business to these suppliers.~~
- Provisional Suppliers: These suppliers will be put on an improvement plan. If rating results do not improve over a certain period, typically six months, these suppliers are excluded from new business and de-sourcing started.

### Contacts:

If you have any questions or concerns please contact SQD at OPTEK.

RELEASED  
DATE: 5/30/2018  
Document Control

## Supplier Performance Monitoring Process

OPTEK's Supplier Quality Development (SQD), and Purchasing are responsible for monitoring supplier performance. Supplier Performance scorecard metrics are used to initiate Quality Improvement Plan (QIP) activities. Supplier development will be offered as necessary to achieve OPTEK's goals. An SQD associate will notify suppliers directed to participate in a QIP. Supplier development will be offered as necessary to achieve OPTEK's goals including certification to ISO 9001 or ISO/TS 16949 standard.

Suppliers are expected to provide "World Class" performance in the areas of quality, delivery, cost, and service. Performance standards for quality, on time delivery, cost reduction, and proactive problem solving support are monitored and periodically reviewed with the supplier. An on-time delivery performance target of 100% is a requirement for all suppliers; under extenuating circumstances OPTEK may review late deliveries relative to consignment to freight forwarder. Supplier performance is also demonstrated by continuous improvement trends that proactively provide cost reduction opportunities by reducing waste and non-value added operations from the supplier's process.

It is the responsibility of the individual suppliers to monitor their performance and identify continuous improvement opportunities. To assist suppliers OPTEK will provide a performance report, upon request. This performance report as a minimum will assess the supplier's performance as to On-Time delivery and the quality of the product delivered to meet OPTEK's requirements. Contact your OPTEK Purchasing representative or Supplier Quality representative.

OPTEK reserves the right to remove suppliers from the Approved status for failing to meet any one of OPTEK's requirements.

SQD and/or SQE contribute the following supplier performance data to the Supplier Performance Scorecard: part per million (PPM) calculations, on-time delivery report, defect occurrences, and PPAP timing results. If you have any questions or concerns

relating to these categories of the Supplier Performance Report, contact OPTEK  
~~Supplier Quality Development or Purchasing representative~~

Purchasing contributes total cost reduction, and on-time delivery data. PPAP timing results can also be contributed by Engineering and/or Purchasing. If you have any questions or concerns relating to these categories of the Supplier Performance Report, contact OPTEK Supplier Quality Development or Purchasing representative.

RELEASED

DATE: 5/30/2018

Document Control

### Parts Per Million Supplier Performance Requirement

OPTEK tracks PPM performance and expects suppliers to calculate their own data to track PPM internally to identify quality performance trends within their own processes. OPTEK utilizes the following components PPM calculation:

- $(\text{quantity rejected} / \text{quantity received}) \times 1,000,000 = \text{PPM}$

Quality PPM defective reporting is based on the total shipment quantity and estimated number of rejects, unless the product is screened, then the actual number of rejects is used in the calculation. OPTEK's goal for Quality from their suppliers is "0" PPM. The Supplier Quality Engineer shall monitor these performance indices for compliance and take appropriate action.

### On Time Delivery Supplier Requirements

Suppliers are expected to maintain deliveries in accordance with accepted OPTEK purchasing releases. Delivery timing requirements are indicated on the releases. On-time delivery is measured by the number of shipments received in a timely manner per the OPTEK release requirements for parts on order and then, calculated as a percentage. Continued delinquent deliveries require immediate improvement activity. All costs incurred due to delivery problems are responsibility of the supplier. On-Time delivery is based on the scheduled delivery date, but allows the shipment to be received up to 5 calendar days early or 0 days late and still be considered delivered "On-Time". OPTEK expects 100% on time delivery from all suppliers.

RELEASED

DATE: 6/12/2018

Document Control

### Number of Quality Issues Reported

Supplier quality performance may also be assessed by tracking the total number of quality defect occurrences (SCARS) that occur throughout a rolling 12-month period. Defect recurrence will be noted in supplier performance reviews.

### Response Timing

Response timing initiates upon notification of the concern to the supplier and when applicable receipt of samples by the supplier, from OPTEK's Supplier Quality

RELEASED

DATE: 6/12/2018

Document Control

Representative. Suppliers are required to provide containment actions and interim ~~actions within one business day. A completed corrective action report~~ having supporting documentation verifying corrective action has been implemented, must be communicated to OPTEK Supplier Quality within 14 days of the original notification date. When additional time is required for completion of investigation for root cause and implementation of corrective actions the supplier must notify their Supplier Quality contact and request an extension of the due date.

RELEASED

DATE: 5/30/2018

Document Control

## 5. Supplier Approval Process

### Potential Suppliers, New Purchases with a New Supplier

Suppliers may be added to the Approved Supplier List by:

1. Supplier submits a Third Party Registrars' valid Certificate of Registration by a quality system accredited third party registrar to the current applicable ISO family standard or automotive industry standard; or
2. Potential suppliers of production material that have not attained ISO/TS 16949 or ISO9001 registration, or registration to the current applicable ISO family standard or automotive industry standard, will be awarded Approved status after evidence of passing an acceptable QMS assessment is reviewed by OPTEK's representative(s), or
3. Supplier submits a copy of a second party on-site assessment of the suppliers' quality system that is accepted by OPTEK. All nonconformances identified must be closed, and supported by objective evidence, or.
4. Supplier may be required to complete and return OPTEK's supplier self-assessment form for OPTEK's review that may be followed by an on-site QMS process survey. Any deficiencies must be addressed by a timely corrective action plan. Before Approved status is granted. OPTEK reserves the right to verify any corrective actions on-site at the supplier's facility.

Note: A new supplier that has not previously provided production material used in the manufacturing of OPTEK product will be issued a 30 day temporary approval. During this 30-day period the supplier must meet one of the conditions listed above (items 1 through 4).

### Assessment Results

The assessment results in classifying a supplier as: acceptable for purchase; 2) conditional for purchase; or, 3) non-acceptable (disqualified).

A supplier of production material, prototype material, and/or custom tooling must obtain Approved status to participate in any future OPTEK business.

