Supplier Quality Manual

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1. Introduction

The purpose of the Supplier Manual is to define the requirements for doing business with **Sumitronics USA Inc.** (referred to herein as "STX"), and to detail the processes used to ensure that our suppliers continually strive to improve quality, eliminate delivery disruptions, provide the lowest cost, and achieve an overall "best in class" service. Implementation of the processes outlined in this manual will not only minimize the risk of supply chain disruptions, but will also strengthen STX's (and its supplier's) position in the industry and help ensure continued success.

1.1 Scope

This document is to be used by suppliers to STX as a guideline for the expected quality of products that STX receives.

1.2 Responsibility

It is the responsibility of the supplier to review, understand, and follow the requirements of this manual and any other applicable requirements as part of the acceptance of purchase orders from STX. The supplier must obtain any referenced documents to ensure full compliance. Revisions to the STX Supplier Manual is available at www.sumitronics.com.

1.3 STX's Values & Principles

Sumitronics Group
Management Principles and Activity Guidelines

Management Principles

As a member of the Sumitomo Corporation Group and a total service provider in the electronic parts industry, Sumitronics creates high value and contributes broadly to society by responding promptly and precisely to the diverse requirements of clients and markets.

Activity Guidelines

- To bear in mind and comply with the laws, regulations, and customs of the countries and regions where we conduct our business activities and to contribute to society as a good corporate citizen.
- To attach great importance to protecting the global environment.
- To build strong relations of trust with clients through the 3Cs-commitment to quality, consistency in meeting client requirements, and continuous improvement.
- To achieve efficiency, accuracy, and standardization in our business processes at the team level in light of the characteristics of EMS operations, and thereby attain continuous growth, improve profits, and become the top company in our industry.
- To set clear objectives and achieve them through teamwork and enthusiasm.

2. Doing Business with STX

2.1 STX's beliefs

- **Commitment** – Delivering world-class customer service and technical support are not goals: they are part of how STX does business.
- **Trust** – STX honors its word and delivers on its promises. STX earns the trust of customers, partners, and employees through actions every day.
- **Quality** – Everything bearing the STX name meets the highest industry standards. Our facilitis ISO/TS 16949 certified.
- **Reliability** – Customers and business partners depend on STX because of the reliability of our word and our uncompromising focus on quality.
- **Value** – Value is the combination of quality, efficacy, and a fair price. At STX, it also includes related services, such as our industry-leading online training and education programs.

2.2 Contractual Compliance

Upon accepting a STX contract, the Supplier is responsible for compliance to all contract (e.g., engineering drawing, specification, purchase order) requirements (including those set forth in STX's Terms and Conditions of Purchase). This manual supplements such contract requirements and, in case of any discrepancy between STX's Terms and Conditions and this manual, STX's Terms and Conditions shall prevail.

2.3 Non-Disclosure Agreement

All suppliers will be required to sign a Non-Disclosure agreement. STX has a standard non-disclosure agreement form, and it is our practice to use our form. Information provided to suppliers such as drawings, specifications, procedures, schedules, or forecasts must be considered proprietary and confidential to STX. Suppliers shall not, under any circumstance, transmit or disclose this information to any third party, and shall not use this information, except in accordance with the terms of the non-disclosure agreement.

2.4 Control and Release of Documents

Documents furnished by STX to the supplier are furnished solely for the purpose of doing business with STX. Proprietary documents covered by the non-disclosure agreement may be furnished to the supplier in hard copy, electronic, or other media. The supplier is responsible for controlling and maintaining such documents to preclude improper use, loss, damage, alteration, and/or deterioration. Unless authorized by STX in writing, the supplier may not transmit or furnish any STX documents, or copies of such documents, to anyone outside the supplier's organization and shall maintain the confidentiality of all STX documents. The supplier shall either return to STX, or purge electronic copies, all proprietary documents with the last delivery of products or services on the contract, pursuant to the terms of the non-disclosure agreement.

2.5 Business Continuity

STX's supply chain has become increasingly complex, global, diversified, and subject to a variety of risks that could jeopardize continued operations. In this environment, we have challenged ourselves to establish business continuity plans within our businesses, operations, and supply chain, as these are more important than ever before.

Similarly, STX requires its suppliers to have a business continuity plan that allows for the safeguarding, storage, and recovery of engineering drawings, electronic media, and production tooling in the event of damage or loss. This plan must also contain contingency plans to satisfy STX requirements in the event of significant utility interruptions, labor shortages, equipment failure, or field returns in a manner that facilitates a quick response, reaction, or resumption of parts or services in the event of a disruption.

