

**Global Quality Management System Supplement for the
Aerospace Industry Model, AS 9100 (B)**

1. SCOPE

1.1. Content

This specification defines the aerospace industry Quality Management System requirements in accordance with AS 9100 (B), Quality Management Systems – Aerospace-Requirements. The Aerospace Standard may also be identified as SAE / AS / EN / or SJAC 9100. In addition, this document is a supplement to Quality Specification TEC-1000 in providing criteria for compliance to aerospace industry requirements.

Alignment to Quality Specification TEC-1000 is achieved through the ISO 9001:2008 paragraph tables which address each additional AS 9100 (B) requirement.

1.2. Application

This specification applies to all Business Units of Tyco Electronics. In recognition of the varying organizational structures and needs, Business Units may develop and use supporting specifications and/or procedures. However, such supporting documentation shall not conflict with or supersede this specification.

2. APPLICABLE DOCUMENTS

The following documents constitute a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies.

2.1. Specifications

- A. TEC-1000 Global Quality Management System
- B. TEC-1003 Supplier Performance Reporting and Continual Improvement Process
- C. TEC-1005 Tyco Electronics Total Quality Management Requirements for Suppliers
- D. TEC-1006 Approval of Suppliers

2.2. Forms

- 4725-9 8-D Corrective Action Discipline Worksheet (TECHS)

2.3. Industry Standards

- A. AS 9100 (B) Quality Management Systems – Aerospace – Requirements
- B. AS 9101 (B) Quality Management Systems Assessment
- C. AS 9102 (A) Aerospace First Article Inspection Requirements
- D. ISO 9001:2008 Quality management systems – Requirements
- E. ISO 10007:2003 Quality management systems – Guidelines for configuration management

3. DEFINITIONS

Definitions contained in the above mentioned Specifications and Industry Standards are applicable herein.

NOTE *On all subsequent pages, **Bold Text** in the right hand column represents Tyco Electronics commentary.*

4. QUALITY MANAGEMENT SYSTEM (QMS)

TEC-1000		SUPPLEMENTARY AS 9100 (B) REQUIREMENTS	
4.1.	QMS – General Requirements	4.2.	Documentation Requirements
4.2.	Documentation Requirements	4.2.1.	General
4.2.1.	Documentation Requirements - General	<p>The quality management system documentation shall include:</p> <ul style="list-style-type: none"> Quality system requirements imposed by the applicable regulatory authorities. <p>Documented regulatory requirements applicable to the Tyco Electronics Quality Management System will be controlled in accordance with established and documented procedures defining the manner of control for documents of external origin. Regulatory requirements related to product design and performance may be incorporated into Tyco Electronics product specifications, which will include the applicable version of the regulatory requirement.</p> <p>The organization shall ensure that personnel have access to quality management system documentation and are aware of relevant procedures. Customer and/or regulatory authority's representatives shall have access to quality management system documentation.</p> <p>Management will implement processes and controls ensuring that all Tyco Electronics associates are aware of and have ready access to documentation pertinent to their assignments. This may be accomplished through access to electronic mediums or the controlled distribution of hard copies.</p> <p>As requested, customers and regulatory authority representatives will be granted access to relevant quality management system documentation. This documentation should be classified as non-confidential classified per defined Tyco Electronics policy.</p>	
4.2.2.	Quality Manual	4.2.2.	Quality Manual
		<p>The organization shall establish and maintain a quality manual that includes the documented procedures established for the quality management system, or reference to them. When referencing the documented procedures, the relationship between the requirements of this International Standard and the documented procedures shall be clearly shown.</p> <p>The Tyco Electronics Quality Management System is established and maintained as TEC-1000, Global Quality Management System. Various industry-related supplements support and provide criteria specific to industry requirements. In addition, Quality Management System documentation includes cross-reference matrices that associate Quality Management System Standard paragraphs to applicable Tyco Electronics specifications.</p>	