Approved: The supplier received a score of 85% or greater with no major non-compliance. ~~A non-compliance is any question assigned (1) or zero (0) points.~~

Conditional: The supplier received a score of 75% or greater with fewer than seven (7) non-compliances.

Temporary: A supplier that has been given a 30-day temporary approval to meet OPTEK's requirements.

Disqualified: The supplier failed to receive a score greater than 75%; or, has more than seven non-compliances. The supplier will not be recommended for inclusion on OPTEK's Approved Supplier List.

The supplier will be granted a 30-day temporary approval rating to complete the required forms and return them to OPTEK.

If after 30-days the supplier has not met this commitment, then the 30-day temporary approval rating may be changed to disqualified. An audit of the supplier may be requested by an OPTEK team member to evaluate the supplier's quality system.

Suppliers of non-productive supplies are excluded from this requirement unless otherwise directed by the Purchasing agent, Supply Chain Management representative or SQD Quality representative.

### **New Purchases with Existing Supplier**

OPTEK Supply Chain Management and Purchasing utilizes a fact-based approach when considering current suppliers for new business sourcing decisions. Once a supplier is accepted, the supplier's on-going performance will influence future sourcing considerations.

Existing production suppliers achieve Approved status through demonstrated performance as measured by the Supplier Performance Rating System. A minimum rating of "Approved" status is necessary to be considered for future programs.

**Non-automotive suppliers** who fail to achieve Approved supplier status are reviewed on an individual basis by, but not limited to, a SQD Quality representative, Engineer representative, and Purchasing representative who will determine the suppliers status to continue as a supplier. Results of the review shall be documented and placed in the supplier file.

**Automotive production material suppliers** demonstrating attainment of ISO/TS 16949 or ISO9001 registration will be considered as having an Approved QMS and may not require any further Quality Management System qualification by OPTEK, providing future supplier rating criteria is satisfactory. The same criteria applies to **non-automotive production suppliers** who have attained ISO9001, or equivalent registration and **to suppliers that are specified by OPTEK's customer.**

---

## On-Site QMS Process Approval Audit

The option of an on-site process approval audit may be required depending on the criticality of the part. This shall be dependent upon the type of product, the impact of subcontracted product on the quality of final product and, where applicable, on the quality reports and/or quality records of the previously demonstrated capability and performance of the supplier.

### Standard or Off-The-Shelf Items

A supplier of production material including “standard” or “off-the-shelf” items, prototype material, and/or custom tooling must maintain Approved status to participate in any future OPTEK business.

Manufactures of production material used in OPTEK products not created specifically for OPTEK (commonly referred to as “standard” or “off-the-shelf” items). These manufacturers, which may be available either through direct purchase from the manufacturer or through a distribution network, will be added to the Approved Suppliers List based on engineering evaluations or OPTEK’s First Article Inspection, or PPAP. A formal quality system survey of facilities of off-the-shelf items or non-production material is not mandated. OPTEK prefers certification to ISO 9001 or ISO/TS 16949 or applicable current standard.

### Second Party Audits for Automotive Suppliers

This type of audit is to be performed for automotive suppliers based on the need of complying with the IATF clause 8.4.2.4.1. Optek Technology will perform these audits annually for each automotive supplier with these requirements and will maintain a record of the audits. The scope of the audits will be determined by the applicable IATF clauses. For overseas suppliers, these audits may be performed by TT Electronics SQE’s either from Asia or Europe. In these cases, the Optek SQEs will generate the audit check list and will provide evidence of coordinating the audit with a complete follow up of resultant audit findings.

## 6. Advanced Product Quality Planning (APQP)

Suppliers are expected to implement Advanced Product Quality Planning (APQP) activities to communicate and ensure timely, high-quality product development. To meet applicable customer requirements, APQP must be consistent with the AIAG “Advanced Product Quality Planning and Control Plan – APQP”. The manual provides guidelines designed to produce a product quality plan, which will support the development of a product, or service that will satisfy the customer. APQP status reports or output documents for this process may be requested by OPTEK. PPAP documentation must be readily retrievable upon request. Proprietary considerations will be made regarding documents as appropriate.

## Design Review and Annual Product Verification Testing

Suppliers are responsible for reviewing designs at the Quote Stage in order to identify ~~potential design, manufacturing, and quality issues/improvements~~. The supplier must consider all “Safety and Regulatory Items” relative to the product and make notation of all identified critical characteristics. When required by the customer verification testing must be performed annually to ensure design intent requirements are maintained. All applicable documents must be updated to reflect product performance throughout production, including updates to the original PPAP submissions. All appropriate design verification documentations must be made available upon request. Please contact the appropriate OPTEK contact to request a design review.

## Component Deviation Request

“Component Deviation Requests” indicating the specific non-conformances and defining the deviations of design requirements must be approved by Engineering in advance of PPAP submission or shipment of product; submitted to Purchasing and Quality; and included in PPAP submissions to OPTEK.

## 7. Production Part Approval Process (PPAP)

### New Component PPAP

Dependent on OPTEK’s customers’ requirements, suppliers are required to follow the Production Part Approval Process (PPAP) Requirements Manual published by AIAG and all applicable customer requirements. OPTEK requires a level three (3) PPAP submission, unless the program requirements permit the certified suppliers to submit a level one (1) PPAP. PPAP submissions must be performed and approved for all

OPTEK production level components and assemblies prior to the first shipment of production parts. Suppliers must ensure that all special characteristics are identified appropriately within the PPAP documentation. Failure to provide timely and accurate PPAP documentation will be reflected in the supplier’s performance rating. OPTEK reserves the right to request and audit the supplier’s annual layout data.

All costs related to PPAP submissions are the responsibility of the supplier. OPTEK will not authorize additional payment to a supplier for submission of a PPAP. Contact your Purchasing representative for specific purchasing terms.