The supplier's business continuity plan must establish a comprehensive management approach to deal with potential disruptions or disasters. The plan must include a detailed "plan of action," checklist of activities, communication plans, escalation procedures, and teams with roles and responsibilities.

2.6 Social Accountability &Supplier Code of Conduct

STX believes that corporate citizenship is a full time commitment and we apply the principles of social responsibility to everything we do. From our products, to our focus on reducing waste and preserving our environment, to our spirit of volunteerism and giving back to our communities, being a good corporate citizen is essential to our identity and culture.

It is crucial to STX that all its suppliers comply with laws, regulations, and internationally accepted fair and safe labor practices. As such, STX is committed to Sourcing products and services from suppliers that adhere strictly to our Code of Conduct. So, as part of doing business with STX, all suppliers are required to review and acknowledge the Code of Conduct available at www.sumitronics.com.

2.7 Environmental Health and Safety (EHS)

STX is striving to create a more sustainable world via our employees, procedures, and best practices. STX's commitment to sustainability is far greater than a simple program; it is part of how we conduct business. STX is more than just a manufacturing company; we are also a partner within the communities where we work.

Our suppliers are an important part of this culture. Therefore, STX encourages all suppliers to:

- Provide a safe workplace to all employees
- Engage in active environmental protection and pollution prevention
- Continually strive to improve their EHS system

All suppliers are encouraged to have a management system that is capable of identifying, documenting, and resolving any risk to their employees or the environment. Additionally, all suppliers are encouraged to operate in a manner that adheres to all legal requirements (local, state, province, federal) for all locations were they conduct operations.

3. Quality System Requirements

STX encourages its supply base to have robust quality management systems in place that comply with ISO 9001 or ISO/TS16949 requirements. A core component of any quality management system must be the acknowledgment, monitoring, and continuous improvement of key business processes. These efforts toward continuous improvements should be visible to STX in the form of improved product quality, delivery, pricing, and service.

Certification by an accredited third party registrar is highly recommended, and will be a factor considered in the award or continuation of business. Suppliers that have a third-party certified quality system must provide a copy of their certification. Regardless of certification level, STX reserves the right to perform periodic on-site

appraisals at the supplier's facilities, and on the quality systems, records, and the product(s) being produced. Suppliers are required to provide the necessary personnel, gauging, and facilities to support the on-site surveillance. Finally, any change in third party approval/certification status must be communicated to STX within five business days of the event.

3.1 Quality Planning

Material manufactured for STX's use in assembly of the final product shall be produced, controlled, inspected and tested in accordance with the requirements of the SQM. In addition, the SQM establishes minimum control practices, procedures and the necessary documentation that may be part of the supplier's quality control system.

The supplier shall provide and maintain a quality control system that will ensure all material submitted to STX for acceptance conforms to the provisions of the purchase agreements, whether manufactured or processed by the supplier or purchased from its suppliers. The supplier shall perform or have performed all of the necessary inspections and tests required to substantiate product conformance to drawings, specifications and contract requirements. STX's acceptance criteria are ZERO defects for all inspections.

The supplier inspection system shall be documented. Such documents shall be available for review by STX Purchasing, Engineering and Supplier Quality Engineering representatives prior to the initiation of production and as required throughout the life of the business

3.2 Quality Records

Quality records must be maintained so they remain legible and are available for review upon request and may be electronic or hardcopy. Records shall include accurate and complete quality data, Material Safety Data Sheets (MSDS) or applicable international documentation, process documentation, and other information as applicable and required. Records shall be kept for defective components and assembly processes to highlight problem areas and trends.

Records associated with production materials shall be maintained for a minimum of seven (7) calendar years, or per the accepted industry standard requirements, or per customer requirements, whichever is greater.

Records associated with non-production materials and services shall be maintained for a minimum of twenty (20) calendar years, or per the accepted industry standard, or per customer requirements, whichever is greater.

3.3 Material Traceability

As applicable, the supplier is required to establish a lot traceability system that tracks raw material lot/batch numbers to the finished product lot/batch numbers, including traceability to inspection records.

3.4 Problem Solving

All STX suppliers must create, utilize, and maintain a procedure for closed-loop corrective and preventative action employing a disciplined set of problem solving techniques. It is STX's desire that the system be based on 8D problem solving principles (see Section 8.0).