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>4.2.3. Document and 4.2.3.1. Data Control 4.2.3.2. Initial Issue 4.2.3.3. Changes Drawings, Standards, and Specifications</p>	<p>4.2.3. Control of Documents</p> <p>The organization shall coordinate document changes with customers and/or regulatory authorities in accordance with contract or regulatory requirements.</p> <p>Tyco Electronics Contract Administrators shall be assigned to analyze contracts and confirm notification and 'right to prior approval' requirement agreements. The Business Unit shall coordinate document changes with customers and/or regulatory authorities in accordance with contract or regulatory requirements.</p>
<p>4.2.4. Control of Quality Records</p>	<p>4.2.4. Control of Records</p> <p>The documented procedure shall define the method for controlling records that are created by and/or retained by suppliers.</p> <p>Records shall be available for review by customers and regulatory authorities in accordance with contract or regulatory requirements.</p> <p>Quality management system procedures define the manner for retaining documentation with specific information on record types, retention intervals, and responsibilities. Record retention requirements relative to documentation created by and/or retained by suppliers is defined procedurally with specific record types and retention interval.</p> <p>These procedures shall be in accordance with Tyco Electronics record management policies.</p>
	<p>4.3. Configuration Management</p> <p>The organization shall establish, document and maintain a configuration management process appropriate to the product.</p> <p>NOTE <i>Guidance on configuration management is given in ISO 10007.</i></p> <p>Configuration management is maintained through the utilization of engineering change control and through the control of process documentation.</p>

5. MANAGEMENT RESPONSIBILITY

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>5.1. Management Commitment</p> <p>5.2. Customer Focus</p> <p>5.3. Quality Policy</p> <p>5.4. Planning</p> <p>5.4.1. Quality Objectives</p> <p>5.4.2. QMS Planning</p> <p>5.5. Responsibility, Authority and Communication</p> <p>5.5.1. Responsibility and Authority</p> <p>5.5.2. Management Representative</p> <p>5.5.3. Internal Communication</p> <p>5.6. Management Review</p> <p>5.6.1. General</p> <p>5.6.2. Review Input</p> <p>5.6.3. Review Output</p>	<p>5.5.2. Management Representative</p> <p>Top management shall appoint a member of management who, irrespective of other responsibilities, shall have responsibility and authority that includes:</p> <ul style="list-style-type: none"> • The organizational freedom to resolve matters pertaining to quality. <p>Tyco Electronics, Business Unit, and facility top management shall appoint representatives who, irrespective of other responsibilities, shall have the responsibility and authority for ensuring that the requirements of the quality management system defined in TEC-1000, and supplemented by this document, are established, implemented, and maintained. Additionally, these representatives shall be granted the freedom and authority to resolve matters pertaining to quality including identifying and resolving problems and conditions adverse to quality, verification of problem resolutions, and the authority to withhold from continued production or release for shipment, products not in conformance with acceptance criteria.</p>

6. RESOURCE MANAGEMENT

TEC-1000		SUPPLEMENTARY AS 9100 (B) REQUIREMENTS	
6.1.	Provision of Resources	6.4.	Work Environment
6.2.	Human Resources	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>NOTE <i>Factors that may affect the conformity of the product include temperature, humidity, lighting, cleanliness, protection from electrostatic discharge, etc.</i></p> </div> <p>An appropriate work environment shall be determined at a facility level and maintained in a state of order, cleanliness, and repair to ensure that it does not adversely affect product quality or personnel performance. All work areas must comply with established safety, regulatory and environmental standards and codes. As required, the work environment, including facilities, workstations and associated equipment, shall be maintained accounting for factors such as temperature, humidity, lighting, cleanliness, and protection from electrostatic discharge.</p>	
6.2.1.	General		
6.2.2.	Competence, Training, and Awareness		
6.2.2.1.	Human Resources Function		
6.2.2.2.	Qualification Training		
6.2.2.3.	Training Effectiveness		
6.3.	Infrastructure		
6.4.	Work Environment		