PPAPS are mandatory for the following conditions:

- New part
- Tool moves or additional production facilities
- Design change
- New or modified tool
- New or optional material / color
- Optional constructions
- New sub-contractors
- Significant process changes
- For further information reference current edition PPAP Procedure Manual

PPAP Layout quantities are to be presented as follows:

- ~~Single cavity tool: A 100% dimensional layout on all tolerances and non-reference dimensions for a minimum of three (3) production parts produced from the tool. Parts must be clearly identified as the measurement samples.~~
- Multiple cavity tool: A 100% dimensional layout of all tolerance and non-reference dimensions for a minimum of three (3) parts per cavity from the production tool. Parts must be clearly identified as the measurement samples.
- Bulk Material: Please refer to the AIAG PPAP manual for applicable requirements.

### **PPAP Timeliness**

Suppliers are to submit PPAP to OPTEK within three weeks from issuance of a new component Purchase Order Purchasing. PPAP packages arriving after the due date will be considered late. PPAP packages may be requested by SQD, Quality Representative, SQE, Purchasing, or Engineering.

### **Existing Production Components PPAP Timeliness**

For existing production components, these PPAP packages are expected within 5 business days of the request, unless otherwise specified by the requestor. PPAP packages arriving after the 5 business days will be considered late. PPAP packages identified as incomplete will be rejected and considered late if not fully re-submitted within the initial due date period. Incomplete PPAP is missing documentation, missing samples, etc.

---

**Supplier Product or Process Changes**

RELEASED

DATE: 5/30/2018Document Control**Automotive products**

OPTEK must be notified in writing, by the supplier, of ANY process, tooling, material, design, etc., changes to the designated OPTEK Supplier Quality Engineer and receive written approval from OPTEK prior to any changes being implemented. OPTEK may reject material shipped without written authorization. Such a rejection will affect the supplier's quality performance rating and all cost and expenses incurred by OPTEK as a result of unauthorized changes may be billed to the supplier. PPAP must be submitted to OPTEK per PPAP requirements.

**Non-Automotive products:** (Parts other than off- the-shelf items)

OPTEK must be notified in writing, by the supplier, of ANY process, tooling, material, design, etc., changes that affects form, fit or function of the material being supplied. OPTEK may reject material shipped without written authorization. Such a rejection will affect the supplier's quality performance rating and all cost and expenses incurred by OPTEK as a result of unauthorized changes may be billed to the supplier.

**8. Certified Part Number Process**

An individual part number may be certified and therefore exempt from OPTEK Incoming inspection. Certification is accomplished by meeting the requirements as specified in OPTEK procedure (213-0117-001). The part numbers used on automotive applications do not qualify to be certified and shall be inspected at Incoming Inspection to verify product specification compliance.

Decertification and/or re-certification of a part number is determined by corrective action taken by supplier and review of suppliers' performance rating and part number performance by OPTEK SQD and/or SQE, appropriate Engineer, and Supply Chain Management / Purchasing representative, reference procedure 213-0116-001.

Purchasing may:

- a) notify suppliers of part number certification by noting it on the purchase orders.
- b) notify suppliers of part number de-certification and requirements for re-certification.

The suppliers; failure to meet the requirements for re-certification could lead to the removal of the supplier from the Approved Supplier List.

RELEASED

DATE: 6/12/2018Document Control

RELEASED  
 DATE: 5/30/2018

## 9. Suppliers Continuous Improvement

Document Control

A supplier of production material must place emphasis on defect prevention rather than detection to provide OPTEK with defect-free product.

The supplier must actively participate in mistake-proof applications and statistical process control methods as a proactive approach in achieving their quality performance improvement objectives.

The supplier must use a systematic problem solving technique approach to determine root cause and facilitate closed loop corrective action.

Suppliers are expected to have quality systems in place, which pro-actively communicate to OPTEK alternative methods to improve process, product quality and facilitate cost savings.

RELEASED

 DATE: 5/30/2018

## 10. Suppliers Corrective Action Process

Document Control

Suppliers are responsible for the quality of their product at all times throughout the OPTEK manufacturing process; installation at the final customer; and, through to the end consumers use. Suppliers must have procedures in place to prevent non-conforming product from escaping their process resulting in shipment to OPTEK.

When nonconforming product/material that does not meet the documented specification and design requirements is identified at OPTEK, the product/material will be rejected, and will result in the issuance of a Five Phase Supplier Corrective Action Request (SCAR).

The SCAR form will be forwarded to the supplier with samples (when applicable) exhibiting the nonconformance(s).

The supplier shall enact immediate activities to ensure continued availability of good material to OPTEK manufacturing whether by means of correcting the process that caused the nonconformance or by sorting and/or reworking of discrepant material. Suppliers are required to provide containment measures, sort authorizations, and first pass response of root cause within one business day of notification of the defect claim.

The SCAR form nonconformance section will describe the problem, where the problem was identified; the magnitude, and can document request for the return material authorization when applicable. The SCAR for will also have the estimated number of defects for the lot(s) of material, as well as required due dates for containment, root cause, corrective action and irreversible corrective action.

The supplier is responsible to provide updates to all interim activity through to final verification. Validated corrective action measures that ensure prevention of the defective

 RELEASED  
 DATE: 6/12/2018
Document Control

condition must be communicated in writing to OPTEK within 14 days) of the original ~~defect notification date unless a time extension has been agreed to by~~ the OPTEK SQE, or SQD representative. Failure to respond to the SCAR within designated time could lead to removal of the supplier from the Approved Supplier List.

### Return Material Request

When material is to be returned to the supplier OPTEK must receive authorization (RMA: Return Material Authorization) from the supplier within four business days from the date the samples, or other evidence of defective material, is received at the supplier. All samples shall be shipped so that the supplier receives the material in a timely manner. If return authorization has not been received within 15 business days, OPTEK may return the material to the supplier and debit their account.

### Corrective Action Response

The supplier corrective action response is required to be in a 5-step discipline format. This is normally referred to as a “Five Phase Problem Resolution and Reporting” format, the title of the form is “Five Phase Supplier Corrective Action Request” (SCAR). The following is a list of those elements.

1. Description of Nonconformance
2. Containment Action Taken by Supplier
3. Root Cause
4. Irreversible Corrective Action Taken
5. Verification of Corrective Action

RELEASED  
DATE: 5/30/2018  
Document Control

The following paragraphs below explain each of the 5 elements of the SCAR and what is expected from the supplier when responding to the SCAR.