3.5 Internal Audits

All suppliers are required to conduct internal audits to ensure that the supplier stays compliant to STX requirements, and to provide STX with an outline of its procedures, if requested.

3.6 Inspection Instructions

The supplier is required to create inspection instructions/methods for all employees who have responsibilities for parts or operations that impact product quality.

The supplier may employ sampling inspection plans only when historical quality records indicate that a reduced inspection frequency can be achieved without compromising the level of product quality. If the supplier chooses to utilize sampling inspection methods, the sampling plan must be clearly tied to a recognized national standard and must be reviewed and approved by STX. If a supplier chooses to implement sampling, the supplier needs to be aware of the following:

- If at any time a defect is discovered, immediately that part will be removed from a sampling plan and 100% inspection of the lot is required.
- The supplier must maintain quality records of sufficient detail that clearly establishes that the part was capable of going to a sampling plan.

3.7 Auditing & Source Inspection

The supplier's business, products, or services may be subject to auditing and source inspection by STX, a STX representative, or applicable government/regulatory agency. The supplier shall provide the necessary access, equipment, and resources required to effectively accomplish the audit or source inspection.

Source inspection requirements will be included on the contract and may apply to any and all operations performed by the supplier or the supplier's sub-tier sources.

3.8 Sub-contractor Management

It is the responsibility of the supplier to manage the quality of all sub-contractor operations. All requirements described in this Quality Manual are applicable in full to sub-contractors. All documents, quality datasets, and audit reports must be kept available by the supplier and readily available for evaluation when required.

3.9 Warranty

Suppliers must have the capability of supporting life cycle requirements of the product. Suppliers are expected to demonstrate reliability that meets or exceeds STX requirements and warranty the items supplied to STX as defined in STX's Terms and Conditions.

Suppliers having design or co-design responsibility must participate in reducing the number of warranty concerns. The supplier must track and analyze the causes of warranty claims and use the information to improve processes and product quality. This will support enhanced customer satisfaction and continued business for STX and its suppliers.

3.10 Purchased Material and Supplier Control

The Supplier shall establish a system of control of purchased materials and subcontracted processes to ensure compliance with all STX drawings, specifications, requirements of the SQM, SQM Supplements and/or requirements of any alternative active purchase agreements.
Acceptable methods of supplier control include:

1.0 incoming inspection and/or tests
2.0 supplier implementation of SPC
3.0 Verification by the production process, where by manufacturing or assembly cannot be completed if a deficiency exists.

STX requires the use of tools to contributing to the Quality control and monitoring like “supplier implementation of SPC” and “verification by the production process” in conjunction with an extensive advanced quality planning program (APQP) as outlined in Section of this manual.
Suppliers are required to maintain a contingency plan which addresses potential shortages that could affect STX and the immediate notification of STX’s buyers of that issue.

3.11 In-Process Inspection

The supplier shall establish the necessary in-process inspection procedures to ensure that the material continues to meet all physical, dimensional and visual requirements, as applicable. All materials produced during machine setups, tool changes and process modifications shall be checked 100% for the characteristics affected by the operation until material conformance and process capability are demonstrated.

4. Supplier Selection, Approval & Evaluation

STX follows a standard sourcing process that qualifies suppliers based on business needs and capabilities. At each step of the process, objective evidence confirming compliance to the STX standards is compiled and reviewed.

The Program Manager facilitates this activity by collaborating with other procurement staff, Engineering, Operations, and Quality. STX reviews and approves suppliers based on criteria that may include:

- Quality performance
- On-Time delivery performance
- Technology capability
- Competitive costs
- Operational capability
- Customer service and support
- Global presence and capability
- Financial viability
- Robust quality system and continuous improvement programs
- Environmental Health and Safety performance
- Environmental regulations and compliance
- Certifications

STX's supplier selection process is a rigorous process that ensures alignment between STX and the supply chain. Therefore, prior to any contract award, every supplier must be approved by STX regardless of third-party approval unless customer special requirements. During the selection process, STX will require the following:

a) Supplier Initial Assessment
STX will request the supplier provide a copy of its quality management system certificate and/or complete a self-assessment of its business and quality management system and capabilities (i.e., quality, delivery, technology, cost, and continual improvement objectives).

b) Documentation Audit
In those cases where a supplier's quality management system has not been certified by an accredited certification body, STX may request a copy of the supplier's Quality Manual and supporting procedures (and perhaps internal audit reports) to determine if the supplier's quality management system meets STX's requirements.