7. PRODUCT REALIZATION

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>7.1. Planning of Product Realization</p> <p>7.1.1. New Product Introduction</p> <p>7.1.2. Disaster Recovery Planning</p>	<p>7.1. Planning of Product Realization</p> <p>In planning for product realization, the organization shall determine the following, as appropriate:</p> <ul style="list-style-type: none"> The identification of resources to support operation and maintenance of the product. <p>It is the responsibility of Management to ensure that the resources essential to product support and maintenance throughout product realization are identified during the planning processes. Resource planning may occur during the budgeting process and be adjusted during the year in response to sales growth, profit plans, capacity constraints, changing customer requirements, and other internal needs.</p>
<p>7.2. Customer Related Processes</p> <p>7.2.1. Determination of Product Related Requirements</p> <p>7.2.2. Review of Product Related Requirements</p> <p>7.2.2.1. Customer Service</p> <p>7.2.2.2. Customer Specification Review</p> <p>7.2.3. Customer Communication</p>	<p>7.2.2. Review of Requirements Related to the Product</p> <p>The organization shall review the requirements related to product. This review shall be conducted prior to the organization's commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and shall ensure that</p> <ul style="list-style-type: none"> Risks (e.g., new technology, short delivery time scale) have been evaluated. <p>In cases where the Tyco Electronics part number is confirmed, the customer service representative shall review the order to confirm the pricing and delivery requirements. If any risks or discrepancies are observed, the order is reconciled within the business unit and transmitted to the customer service representative. Booking the order is confirmation that there are no known risks or discrepancies between the customer request and the ability to meet the request.</p> <p>In cases where the customer order or request does not confirm to an established Tyco Electronics part number, appropriate action shall be initiated to eliminate risks and resolve differences to ensure satisfaction of contractual requirements before acceptance of the order. This verification shall include a consideration of verbal and electronic ordering methods as well as a means to convey changes to existing order requirements. Amendments to contracts shall be reviewed and appropriate actions shall be initiated to resolve any differences.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>7.3. Design and Development</p> <p>7.3.1. Design and Development Planning</p> <p>7.3.1.1. Project Planning</p>	<p>7.3.1. Design and Development Planning</p> <p>During the design and development planning, the organization shall determine the design and development stages. With respect to the organization; task sequence, mandatory steps, significant stages, and method of configuration control shall be determined.</p> <p>Tyco Electronics engineering functions may use advanced design techniques such as Concept, Design, Optimize and Verify (CDOV); Design for Six Sigma (DFSS); and Stage Gate to assure robust designs. These techniques result in project plans that establish design and development task sequence, mandatory steps, significant stages, and method of configuration control.</p> <p>Where appropriate, due to complexity, the organization shall give consideration to the following activities:</p> <ul style="list-style-type: none"> • Structuring the design effort into significant elements; • For each element, analyzing the tasks and the necessary resources for its design and development. This analysis shall consider an identified responsible person, design content, input data, planning constraints, and performance conditions. The input data specific to each element shall be reviewed to ensure consistency with requirements. <p>The different design and development tasks to be carried out shall be defined according to specified safety or functional objectives of the product in accordance with customer and/or regulatory authority requirements.</p> <p>Project plans shall be prepared that identify the responsibility, budgets, staffing and schedules for each design and development activity. The plans shall be updated and communicated to the appropriate individuals as each design evolves. The plans shall describe or reference the following activities, as applicable:</p> <ul style="list-style-type: none"> • Organizational and technical interfaces between different groups (internal and external) shall be identified and the necessary information documented, transmitted, and reviewed; • Project roles and responsibilities; • Project reporting requirements, including tracking and resolving open issues; • Performance, safety, security, and other critical requirements; • Any project specific training requirements, and • Usage or licensing rights. (TEC-1000)

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>7.3.2. Design and Development Inputs</p> <p>7.3.2.1. Customer Input</p> <p>7.3.3. Design and Development Outputs</p>	<p>7.3.3. Design and Development Outputs</p> <p>Design and development outputs shall</p> <ul style="list-style-type: none"> • Identify key characteristics, when applicable, in accordance with design or contract requirements. <p>The design output shall be documented and expressed in terms of requirements, calculations and analyses, and shall:</p> <ul style="list-style-type: none"> • Identify those characteristics of the design that are crucial to the safe and proper functioning of the product. (TEC-1000) <p>These characteristics shall include any design or contract required ‘key’ characteristics.</p> <p>All pertinent data required to allow the product to be identified, manufactured, inspected, used and maintained shall be defined by the organization; for example:</p> <ul style="list-style-type: none"> • Drawings, parts lists, specifications; • A listing of those drawings, parts lists, and specifications necessary to define the configuration and the design features of the product; • Information on material, processes, type of manufacturing and assembly of the product necessary to ensure the conformity of the product. <p>The design output shall be documented and expressed in terms of requirements, calculations and analyses, and shall:</p> <ul style="list-style-type: none"> • Meet the design input requirements; • Provide the information required for manufacturing the product – including any purchasing information; • Define the acceptance criteria; • Conform to documented industry, safety and regulatory requirements, where appropriate; • Identify those characteristics of the design that are crucial to the safe and proper functioning of the product; • Result from a process that makes appropriate use of the basic and advanced quality tools (such as design of experiments (DOE), failure mode and effects analysis (FMEA), statistical tolerance analysis, CDOV, etc.). (TEC-1000)
<p>7.3.4. Design and Development Review</p>	<p>7.3.4. Design and Development Review</p> <p>At suitable stages, systematic reviews of design and development shall be performed in accordance with planned arrangements (see 7.3.1)</p> <ul style="list-style-type: none"> • To authorize progression to the next stage. <p>Design and development reviews shall be documented with records of activities, resulting actions, and approvals to progress to the next design and development stage maintained.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
7.3.5. Design and Development Verification	7.3.5. Design and Development Verification <div style="background-color: black; color: white; padding: 2px; display: inline-block;">NOTE</div> <i>Design and/or development verification may include activities such as:</i> <ul style="list-style-type: none"> • <i>Performing alternative calculations,</i> • <i>Comparing the new design with a similar proven design, if applicable,</i> • <i>Undertaking tests and demonstrations, and</i> • <i>Reviewing the design stage documents before release.</i>
7.3.6. Design and Development Validation	7.3.6. Design and Development Validation <div style="background-color: black; color: white; padding: 2px; display: inline-block;">NOTES</div> <ul style="list-style-type: none"> • <i>Design and/or development validation follows successful design and/or development verification.</i> • <i>Validation is normally performed under defined operating conditions.</i> • <i>Validation is normally performed on the final product, but may be necessary in earlier stages prior to product completion.</i> • <i>Multiple validations may be performed if there are different intended uses.</i> <hr/> 7.3.6.1. Documentation of Design and/or Development Verification and Validation At the completion of design and/or development, the organization shall ensure that reports, calculations, test results, etc., demonstrate that the product definition meets the specification requirements for all identified operational conditions. Following completion of design and/or development verification and validation, reports of results shall be prepared with any differences between established specification requirements and report data reconciled and documented. These reports shall include verification and/or validation to all specified operational conditions. Records of verification and validation reports, calculations, and test results and any necessary actions shall be maintained.