1. Description of Nonconformance:

Optek will describe in detail why the material was determined to be nonconforming. Additional information, such as material identification and inspection results are located in the boxes above the Description of Nonconformance on the SCAR form.

2. Containment Action Taken by Supplier:

Once OPTEK has identified a problem this information is forward to the supplier so that any material in his stock or production can be segregated. If material has been shipped and is in Optek’s warehouse, or is in transit, that

may have the identified nonconformance, the supplier must notify OPTEK's  
~~Purchasing and/or SQE immediately.~~

Material that has been sorted for the nonconformance is to have their shipping containers marked with a 1/2 inch minimum green dot. This dot is to be placed under the bar code label, if there is no bar code label then it is to be placed next to the "Ship To" address. The green dot shall be on every shipping carton until irreversible corrective action has been implemented.

### 3. Root Cause:

This requires the identification of the root cause, not the symptoms of the cause. Describe in detail the root cause of the problem. Was the problem process related? Did a machine or machine operator cause the problem? How was this determined to be the root cause? Could the nonconformance be duplicated under controlled conditions? Are changes required in the process? Will the Process Control Plan be updated?

First pass at Root Cause and Containment Action need to be responded to within 48 hours (2 business days) of notification, this should be done via fax, or e-mail. The fax number is listed on the bottom of the SCAR form.

### 4. Irreversible Corrective Action (Implemented):

What was implemented to correct the root cause? It is important that a detailed analysis has been completed to assure that this nonconformance does not reoccur. OPTEK expects the supplier to state in writing the specifics of the changes made to correct the problem and the implementation date of the corrective action. Following are examples of questions the suppliers may ask themselves in generating responses to OPTEK.

- a.) Was the machinery modified?
- What exactly was done to the machinery?
  - Was a sample run performed after the machinery was modified?
- d.) How are the parts inspected and were they acceptable?
- If the machinery has multiple part cavities, were they all checked?
- f.) Was there a change or addition to the process?
- g.) Did the operators need re-training?
- h.) Was your supplier the root cause, if so what action has been taken?
- i.) Was the Control Plan updated, if so how?
- j.) Was the PFEMA updated?

Material that has been produced since implementation of the corrective action must be identified by placing a 1/2 inch minimum orange dot on the shipping container(s). This dot is to be placed under the bar code label, if there is no bar code label then it is to be placed next to the "Ship To" address. The orange dot shall be on every carton for the next 30 calendar days after the corrective action was implemented.

RELEASED

DATE: 6/12/2018

Document Control



OPTEK allows a maximum of 14 days for the supplier to respond with ~~Irreversible Corrective Action unless a time extension has been agreed to by~~ the OPTEK responsible SQE, or responsible SQD representative.

All parts of the SCAR form should be completed and forward to OPTEK, to the attention of the Supplier Quality Engineer, or Supplier Quality Development representative with whom the supplier has been communicating.

5. Follow Up Verification (Problem Elimination):

What has been done to ensure that the corrective action has “fixed” the nonconformance permanently? Evidence of the effectiveness of the corrective action shall be documented. The type of documentation shall be stated on the corrective action form and be made available to OPTEK if requested.

Corrective actions may include revisions to Control Plans and/or PFMEA’s. All documentation changes to these living documents shall accompany the SCAR form.

Validated corrective action measures that ensure prevention of the defective condition must be communicated in writing to OPTEK within two weeks of the original defect notification date unless a time extension has been agreed to by the OPTEK SQE, or SQD representative.

OPTEK reserves the right to perform an on-site system review of any corrective action(s) for verification.

**Corrective Action Failures**

Continual quality concerns will significantly affect a supplier’s opportunity for additional business with OPTEK. Suppliers are expected to use “Lessons Learned” and “Things Gone Wrong” methodologies to eliminate potential risk factors and prospective defects. Suppliers should apply all analysis findings and action items to similar processes within their manufacturing facility. When corrective actions do not eliminate the defective condition, the supplier must re-evaluate the root cause and establish a new and effective corrective action. Continued failures may result in formalized quality improvement activities.

**Accountability and Cost of Quality**

Suppliers are selected based on their ability to provide cost effective, superior defect-free products, expert knowledge of their product and manufacturing processes; and provide responsive and proactive support. With these expectations, suppliers may be held accountable and responsible for all costs incurred due to defective ~~product~~ identified during OPTEK manufacturing/installation, or end-customer use of the product.

- Recovery costs due to an automotive vehicle ‘recall’
- 3<sup>rd</sup> party sorting or reworking costs

RELEASED  
DATE: 5/30/2018  
Document Control

RELEASED  
DATE: 6/12/2018  
Document Control

- Labor for sorting or reworking of raw stock
- ~~Labor for sorting or reworking finished goods~~
- Labor for sorting or reworking of finished goods installed in the end customer product
- Scraping or reworking of “finished goods” due to defective supplier product
- Shipping fees related to return of defect product
- Fees and taxes related to scrapping of material outside the U.S.
- Warehousing/storage fees accumulated through to disposition of suspect product
- Rework or repair materials, tooling, gauges, testing equipment, or third party testing
- Excess and additional freight charges and air shipments
- Production downtime at OPTEK manufacturing facilities
- Production overtime at OPTEK manufacturing facilities
- Production downtime at customer locations
- Administrative, corporate, and management support fees
- Follow up actions and assessments, as appropriate
- Any other fees associated with defective condition

All costs are calculated based on US currency using standard man-hour labor rates established by OPTEK. Appropriate debits are issued to the supplier through the Finance Department in cooperation with Purchasing.

### Supplier Sub-Contractors

Suppliers are responsible for sub-contracted products and services used in product sold to OPTEK. It is expected that suppliers work closely with their sub-contractors and monitor their quality level. Sub-supplier development is encouraged. OPTEK reserves the right to request and perform necessary assessments at sub-contractor facilities.