c) On-Site Assessment
Generally, when a supplier is certified to a related standard by an accredited certification body, STX will not conduct an on-site assessment of the supplier's quality management system against the same criteria. STX and/or its customers, due to product/process complexity or criticality, may elect to conduct on-site assessments of a supplier's product or process capabilities. These assessments could include:

- Quality Management System (QMS) – if necessary, as a result of (or in conjunction with) product or process capability assessments, to determine whether the supplier's quality management system meets one or more of the applicable standards, and is functioning effectively.
- Business and Manufacturing Operations – to determine whether the supplier has the financial resources, production capacity, and other business resources needed to fulfill STX volume production needs and continuity of supply.
- Continual Improvement Initiatives – to determine if the supplier's culture, methods, and skills are present to actively pursue continual improvement.
- Technology Assessment - to determine whether the supplier has the needed technical resources, including production and inspection equipment, facilities, engineering resources, STX-specified computer-aided design language/format, electronic commerce capability, etc.
- Sub-Tier Supplier Control – to evaluate the effectiveness of the suppliers sub-tier management processes and ensure that products or services procured from sub-tier sources and delivered to STX conform to all applicable STX requirements.

Note: STX needs level 3 PPAP for FAB items, PSWand IMDS submission for all new material or waiver from end customer (or equivalent). (For reference: AIAG\Core tools\PPAP)
Any approved items that have changes to the product or mfg procedure or mfg location need to have new PSW and IMDS submission. If a FAB item, a new level 3 PPAP is required.

4.1 Supplier Approval

The decision to select a supplier can include many cross-functional team members. Final selection is based on the results of the above-mentioned processes during the selection process. Some suppliers will be accepted with conditions that must be addressed before award of business. Upon approval, suppliers will be added to the Approved Supplier List (ASL). It is mandatory that all suppliers be approved and listed on the Approved Supplier List (ASL) prior to the issuance of any contracts or purchase orders to the supplier.

The types of supplier approval levels are:

- Full Approval
  - Enables STX sourcing personnel the ability to conduct business with suppliers at any time as long as the supplier is approved for the commodity being sourced.
- Conditional approval
  - Enables STX sourcing personnel the ability to conduct business with suppliers that are pending a corrective action completion/verification/approval.
- Disqualified
  - Suppliers either not capable of initially meeting or fail to meet standards during a periodic audit. STX sourcing personnel shall not issue any contracts or purchase orders to these suppliers.

5. Required Communication

Most new business with STX begins with a request for quotation (RFQ) and should contain all necessary documents for full quotation, including:

- Engineering drawings
- Technical specifications
- Physical samples when available

In some instances, prospective suppliers will have to execute non-disclosure agreements before a Request for Quotation (RFQ) is provided to them. The supplier must contact STX in the event the RFQ materials are illegible, unclear, or missing key information that is necessary for quotation. Later amendments or changes to supplier's commercial proposals, for any reason, will not be accepted.

6. Part Qualification

STX's goal is defect prevention, rather than defect detection, which is accomplished via upfront quality planning. This section defines the generic requirements for production part qualification and approval. The purpose is to determine if all STX requirements are properly understood by the supplier and that the manufacturing processes have the capability to consistently meet these requirements.

6.1 First Article Inspection (FAI)

STX will verify level 3 PPAP documentation. For reference see 4.0 in this manual.

6.2 Work Instructions

Documented work instructions must be created, maintained, readily available, and used by all employees having responsibilities for the operation of processes that can impact product quality.

6.3 Measurement Systems Analysis (MSA)

All suppliers to STX must obtain or develop inspections tools (gages or standards) to control their processes and to ascertain product conformance to specifications. Gaging alone is insufficient; therefore suppliers must perform Measurement Systems Analysis (MSA), e.g., gage repeatability & reproducibility (gage R&R), linearity, stability, etc. for all new or modified inspection and test equipment.

6.4 Preventive Maintenance

The supplier should identify key process equipment and provide resources for machine/equipment maintenance activities and develop a planned total preventive, predictive and corrective maintenance system.

6.5 Material Compliance

STX requires suppliers to understand and verify the composition of their raw materials. At any time STX may request raw material confirmation via a full material disclosure report in order to verify that the raw material contained in the purchased product meets regulatory, or industry standards including conflict minerals report on a yearly basis, CoC, PSW and IMDS as required.