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p data-bbox="565 226 1437 254">7.3.6.2. Design and/or Development Verification and Validation Testing</p> <p data-bbox="695 258 1448 344">Where tests are necessary for verification and validation, these tests shall be planned, controlled, reviewed, and documented to ensure and prove the following:</p> <ul data-bbox="743 348 1456 688" style="list-style-type: none"> • Test plans or specifications identify the product being tested and the resources being used, define test objectives and conditions, parameters to be recorded, and relevant acceptance criteria; • Test procedures describe the method of operation, the performance of the test, and the recording of the results; • The correct configuration standard of the product is submitted for the test; • The requirements of the test plan and the test procedure are observed; • The acceptance criteria are met. <p data-bbox="695 724 1422 810">Product design verification and validation testing is performed to an established, controlled, and documented test plan to ensure:</p> <ul data-bbox="743 814 1456 1213" style="list-style-type: none"> • A defined test scope with product descriptions, corresponding part numbers, and the latest versions of design objectives and product specifications; • Test specimens are identified and representative of normal production lots with Certificates of Conformance required for design validation/product qualification testing; • A test sequence is defined including the order of tests, examinations, and groupings; • A description of each test with defined acceptance criteria; • A description of test methods including references to applicable external requirements.
<p data-bbox="159 1255 521 1341">7.3.7. Control of Design and Development Changes</p>	<p data-bbox="565 1255 1230 1283">7.3.7. Control of Design and Development Changes</p> <p data-bbox="695 1287 1448 1373">The organization's change control process shall provide for customer and/or regulatory authority approval of changes, when required by contract or regulatory requirement.</p> <p data-bbox="695 1409 1437 1677">Customer and regulatory agency notification and approval of design and development changes shall be conducted in accordance with contract or regulatory requirements. The process for changing product drawings and specifications includes the defined method to manage contractually mandated change notifications and approvals. These shall include changes to Tyco Electronics' customer drawings, product specifications, product packaging, product discontinuance, and manufacturing location changes.</p> <p data-bbox="695 1713 1448 1892">Assigned Contract Administrators, or equivalent functions, are responsible for analyzing contracts and confirming notification requirements, informing then responsible design organization, providing contract information, and conducting annual reviews of customer contracts requiring change approval.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>7.4. Purchasing</p> <p>7.4.1. Purchasing Process</p> <p>7.4.1.1. New Suppliers</p> <p>7.4.1.2. Supplier Performance</p>	<p>7.4.1. Purchasing Process</p> <p>The organization shall be responsible for the quality of all products purchased from suppliers, including customer-designated sources.</p> <p>The organization shall:</p> <ul style="list-style-type: none"> • Maintain a register of approved suppliers that includes the scope of the approval; <p>Per the criteria in Quality Specification TEC-1006, Approval of Suppliers, suppliers are approved and identified in the Tyco Electronics Database (TED) and in the Purchasing Module of the various Tyco Electronics Enterprise Requirements Planning software such as SAP and the Purchasing On-Line Information System (POLIS).</p> <p>A supplier's approval scope provides a list of materials and products and limits what may be purchased from a particular supplier.</p> <ul style="list-style-type: none"> • Periodically review supplier performance; records of these reviews shall be used a basis for establishing the level of controls to be implemented; <p>Per the definitions in Quality Specification TEC-1003, Supplier Performance Reporting and Continual Improvement Process, the primary source for supplier performance data will be information maintained in the Tyco Electronics Database (TED). This data will be used to monitor continual improvement of a supplier's performance and continual improvement of commodities managed by procurement. Periodic supplier performance reviews shall be conducted at a business unit, regional, and global level. At least one review shall be conducted annually for key suppliers. Performance reviews for nonstrategic suppliers will be conducted on an as-needed basis.</p> <ul style="list-style-type: none"> • Define the necessary actions to take when dealing with suppliers that do not meet requirements;