RELEASED  
DATE: 6/12/2018  
Document Control

---

## Warranty

**Automotive:** When applicable suppliers are responsible for their product through to the end of vehicle life. Post-production defective claims reported by the end customer are qualified, tracked and reported by OPTEK. Costs related to such claims are the responsibility of the supplier.

### 11. Quality Clauses Referenced on Optek Purchase Orders

#### **Q-001 ISO/TS 16949 Quality System**

Supplier shall maintain and be certified to an ISO/TS 16949 current quality system by an accredited third party registrar.

#### **Q-002 ISO 9001: 2008 Quality System**

**Supplier shall maintain and be certified to ISO 9001: 2008 or current quality system by an accredited third party registrar.**

Supplier shall maintain and be certified to ISO 9001:2000 quality system by an accredited third party registrar.

#### **Q-003 ISO 10012-1 and/or ANSI/NCSL Z540-1 Calibration Quality System**

Supplier shall establish and maintain a calibration quality system based on ISO/TS 16949 or ISO 9001 and their related documents and/or ANSI/NCSL Z540-1. Calibration of inspection, measuring, or test equipment shall be conducted by a qualified in-house laboratory, a qualified commercial/independent laboratory, or a recognized government agency. Commercial/independent calibration facilities shall be accredited to ISO/IEC 17025 or have evidence of an OEM customer-approved second party audit or an audit performed by qualified OPTEK, that they meet the intent of ISO/IEC 17025 or the national equivalent.

#### **Q-004 Testing Performed at an Accredited Laboratory**

Supplier shall use accredited laboratory facilities when specified by purchase order. An accredited Laboratory is one that has been reviewed and approved by a national-recognized body [e.g. American Association for Laboratory Accreditation (A2LA) or the Standards Council of Canada (SCC)]. (GM-NAO may continue to recognize laboratory accreditation in accordance with GP-10.)

DATE: 5/30/2018Document Control**Q-005 Chemical/Physical Tests**

A report of chemical/physical tests to the applicable specification referencing the Optek part number, purchase order number and quantity must accompany each shipment. Should a test report not be received or not contain the required information, payment will be withheld until proper test report is received, or the material will be returned to your company at your expense.

**Q-006 Test Data to Accompany Each Shipment**

Test data as described herein must accompany each shipment (Data requirements may appear on drawing, referenced specification or elsewhere in the purchase order). If the shipment should not contain the proper test data, the material will be returned to your company at your expense.

**Q-007 Standard Inspection Required**

An inspection system appropriate to the nature of items being furnished under this purchase order is required. The system is subject to review if requested by Optek. Appropriate inspection records shall be maintained.

**Q-008 Age Control and/or Lot/Batch Number**

If material procured against this order is age or environmental sensitive, the following is applicable. The supplier shall furnish lot or batch number and date of manufacture marked on either the certificate of conformance and/or on each container. Documentation must include usable shelf life or expiration date and any special storage environmental requirements. Product must have a minimum shelf life upon receipt at Optek as required by Optek drawing. In the absence of a minimum life drawing requirements, material shall possess a minimum 75% shelf life upon receipt Optek.

**Q-009 Material Furnished by Supplier, Fab per Print**

Supplier is to furnish material and fabricate per print.

**Q-010 Material Furnished by Optek, Fab per Print**

Optek is to furnish material and the supplier will fabricate in accordance with the purchase order and specification(s).

---

**Q-011 AQL per ANSI/ASQC Z1.4 - 1993**

Parts are to be sampled per the AQL, Single Sample, Level II Plan of the ANSI/ASQC Z1.4 - 1993, current issue, with the AQL being stated on the purchase order or/as noted by the Optek specification.

**Q-012 Lot/Batch/Melt Data Sheet**

The lot/batch/melt data sheets must be supplied for all parts from that run. If two or more lots/batches/melts of the same type are shipped together, each lot/batch/melt must be segregated and identified with that run number. As a minimum, the lot/batch/melt data sheets must include the run number, date of the acceptance, the operator and the defined tests noted on the Optek specification.

**Q-013 Optek Source Inspection Required**

Unless the supplier receives a waiver from Optek, all items covered by this purchase order are subject to surveillance and inspection by an Optek inspector at the point of manufacture. This will include surveillance of products and supplier's systems, procedures and facilities. The supplier shall furnish the necessary facilities and equipment to perform tests to demonstrate conformance to the Optek drawing and/or specification.

The supplier shall notify Optek when the product is ready for Optek source inspection reasonably far enough in advance to permit timely scheduling. The supplier shall forward with each shipment a copy of the Optek source inspection records, pertinent to the specific order being shipped or a copy of the written waiver. Final acceptance of source inspection material will be at OPTEK's facility.

**Q-014 Optek In-Process Inspection**

All items covered by this purchase order are subject to in-process inspection by an Optek Quality Representative.

The Optek Quality Representative shall designate the required in-process source inspection points on the supplier's flow plan, upon receipt and prior to manufacturing. If the supplier proceeds prior to notification from Optek Quality Representative, the supplier accepts full risk of rejection by Optek.

Each shipment of items shall include specific evidence that in-process inspection observation, measurements, and/or tests have been witness/accomplished by the Optek Quality Representative or have been waived in writing by Optek.

RELEASED

DATE: 5/30/2018

Document Control

**Q-015 Government Source Inspection**

Government inspection is required prior to shipment from your plant. Upon receipt of this order, promptly notify the government representative who normally services your plant so that appropriate planning for government inspection can be accomplished. A copy of this order shall be furnished to the government representative who services your plant, or if none, to the nearest Army, Navy, Air

Force or Defense Supply Agency inspection office. In the event the representative or office cannot be located, the cognizant Optek buyer should be notified immediately.

In accordance with FAR appendix, I-201; shipments which are direct shipments to the Government shall use the supplier's commercial shipping documents/packing list to indicate performance of the required PQA actions at the subcontractor/supplier level. The following entries shall be made on the supplier's commercial shipping document/packing list.