7. Control of Nonconforming Material

The supplier is responsible to fulfill all the requirements of the STX purchase order, drawings, standards, and industry standards/specifications (EIA, ASTM, IPC, UL, etc. as applicable.) when specified or applicable. Material that does not conform to these requirements shall not be shipped to STX, its customers, or other suppliers without prior written approval by STX. In the event that quality concerns are experienced with a supplier, STX will issue a Defective Material Report (DMR). The supplier needs to respond to the DMR following the industry methodology 8D (For reference sees section 8). Finally, all costs that are incurred by STX associated with the failure of a supplier to meet STX's quality requirements will be charged back to the supplier such as: Expedited shipments, line down, sorting, rework, scrap, etc.

7.1 Supplier Request for Deviation

A supplier shall not knowingly ship a product that deviates from the drawing, specification, or design intent without prior written authorization from the STX If such a condition exists, the supplier may request STX, in writing, to allow shipment of the product under a written nonconformance deviation..

If requested by STX, the supplier must send samples of the nonconforming items for evaluation. The cost of shipping, inspection, and testing to determine the potential acceptability is the full responsibility of the supplier.

STX approval of a deviation is specific to the products, quantity, and time period for which it has been submitted and approved. The deviation shall not to be considered as a permanent engineering change. The supplier must begin work immediately on corrective action. In all cases, the supplier shall fully contain all product suspected of being nonconforming. In addition, nonconforming product may be returned to the supplier at the expense of the supplier, or the supplier may be required to sort any suspect product already shipped to STX sites or be charged back for the cost of sorting by STX.

Parts that are approved through STX's deviation process may be shipped to STX provided they are clearly identified as such externally on the box.

7.2 Quality Escapes/Cost of Poor Quality (COPQ)

For product quality problems discovered by STX, a Discrepant Material Report (DMR) may be created. Depending on the scope and severity of the DMR, the supplier may be charged an administrative fee due to the costs associated with disposition, the DMR and managing the Corrective Action process.

Administrative fee for each defective or non-conforming Product as determined by STX will systematically be charged back to the Supplier. The charge back rate will be $500 for each DMR written, plus additional charges such as sort, rework, returned freight, and line down. Charges will be processed as debits through the accounts payable department.

Subject to STX's reasonable written approval, Supplier has the following options with respect to Products deemed by STX to be defective or non-conforming:

a) Send replacement parts immediately
b) Provide personnel to sort the defective material
c) Use STX-approved third-party to rework and/or sort the material

For any product identified by STX as nonconforming, it is the responsibility of the Supplier to provide documented evidence with subsequent shipments that the product has been 100% inspected and meets all applicable requirements. 100% inspection will be in effect until formal corrective action has been taken, approved, and verified.

7.3 Control of Repaired/Reworked Product

Rework is defined as additional operations that are not part of the basic production process flow, which will bring product in full compliance with applicable drawings and specifications. Instructions for rework, including re-inspection requirements, shall be accessible to and utilized by appropriate personnel. All rework shall be documented and accepted by STX. If supplier decides to use a third party for rework or re-inspection, supplier is responsible to provide work instructions as well as training. If third party contracted by the supplier uses STX facilities, supplier must pay for it including its administration. Supplier can choose a third party company and third party company must comply with applicable laws.

Repair is defined as using alternative manufacturing techniques, methods, materials, or processes which bring product into full compliance with applicable drawings and specifications. Repairs are not allowed without written approval from STX.

8. Corrective Action – 8D

STX suppliers must maintain and apply an effective closed loop corrective and preventative action system that includes a disciplined set of problem solving methods. STX preferred method for problem solving is the 8D method. When a nonconformance is discovered this closed loop system should be used to contain, understand, and prevent the problem. STX 8D problem solving form (FQGR 013) is available at www.sumitronics.com.

The suppliers' written corrective action plan will be returned to STX for review of adequacy and effectiveness. Depending on the severity of the problem, an on-site visit at the supplier's facility may be required to verify the corrective and preventative actions.

9. Product/Process Change Management

STX requires all suppliers to inform STX of any changes and get prior approval from STX to proceed. The effect of change without prior approval can adversely affect our business.

The supplier shall have a process in place to ensure that all relevant versions of documents that are provided by STX (as well as other documents) are available at the various points of use. In the process, the supplier must establish that documents are reviewed, distributed, and implemented. The process should also define the records that document the details of the change and its implementation into production.