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Per the requirements of Quality Specification TEC-1003, Supplier Performance Reporting and Continual Improvement Process, issues regarding unacceptable quality and delivery performance of the nonstrategic supply base will be monitored and addressed on a case by case basis by purchasing and quality personnel. The course of action taken by the business unit purchasing department representatives for nonstrategic suppliers will depend upon the effect of the purchased product on subsequent product realization or the final product. The course of action taken for unacceptable quality or delivery performance of nonstrategic suppliers will range from:</p> <ol style="list-style-type: none"> 1. Continue to conduct business while monitoring improvement of the supplier. 2. Limit the supplier to fulfilling only existing orders. 3. Limit the supplier to processing existing product. New business will not be given to this supplier until quality and delivery performance improves. 4. Remove the supplier from the approved supplier list. <ul style="list-style-type: none"> • Ensure where required that both the organization and all suppliers use customer-approved special process sources; <p>In the event an external customer has an approved subcontractor list, the responsible Business Unit must coordinate with Purchasing to make sure that those suppliers are included in the Tyco Electronics supply base. Tyco Electronics is responsible for products and services purchased from customer designated suppliers. Optionally, the Business Unit may work with the customer to have the Tyco Electronics supplier added to their list of approved suppliers. (TEC-1000)</p> <ul style="list-style-type: none"> • Ensure that the function having responsibility for approving supplier quality systems has the authority to disapprove the use of sources. <p>Per the requirements of Quality Specification TEC-1003, Supplier Performance Reporting and Continual Improvement Process, business unit purchasing department representatives have the authority and responsibility for disapproving suppliers that do not meet the quality and delivery goals established by the business unit.</p>
<p>7.4.2. Purchasing Information</p>	<p>7.4.2. Purchasing Information Purchasing information shall describe the product to be purchased, including where appropriate</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<ul style="list-style-type: none"> • The name or other positive identification, and applicable issues of specifications, drawings, process requirements, inspection instructions and other relevant technical data, • Requirements for design, test, examination, inspection and related instructions for acceptance by the organization, • Requirements for test specimens (e.g., production method, number, storage conditions) for design approval, inspection, investigation or auditing, <p>Purchase orders placed with suppliers shall define the product, the revision level and any additional quality assurance requirements beyond those established in Quality Specification TEC-1005, Tyco Electronics Total Quality Management Requirements for Suppliers.</p> <ul style="list-style-type: none"> • Requirements relative to supplier notification to organization of nonconforming product and arrangements for organization approval of supplier nonconforming material, <p>Per the requirements of Quality Specification TEC-1005, Tyco Electronics Total Quality Management Requirements for Suppliers, if a non-conformance is discovered by the supplier, the supplier shall be responsible for notifying the respective Tyco Electronics buyer/authorized purchasing personnel of non-conforming material and any already shipped non-conforming material to ensure containment of the entire lot or order of material.</p> <ul style="list-style-type: none"> • Requirements for the supplier to notify the organization of changes in product and/or process definition and, where required, obtain organization approval, <p>Per the requirements of Quality Specification TEC-1005, Tyco Electronics Total Quality Management Requirements for Suppliers, Tyco Electronics must ensure that its customers receive product that is consistent with drawings, product specifications, and inherent performance requirements. To facilitate this requirement for consistency, Tyco Electronics requires that the supplier provide prior written notice to the Purchasing and/or Tyco Electronics business unit when product, process or manufacturing location changes are proposed. The responsible buyer/authorized purchasing personnel must be contacted prior to any changes being implemented as the requirements vary for the different Tyco Electronics individual Business Units.</p> <ul style="list-style-type: none"> • Right of access by the organization, their customer, and regulatory authorities to all facilities involved in the order and to all applicable records, and