“Required PQA of the List Items Has Been Performed

\_\_\_\_\_  
(Signature of Authorized Government Representative or DOD Stamp)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Typed Name and Officer)”

- 1) One copy with the shipment
- 2) One copy to the Government representative at the supplier's facility
- 3) One copy (via mail) to the Government representative at Optek  
Send the copy to OPTEK's address marked "Attn.: Government Representative - Packing List Enclosed".

**Q-016 MIL-STD-883 Applies to Purchase Order**

The requirements of MIL-STD-883, current issue shall apply to all parts procured to this purchase order.

RELEASED

DATE: 5/30/2018

Document Control

**Q-017 MIL-PRF-19500 Applies to Purchase Order**

The requirements of MIL-PRF-19500, current issue shall apply to all parts procured to this purchase order.

**Q-018 Part Conditioning and/or Burn-In**

The supplier shall provide with each shipment a certificate of conformance and ~~data indicating completion of all required conditioning and/or burn-in~~ as noted by the purchase order and/or specification(s).

#### **Q-019 Nonconforming Material**

All material found to be defective per OPTEK, Inc. specification, by the supplier at his facility, must be withheld from shipment to Optek until the nonconformance have been reported to and analyzed by the Optek Material Review Board.

#### **Q-020 Process Changes or Process Reallocations**

Process relocation or a change to the product/process by the supplier requires written notification to Optek 30 days prior to the change. Optek will review the proposed change and give written reply. If acceptable, Optek will specify what requirements will be needed in writing. If not acceptable, Optek will give written rejection to the supplier and the proposed change(s).

#### **Q-021 MIL-STD-130 Applies to Purchase Order**

The requirements of MIL-STD-130, current issue shall apply to all parts procured to this purchase order.

#### **Q-022 Certificate of Compliance Required**

A certificate of compliance must accompany each shipment stating that the material shipped has been tested in accordance with and meets the requirements of the applicable Optek drawing and/or specification and that data to support the certification is on file at the supplier's facility and subject to examination.

The certification will reflect the Optek part number (or the manufacturer's part number when a standard manufacturer's part number is reflected by the Optek specification), purchase order number, quantity and signature of the supplier's representative. (The signature must be legible, or the representative must also print his name next to his signature.) Should a certificate of compliance not be received or not contain the required information, the material shall be returned to the supplier at the supplier's expense.

RELEASED  
DATE: 5/30/2018  
Document Control

---

**Q-023 ~~First Article Inspection~~**

---

Per the quantity defined by the purchase order, the unit(s) will be inspected to the requirements of the drawing. Certification of analysis of the raw material, dimensional layout report and certification of conformance shall accompany these units to OPTEK's specifications and drawing. Any parts fabricated prior to the receipt of written approval by Optek will be at the supplier's risk.

**Q-024 Solderability**

Supplier warrants that devices supplied per this purchase order shall meet the requirements of MIL-STD-750, Method 2026 (Solderability).

**Q-025 Certified Supplier Part Number Program**

The Optek Certified Supplier Part Number Program is applicable to this purchase order.

Optek Purchasing shall be notified of any changes in test procedures subsequent to our survey in conjunction with the implementation of the Certified Part Number Program at the supplier's facility.

**Q-026 ESD Sensitive Packaging**

These parts are classified as electrostatic discharge sensitive (ESDS) and shall be directly packaged in ESD material meeting the required conditions noted on the purchase order and/or drawing. The shipping container shall be marked per MIL-STD-129, current issue, with the ESD symbol and caution statement. Parts not properly marked or packaged per the ESD requirements will be returned at the supplier's expense.

**Q-027 Optek's Supplier Quality Requirements Manual**

Optek's Supplier Quality Requirements Manual (213-0115-001) applies to all product(s) supplied to Optek by this supplier.

RELEASED  
DATE: 5/30/2018  
Document Control

**Q-028 Optek's Supplier Corrective Action Request**

This requires the supplier to adhere to Optek's Supplier Corrective Action Request procedure as is described in Optek's Supplier Quality Requirements Manual (213-0115-001) and applies to parts and services supplied to Optek in accordance with the purchase order.

### **Q-029 Optek Survey, Audit and Inspection**

Optek has the right to conduct surveys, audits and surveillance of the supplier's facilities or those of the supplier's subcontractors to determine the capability to comply, and to verify continuing compliance, with the requirements of the procedure document. Optek has the right to perform inspection at supplier's facilities, or the supplier's subcontractors during the period of manufacture and inspection prior to shipment. Final inspection and acceptance shall be performed at Optek's facility, unless otherwise specified on the purchase order.

### **Q-030 Government Source Inspection**

The government has the right to inspect any or all of the work included in this procurement, at the supplier's facilities or at sub-tier supplier facilities. The supplier's quality control or inspection system and manufacturing processes are subject to review, verification and analysis by authorized Government representative.

### **Q-031 Hazcom Data Sheet/Certification Required**

RELEASED  
DATE: 5/30/2018  
Document Control

Chemical shipments delivered against this order will require a copy of "Material Safety Data Sheet - MSDS" Accompany each shipment in accordance with federal law. Chemical shipments that do not possess "MSDS" may be subject to rejection and returned at the supplier's expense.

### **Q-032 The RoHS EU Directive 2002/95/EC [Restriction of Hazardous substances] Applies to Purchase Order**

The requirements of Directive 2002/95/EC of the European Parliament and of the Council, current issue shall apply to all parts procured to this purchase order.

Certificate of Compliance Required. A certificate of compliance shall accompany each shipment stating that the material shipped has been tested in accordance with and meets the requirements of the applicable Optek drawing and/or specification and meets the RoHS EU Directive 2002/95EC requirements and that data to support the certification is on file at the supplier's facility and subject to examination.

The certification will reflect the Optek part number (or the manufacturer's part number when a standard manufacturer's part number is reflected by the Optek specification), purchase order number, quantity and signature of the supplier's representative. The signature must be legible, or the representative must also print his/her name next to their signature). Should a certificate of compliance not be received or not contain the required information, the material shall be returned to the supplier at the supplier's expense.