Changes should be submitted via PPAP; STX can verify the PPAP level needed for the change.

9.1 Supplier Change Request (SCR)

As a supplier to STX you are required to notify us in writing via a Supplier Change Request. The request must be made in writing to your STX Sourcing contact. Unapproved changes made by the supplier are subject to chargeback on costs incurred related to the change.

10. Supplier Performance

STX strives to consistently offer high quality products and services at competitive prices while providing consistent and quick deliveries to the customer. STX strives for continual improvement both internally and externally. Based on these values, STX looks for suppliers that are creative and innovative and are capable of identifying improvements and cost reductions. The desire is to have an open, straightforward dialogue with our suppliers so that, together we can reduce waste and improve quality.

As such, it is STX's policy to support the development of its suppliers and to recognize suppliers for sustained performance and for continuous improvement through lean six sigma practices.

11. Supply Chain Protection and Security

STX is committed to securing its supply chain and expects its suppliers to accept responsibility for factory and cargo security up to the point of delivering freight to the appointed forwarder or STX San Diego Warehouse.

12. Packaging, Labeling, and Logistics

Packaged product quality and adherence to the STX shipping requirements is the responsibility of the supplier. Additionally, the supplier is expected to meet the shipping, packaging, and label requirements as specified by STX and the laws of the shipping, in-transit, and receiving countries.

12.1 Preservation of Product

In-process and finished products shall be appropriately packaged to protect from damage. All shipments shall be packaged or placed in a new container unless otherwise specified. Packing slips shall be attached to the carton exterior in shipping envelopes.

The condition of product should be assessed at appropriate planned intervals. The Supplier should use an inventory management system to optimize inventory turns over time and should assure stock rotation, such as "first-in-first-out" (FIFO).

12.2 Packaging

The supplier must provide packaging to prevent product damage, contamination, deterioration, or loss during shipping. Suppliers should provide expendable packaging or returnable containers, where appropriate, that provide for sufficient density and protection from any likely damage that may occur. Expendable materials and packaging must meet local and national standards for safe disposal and/or recycling.

The supplier shall ensure that all packaging is clean and free from dirt, debris, foreign materials, and damage. All returnable packaging and dunnage that is not clean and free from dirt, debris, foreign material and damage may be subject to rejection.

Unless otherwise agreed upon with STX, suppliers should ensure that the product packaging and pallet unit are capable of passing International Safe Transit Association (ISTA) requirements. Specifically, shipping packages should be tested to the specific ISTA requirement, depending on package type and weight.

12.3 Shelf Life

With every shipment of materials or products that have a limited or specified shelf life, the Supplier shall furnish data that shows:

a) The cure or manufacture date
b) Expiration date (shelf life)
c) Lot or batch number
d) When applicable any special handling or storage requirements.

Unless otherwise specified by contract, for all shelf life limited materials or products delivered to STX, the remaining shelf life shall be a minimum of 90% of the total shelf life for the product.

12.4 Labeling and Documentation

Accurate labeling and documentation is important to a supplier's ability to achieve or maintain their on-time delivery standing. Therefore, all shipments must be labeled and contain the appropriate documentation.

12.5 Delivery Terms/Expectations

Delivery terms shall be in accordance with INCOTERMS and/or as identified on the PO.

Suppliers are expected to strive for 100% on time delivery, where on time is between five calendar (5) days early and zero (0) days late. In cases where the delivery shall be delayed, the supplier must notify the STX Buyer of the delay and either change the delivery date to a mutually agreed upon revised date or in some cases STX will have the right to cancel the order and use a different source of supply.

12.6 Logistics

STX provides information as to the desired freight carrier to be used. If this information is not provided, please contact your STX Buyer for instructions on which carrier to use.

If the product is shipped via a carrier other than the one designated by STX, the supplier may be liable for any excess freight charges incurred. Should a supplier need to deviate from the STX freight carrier or agreed upon shipping date, it is required to contact the STX Buyer.

GLOSSARY

CALIBRATION: The function of determining the accuracy of measuring devices and adjusting such devices to indicate exact conditions as established by standards of known accuracy.

CHARACTERISTIC:
An individual specification on a part or product.

CONTAINER LABEL:
This label is to be used on a returnable container that is meant to be returned to the supplier. This label must include the following information: Return to Supplier XYZ, Part Number and description of part.