<p>TEC-1000</p>	<p>SUPPLEMENTARY AS 9100 (B) REQUIREMENTS</p>
	<p>Per the requirements of Quality Specification TEC-1005, Tyco Electronics Total Quality Management Requirements for Suppliers, the supplier shall include right of entry provisions in subcontracts and purchase contracts, allowing the Tyco Electronics, Tyco Electronics' customers and regulatory agencies access to subcontractor work areas and records to verify the quality of work and materials and to verify conformance to contract requirements.</p> <ul style="list-style-type: none"> • Requirements for the supplier to flow down to sub-tier suppliers the applicable requirements in the purchasing documents, including key characteristics where required. <p>Per the requirements of Quality Specification TEC-1005, Tyco Electronics Total Quality Management Requirements for Suppliers, the supplier shall flow down quality requirements to subcontractors to the extent necessary to ensure that characteristics not verifiable upon receipt are controlled by the sub-contractor.</p>
<p>7.4.3. Verification of Purchased Products</p>	<p>7.4.3. Verification of Purchased Product</p> <p>Verification activities may include</p> <ul style="list-style-type: none"> • Obtaining objective evidence of the quality of the product from suppliers (e.g., accompanying documentation, certificate of conformity, test reports, statistical records, process control), • Inspection and audit at supplier's premises, • Review of the required documentation, • Inspection of products upon receipt, and • Delegation of verification to the supplier, or supplier certification. <p>It shall be the responsibility of the Business Unit to determine the means of verifying that suppliers meet their contractual obligations related to the quality of the procured items. This can be accomplished by one of five methods:</p> <ul style="list-style-type: none"> • Stock as Received (SAR) – following receipt of the material, it can be placed directly into stores without any receiving inspection activity. Material may be designated Stock as Received based on supplier or part number certification as administered through Purchasing / Supplier Quality Assurance or as approved by the Business Unit. Purchasing /Supplier Quality Assurance is responsible for periodic assessments of certified suppliers. • Supplier warrants or Certificate of Analysis (C of A), with test results, submitted with the material. • Incoming inspection – each lot of received material shall be inspected to confirm conformance to specifications. • Inspection strategy plan – lots inspected using a specified pattern of planned inspection cycles. • Product is evaluated and reported as acceptable by an accredited supplier or test laboratory.

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Purchased product shall not be used or processed until it has been verified as conforming to specified requirements unless it is released under positive recall procedure.</p> <p>The responsibility for implementing a recall process for product released to production prior to conformance verification will be maintained by the local receiving inspection function. Local procedures shall include, as a minimum, the manner for identifying product released prior to conformance verification, the control of released product discovered to be nonconforming, and the requirements that product incorporating such components and materials not be shipped to external customers.</p> <p>Where the organization utilizes test reports to verify purchased product, the data in those reports shall be acceptable per applicable specifications. The organization shall periodically validate test reports for raw material.</p> <p>A plan shall be established and administered for periodic validation testing to determine a supplier’s capability to ensure the continued compliance with the requirements documented in the Tyco Electronics 100 series Material Specifications or supplier’s technical data sheets for base metals and polymeric material.</p> <p>Where the organization delegates verification activities to the supplier, the requirements for delegation shall be defined and a register of delegations maintained.</p> <p>The local purchasing function, in conjunction with the supplier quality organization, shall maintain the responsibility for establishing and maintaining a register of product verification activities delegated to suppliers. This register of delegations may be maintained in electronic supplier management and purchase order programs.</p> <p>Where specified in the contract, the customer or the customer’s representative shall be afforded the right to verify at the supplier’s premises and the organization’s premises that subcontracted product conform to specified requirements.</p> <p>Per the requirements of Quality Specification TEC-1005, Tyco Electronics Total Quality Management Requirements for Suppliers, Tyco Electronics and its customers reserve the right to perform any testing or inspection that may be necessary to determine that the purchase order requirements have been met, including verification at the supplier’s location if required. The supplier may be required to submit test or inspection data corresponding to the lot(s) being tested or inspected for comparison or correlation purposes.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Verification by the customer shall not be used by the organization as evidence of effective control of quality by the supplier and shall not absolve the organization of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by the customer.</p> <p>Tyco Electronics assumes the responsibility for the quality of product supplied by contracted vendors including customer designated sources. Tyco Electronics agrees not to deny any responsibility for the product quality either on the grounds that the customer has approved the specification or on the grounds that the customer accepted the product upon initial inspection if the product is found unsuitable for use in subsequent operations.</p>
<p>7.5. Production and Service Processes</p> <p>7.5.1. Control of Production and Service Processes</p>	<p>7.5.1. Control of Production and Service Provision</p> <p>Planning shall consider, as applicable,</p> <ul style="list-style-type: none"> • The establishment of process controls and development of control plans where key characteristics have been identified, • The identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of realization, • The design, manufacture, and use of tooling so that variable measurements can be taken, particularly for key characteristics, and • Special processes (see 7.5.2) <p>The organization shall plan and carry out production and service provision under controlled conditions. Controlled conditions shall include, as applicable</p> <ul style="list-style-type: none"> • Accountability for all product during manufacture (e.g., parts quantities, split orders, nonconforming product), • Evidence that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized, • Provision for the prevention, detection, and removal of foreign objects, • Monitoring and control of utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect product quality, and • Criteria for workmanship, which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations) <p>Planned and implemented controlled production conditions include, as applicable, the establishment of control plans where key characteristics have been identified and the consideration of variable measurements throughout in-process and final inspection operations.</p>