### **Q-33 The WEEE EU Directive 2002/96/EC [Waste of Electrical and Electronic Equipment] Applies to Purchase Order**

The requirements of Directive 2002/96/EC (WEEE) of the European Parliament ~~and of the Council, current issue shall apply to all parts procured to this purchase order.~~

**Q-034 The ELV EU Directive 2000/53/EC [End of life vehicles] applies to Purchase Order**

The requirements of Directive 2000/53/EC of the European Parliament and of the Council, current issue shall apply to all parts procured to this purchase order.

**Q-035 The Packaging and Packaging Waste EU Directive ECM/2002/02 Applies to Purchase Order**

The requirements of EU Directive ECM/2002/02 of the European Parliament and of the Council, current issue shall apply to all packaging procured to this purchase order.

## 12. Glossary

### **Accreditation Body**

An organization with authority, typically from the national government, to accredit bodies such as certification bodies/registrars for quality system certification, test laboratory accreditation, etc.

### **Accredited Laboratory**

Accredited Laboratory is one that has been reviewed and approved by a national-recognized accreditation body [e.g. American Association for Laboratory Accreditation (A2LA), the Standards Council of Canada (SCC) or US Government recognized organizations.] for test laboratory to ISO/IEC 17025 or applicable national standards.

**Achieving Your Cost Reduction Target:**

RELEASED

DATE: 5/30/2018

Document Control

The object is to reduce the final cost to the customer. This cost is the accumulation of our combined supply-chain costs.

Total Cost: Optek Costs + Supplier Costs + Your sub-Supplier Costs + . . . .

While the Optek target is based on your P.O. price to Optek, all your cost saving proposals that result in a reduction of Optek’s total cost to the customer will count toward the achievement of your target.

Note: Savings per proposal should target 5% minimum per year.

**Approved Supplier**

A supplier that meets the requirements as stated in section 5.

**Calibration**

A set of operations which compare values taken from a piece of inspection, measuring and test equipment or a gage to a known standard under specified conditions.

**Certified Part Number**

A part number that is received from an Approved Supplier for which quality history or PPAP is sufficient to presume acceptability of the material to be shipped directly to an Optek stockroom location without submitting the material to inspection by Optek’s Incoming Inspection.

**Determining the Cost Reduction Target:**

Optek determines the cost reduction target annually, based primarily on the Purchase Order price to Optek. Since the overall target figure is an average, some suppliers may be asked to meet a higher or lower target depending on their commodity.

**Disqualified Supplier**

A supplier that has been removed from Approved status for failure to meet Optek’s requirements.

RELEASED

DATE: 5/30/2018

Document Control

**Laboratory**

A facility that may include chemical, metallurgical, dimensional, physical, electrical, reliability testing or test validation.

RELEASED

DATE: 6/12/2018

Document Control

## **New Business Source Hold**

“New Business Source Hold” status directs Optek Purchasing to suspend all sourcing with the supplier. Suppliers are formally notified of “New Business Source Hold” status with a letter from SQD and Purchasing. The supplier must immediately begin quality improvement activities (QIP) working directly with SQD to rectify the quality concerns identified. Also see Disqualified Supplier.

## **Quality Records**

Quality Records are the documented evidence that the supplier’s processes were executed according to the quality system documentation (e.g. inspection and test results, internal audit results, calibration data) and records results.

## **Quality Improvement Plan (QIP)**

QIP activity will be concluded by SQD when sufficient supplier performance improvement is evident. Full supplier cooperation is expected throughout the QIP process. Suppliers identified as high impact with downward quality trends or those who do not compare favorably to others in their commodity may be required to present a comprehensive Quality Improvement Plan. Suppliers successfully fulfilling QIP requirements (defined by SQD) will be released from the QIP activity. Poor QIP activity/ results may lead to a “Quality Hold”, or “New Business Source Hold”, or “De-Source” designation with Optek Purchasing.

## **Quality Hold**

A “Quality Hold” classification is assigned to a supplier when a high-risk product quality situation arises. This status directs Optek Purchasing to evaluate suppliers more closely prior to awarding new business. Suppliers formally notified of a “Quality Hold” status must perform Quality Improvement Plan (QIP) activities, as directed by SQD. The supplier may be subject to extended sorting and/or third party sorting by a certified extrinsic organization. This status is not intended to be permanent. If QIP activities are ineffective, “New Business Source Hold” may be assigned to a supplier.

## **Supplier Value Achievement Program**

As a valued member of Optek’s supply chain, you share with us the responsibility of delivering ever-increasing value to the final customer. We accomplish this by constantly striving to make our product development and manufacturing processes more efficient. To be successful, we must have the participation and cooperation of our suppliers.

RELEASED

DATE: 5/30/2018

Document Control

**System Assessment**

---

A verification activity based on a sample of objective evidence used to determine the effective implementation of a supplier's documented quality system.

**Temporary Supplier**

A supplier that has been given a 30-day temporary approval to meet the requirements as stated in section 5.

**Verification**

Confirmation by examination and provision of objective evidence that specified requirements has been fulfilled.

**13. Forms**

*Note: All forms in this manual are a typical example and may not be the current revision. If a form is needed the supplier must contact SQD or SQE for a current copy of the form.*

RELEASED  
DATE: 5/30/2018  
Document Control

Certificate of Compliance for Government and Safety Constraints - Form No. 500-0837-001



**Certificate of Compliance**  
**Restricted, Toxic, Hazardous Material and Dioxin**

As a subcontractor to the automotive industries, OPTEK Technology and its suppliers must comply with ISO/TS 16949:2002 and conform to applicable regulatory requirements, including governmental and safety constraints and environmental regulations on restricted, toxic, and hazardous substances, or customer specific requirements. This involves confirmation that your company complies with the following statement.

*All material used in part manufacturing shall satisfy current government safety constraints on restricted, toxic and hazardous materials, as well as environmental, electrical and electromagnetic considerations applicable to the country of manufacture and sale.*

Examine your manufacturing process used to produce parts supplied to OPTEK and ensure compliance by having an officer of your company sign and return this certificate to OPTEK's Quality Representative.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: \_\_\_\_\_ Title: \_\_\_\_\_

Company Name: \_\_\_\_\_ Address: \_\_\_\_\_

The European Parliament and the Council of the European Union has mandated compliance to the Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC that restricts hazardous material content in products sold in Europe. Our customers are requiring OPTEK certify compliance regarding content of hazardous substances currently outlined in the RoHS Directive which are: lead (Pb), cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenylether ethers (PBDE) in products we supply.