CRITICAL CHARACTERISTIC:
A characteristic which, if not within specifications, may affect the performance of vital components and systems, result in major repair expense or result in a hazard for the individual assembling the product.

CHECKS AND TEST:
The evaluation of conformance of characteristics to prescribed limits and standards.

DEFECT/DEFECTIVE:
Nonconforming parts or products. Any variation from or failure to meet specifications.

FUNCTIONAL TEST:
The evaluation performed on samples to ensure they assemble properly, conform to operational requirements, meet STX engineering specifications and are adaptable to production usage. STX will be responsible for final determination of functionality.

HSC:
Half-slotted carton.

INITIAL SAMPLE:
A small quantity of parts made from production tooling and set-up and requiring STX approval prior to volume shipment.

INSPECTION:
Examination of parts or products to determine conformance to specifications.

INSTRUCTIONS:
Written documents which detail operations and procedures to be performed.

KANBAN:
A small card that is the day control tool for Just-In-Time Production. The KANBAN provides instructions for production and conveyance of product.

LOT INSPECTION:
Lot inspection is the inspection performed on random samples taken from an isolated aggregation of

parts, which are essentially alike and which were produced from the same production processes. Lot size shall normally represent parts produced during a specific operating period of up to eight hours or a working shift. Production rates shall be a determining factor in establishing lot size, which shall be acceptable to the STX representative.

MAJOR CHARACTERISTIC:
A characteristic, which if not within specification, is not likely to reduce materially the usability of the item for its intended purpose, or is a departure from established specifications or standards having little bearing on the effective assembly performance, function or customer acceptance of the item.

PROCESS CAPABILITY:
Refers to the normal behavior of a process when operating in a state of statistical control.

PROCESS CAPABILITY STUDY:
Refers to the systematic study of a process by means of statistical control charts in order to discover whether it is behaving naturally or unnaturally.

PROCESS CONTROL:
The establishment and maintenance of all of the circumstances necessary to ensure that any variation in product quality beyond the established limits for the process is attributable to change causes only, and that any such variations resulting in end product nonconformance will be detected and corrected on all products produced prior to shipment of finished materials.

PROCESS CHANGE:
As used in this specification, any change in the processing concept, which could alter the design requirements or durability of the part. This will include new, different or rehabilitated production machinery or equipment which might cause the characteristic of the part being processed to change in a way that would not be measurable in the normal inspection procedure, the use of Engineering approved alternate materials and new process concepts, including major changes in the sequence of operations.

PURCHASE AGREEMENT:
Contract arrangement between STX Purchasing Department (Buyer) and Source (Seller) detailing specific conditions or requirements that each party is obligated to meet.

RANDOM SAMPLE:
A sample selected in a manner whereby any given item in the lot has an equal chance to be examined.

RECORDS:
Documented evidence of performance.

SOURCE:
A person, company or organization which signs a purchase agreement or contract to supply materials to STX.

SPECIFICATIONS:
The limits established which describes the requirements for conformance to all characteristics.

SUBCONTRACTOR:
A person, company or organization to which a source sublets processing.

ISO/TS16949, ISO 9001 & ISO 14001
All references to these items assume the most current standard.

ACRONYMS

AIAG	Automotive Industry Action Group
APQP	Advanced Product Quality Planning
ASTM	American Society of Testing and Materials
CMM	Coordinate Measuring Machine
DFM	Design for Manufacturability
DFT	Design for Testability
DMR	Defective Material Report
EOL	End of Life
ESD	Electrostatic Discharge
HSC	Half-Slotted Carton
IMDS	International Material Data System
ISO	International Standard Organization
MSA	Measurement System Analysis
MSDS	Material Safety data Sheet
N/G	Not Good
OEM	Original Equipment Manufacturer
PCP	Process Control Plan
PFMEA	Process Failure Mode and Effects Analysis
PPAP	Production Part Approval Process
PPM	Parts Per Million
PSW	Product Submission Warranty
RPN	Risk Priority Number
SAE	Society of Automotive Engineers
SOP	Start Of Production
SPC	Statistical Process Control
SPI	Society of the Plastics Industry
SQC	Supplier Quality Concern
SQE	Supplier Quality Engineering
STX	Sumitronics USA Inc.
SQM	Supplier Quality Manual
TS	Technical Specification
UL	Underwrites Laboratory

Revision History			
Revisión #	Date	By	Description of Revision
R00	16-Nov-16	C. Rosales/ P. Perea	Initial Release

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