<p>TEC-1000</p>	<p>SUPPLEMENTARY AS 9100 (B) REQUIREMENTS</p>
	<p>In addition, controlled manufacturing conditions include, as applicable, product accountability throughout production; documenting the completion of established manufacturing and inspection operations; provisions for the prevention, detection, and removal of foreign objects; monitoring utilities associated with manufacturing operations, and; stipulating product workmanship criteria in a clear and practical manner.</p>
	<p>7.5.1.1. Production Documentation</p>
	<p>Production operations shall be carried out in accordance with approved data. This data shall contain as necessary</p> <ul style="list-style-type: none"> • Drawings, parts lists, process flow charts including inspection operations, production documents (e.g., manufacturing plans, traveler, router, work order, process cards); and inspection documents (see 8.2.4.1), and • A list of specific and non-specific tools and numerical control (NC) machine programs required and any specific instructions associated with their use. <p>Documentation accompanying production orders shall suitably provide manufacturing operations with all the information needed to describe the product; explain the production process and use of process equipment and measuring devices; and define the verification of product acceptance. All production documentation including product drawings and specifications; manufacturing process routings and procedures; and product inspection plans shall be controlled under the requirements of AS 9100 (B), paragraph 4.2.3.</p> <p>Production documentation shall include a listing of process specific equipment and tools, non-specific tools, and process equipment related software data programs.</p>
	<p>7.5.1.2. Control of Production Process Changes</p>
	<p>Persons authorized to approve changes to production processes shall be identified.</p> <p>The organization shall identify and obtain acceptance of changes that require customer and/or regulatory authority approval in accordance with contract or regulatory requirements.</p> <p>Changes affecting processes, production equipment, tools and programs shall be documented. Procedures shall be available to control their implementation.</p> <p>The results of changes to production processes shall be assessed to confirm that the desired effect has been achieved without adverse effects to product quality.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Production process changes shall be managed and controlled in a manner similar to documents as required in AS 9100 (B), paragraph 4.2.3. Individuals with the authority to approve production process releases and changes shall be identified and the changes shall be documented.</p> <p>Customer and regulatory agency notification and approval of production process changes shall be conducted in accordance with contract or regulatory requirements. Assigned Contract Administrators, or equivalent functions, are responsible for analyzing contracts and confirming notification requirements, informing the responsible organization, providing contract information, and conducting annual reviews of customer contracts requiring change approval.</p> <p>Changes to a production process shall be confirmed. This confirmation may involve a first piece inspection of the product.</p>
	<p>7.5.1.3. Control of Production Equipment, Tools and Numerical Control (NC) Machine Programs</p>
	<p>Production equipment, tools and programs shall be validated prior to use and maintained and inspected periodically according to documented procedures. Validation prior to production use shall include verification of the first article produced to the design data/specification.</p> <p>Production equipment, tooling, and process equipment related software data programs are validated prior to the initial production order of a new part number through a first article inspection as required under the requirements of AS 9100 (B), paragraph 8.2.4.2.</p> <p>Production equipment, tooling, and program suitability will be validated on subsequent production orders through a product first piece or set-up inspection.</p> <p>Storage requirements, including periodic preservation/condition checks, shall be established for production equipment or tooling in storage.</p> <p>Production tooling, including stamping die and mold tooling, shall be subjected to preservation/condition confirmations to ensure the tooling is properly configured and available for production. These confirmations may involve tooling component changes and examinations preceding release for production. Tooling in storage should be identified relative to its production availability status.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p data-bbox="565 222 1456 285">7.5.1.4. Control of Work Transferred, on a Temporary Basis, Outside the Organization's Facilities</p> <p data-bbox="695 285 1456 380">When planning to temporarily transfer work to a location outside the organization's facilities, the organization shall define the process to control and validate the quality of the work.</p> <p data-bbox="695 411 1456 590">Product manufactured under production processes transferred outside Tyco Electronics' facilities is controlled through the established purchasing processes that are implemented to ensure that suppliers are approved and that purchased product conforms to specified purchase requirements.</p> <p data-bbox="695 621 1456 747">Product manufactured under production processes at other Tyco Electronics' facilities is controlled under the established internal process and product acceptance parameters.</p> <p data-bbox="565 779 1045 810">7.5.1.5. Control of Service Operations</p> <p data-bbox="695 810 1419 873">Where servicing is a specified requirement, service operation processes shall provide for</p> <ul data-bbox="743 873 1456 1188" style="list-style-type: none"> • A method of collecting and analyzing in-service data, • Actions to be taken where problems are identified after delivery, including investigation, reporting activities, and actions on service information consistent with contractual and/or regulatory requirements, • The control and updating of technical documentation, • The approval, control, and use of repair schemes, and • The controls required for off-site work (e.g., organization's work undertaken at the customer's facilities). <p data-bbox="695 1209 1468 1398">Aerospace related service operations, such as FAA approved Repair Stations, shall utilize operational processes that are controlled in a manner consistent with controlled production processes. These repair operations will be conducted under controlled conditions in accordance with documented procedures.</p>
<p data-bbox="159 1434 529 1518">7.5.2. Validation of Production and Service Processes</p> <p data-bbox="159 1518 488 1644">7.5.2.1. Process Monitoring and Operator Instructions</p> <p data-bbox="159 1644 496 1770">7.5.2.2. Verification of Process Setups and Operational Changes</p> <p data-bbox="159 1770 448 1833">7.5.2.3. First Article Examination</p>	<p data-bbox="565 1434 1414 1465">7.5.2. Validation of Processes for Production and Service Provision</p> <div data-bbox="699 1482 1365 1556" style="border: 1px solid black; padding: 5px;"> <p data-bbox="724 1493 1365 1556">NOTE <i>These processes are frequently referred to as special processes.</i></p> </div> <p data-bbox="695 1587 1354 1650">The organization shall establish arrangements for these processes including, as applicable</p> <ul data-bbox="743 1650 1456 1860" style="list-style-type: none"> • Defined criteria for review and approval of these processes with the qualification and approval of special processes prior to use. • Use of specific methods and procedures with the control of the significant operations and parameters of special processes in accordance with documented process specifications and changes thereto.