To ensure compliance OPTEK Management is requesting a signed Certificate of Compliance from your company certifying their items or materials supplied to OPTEK are compliant to the Restriction of Hazardous Substances Directive 2002/95/EC.

**Certificate of Compliance**

We certify that all of the items or materials supplied to OPTEK Technology are and will continue to be in compliance with the European Union Restriction of Hazardous Substances Directive 2002/95/EC current revision requirements:

We, the supplier, agree to furnish upon request evidence of compliance.

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Company Name: \_\_\_\_\_ e-mail address: \_\_\_\_\_

**RELEASED**  
**DATE: 5/30/2018**  
**Document Control**

**Advanced Deviation or Part Change Request - Form No. 500-0179-001**  
**Control of Nonconforming Product:**

The supplier must formally notify OPTEK SQD, SQE or Purchasing as soon as they become aware of any facts suggesting the product to be shipped does not

conform to design requirements. The supplier may submit a temporary Advanced ~~Deviation Request form for product not conforming to design requirements and~~ deemed by Optek's Product Engineer as not affecting form, fit, function or durability. The Advanced Deviation or Part Change Request Form can also be utilized to notify OPTEK of a request for a part change request. The OPTEK Advance Deviation or Part Change Request form contained within this manual should be utilized for this purpose.

The Advanced Deviation or Product Change Request form must be completed in full with dates or quantity to define duration of the deviation effectively and a corrective action plan for the discrepancy.

The request must be made and approved prior to the shipment of discrepant material. Submission of this form should be to the supplier's contact in the OPTEK Purchasing Department or Supplier Quality Department.

If the deviation is approved, the supplier will be authorized to ship deviated product for the specific quantity or period of time. The approved form will be forward to the supplier. A copy of the approved Advance Deviation or Part Change Request shall accompany each shipment covered by the advance deviation request. This is intended as a temporary allowance.

The supplier is responsible for segregating deviated material from all other material. All deviated product must be clearly identified on the shipping cartons and must have appropriate traceability. If the deviation is not approved, the supplier may not release deviated product to OPTEK. Unapproved product will be rejected and counted as defective material on the supplier's PPM performance rating,

### **Non-Conforming Material**

Suppliers are responsible for the quality of their product at all times throughout the OPTEK manufacturing process, installation at the final customer; and, through to the end customers use. Suppliers must have procedures in place to prevent non-conforming product from escaping their process resulting in shipment to Optek's facilities.

DATE: 5/30/2018

Document Control

Supplier Name & Supplier ID No.:		P.O. No.:	Requested By:	Date:
Optek Part Number	Rev.:	Part Description	Quantity or Date of Duration	
Requested Deviation Or Part Change Description:				
Design Change Required: Yes <input type="checkbox"/> No <input type="checkbox"/>				
Inventory at Optek Affected: Yes <input type="checkbox"/> No <input type="checkbox"/>				
Reason for Request:				
Corrective Action:				
Cost Affected: Yes <input type="checkbox"/> No <input type="checkbox"/>				
OPTEK TO COMPLETE THE FOLLOWING				
Approvals				
	Accept	Reject	Date	
Product Engr:	_____	_____	_____	
Engr. Mgr:	_____	_____	_____	
Mfg. Engr:	_____	_____	_____	
Sup. Qual. Engr. :	_____	_____	_____	
Comments:				
<small>Disclaimer. This approval is granted upon understanding that it is advisory in nature and in no manner changes the Sellers original responsibility for insuring that all characteristic(s), designated in the applicable engineering specification and/or inherent in the samples as originally tested and approved, are maintained. Seller accepts full responsibility for the deviation listed above; and should such deviation(s) result in less satisfactory performance than experienced when the originally approved item, Seller will fully reimburse the Buyer for all expenses incurred to correct the deficiency.</small>				
NOTE: All signatures are required for deviation or part change approval.				

**ADVANCED DEVIATION OR PRODUCT CHANGE REQUEST** Form No. 500-0179-001 Rev. D

RELEASED  
DATE: 5/30/2018  
Document Control



## Approvals & Revision History

OPTEK Supplier Quality Requirements Manual - revision control

Page No.	Reference	Revision	Date	Description of Change	Initials
All	XXXX	0	July 21,1997	No change - first issue	SH
N/K	ECN 045497	A	July 9, 1998	Added Laboratories requirements, RMA policy and change identification	SH
All	ECN 047289	B	Aug 7, 2000	Update spec.	SC
8, 9, 20-24	ECN 047307	C	Aug 24, 2000	Add forms, correct numbering and typing errors	SC
All	ECN 047307	D	April 12, 2004	Update spec.	CV
38-39 & 44	ECN 050652	E	January 23, 2006	Add quality clauses: Q-032 RoHS, Q-033 WEEE, Q-034 ELV, Q-035 Packaging & Packaging Waste EMC/2002/02 and revised Form # 500-0837-001 C of C Restricted, Toxic Hazardous Material and Dioxin form	CV
6, 8, 11 - 13, 15 - 18, 21, 22, 24, 25, 27	ECN 053698	F	October 15, 2010	Update to new ISO and TS revisions & eliminate rating system.	IR
27	054180	G	December 11, 2011	Change ISO 9001: 2000 to 2008 on page 27.	AM
2, 8,	054948	H	May 2, 2014	Add the Supplier Disaster Contingency Plan.	AM
3, 18, 21  11	056173  056187	J	May 3, 2018	Add "Second Party Audits for Automotive Suppliers", Add Incoming Inspection information to the Certified Part Number Process section. Update Supplier to Automotive Programs section and update ISO/TS 16949:2009 & ISO9001:2008 to IATF 16949:2016 and ISO 9001:2015. Update TT Electronics logo removing "make possible". Updated cover sheet to current format.	AM

RELEASED  
 DATE: 5/30/2018  
Document Control