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Production and service processes where the resulting product cannot be verified by subsequent monitoring or measurement shall be identified and validated to demonstrate the subject processes have the ability to produce product that meets specified requirements. Any production or service process validation shall be documented with records of process validation maintained. Validation shall include, as applicable:</p> <ul style="list-style-type: none"> • Defined process approval criteria; • Equipment approval and personnel qualifications; • Specific process procedures and methods. <p>The criteria or interval for re-validation should be established. (TEC-1000)</p>
<p>7.5.3. Product Identification and Traceability</p> <p>7.5.3.1. Inspection and Test Status</p>	<p>7.5.3. Identification and Traceability</p> <p>The organization shall maintain the identification of the configuration of the product in order to identify any differences between the actual configuration and the agreed configuration.</p> <p>Product configuration identification shall be maintained in order to identify any differences between the actual and agreed configurations. This is accomplished prior to, or during product manufacture through a documented deviation process that details any product configuration differences and requires approval for acceptance. Configuration identification is maintained throughout production on non-deviated product through the manufacturing process routing and indication of product status.</p> <p>When acceptance authority media are used (e.g., stamps, electronic signatures, passwords), the organization shall establish and document controls for the media.</p> <p>Organizations and facilities performing product acceptance shall establish, document, and maintain controls relative to inspection identifiers and acceptance authority media such as inspection stamps and electronic signatures.</p> <p>According to the level of traceability required by the contract, regulatory, or other established requirement, the organization's system shall provide for:</p> <ul style="list-style-type: none"> • Identification to be maintained throughout the product life; • All the products manufactured from the same batch of raw material or from the same manufacturing batch to be traced, as well as the destination (delivery, scrap) of all products of the same batch; • For an assembly, the identity of its components and those of the next higher assembly to be traced; • For a given product, a sequential record of its production (manufacture, assembly, inspection) to be retrieved.

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>As established through customer contracts or regulatory requirements:</p> <ul style="list-style-type: none"> • Product identification, within Tyco Electronics' control, shall be maintained throughout the product life through product and packaging marking and labeling. • Product traceability to raw material batches and assembly components will be maintained through manufacturing records that register raw material and component part numbers and manufacturer lot numbers and/or component manufacture work order numbers. • Production records will be maintained demonstrating that the prescribed sequence of manufacturing operations and product acceptance activities were followed.
<p>7.5.4. Control of Customer Property</p>	<p>7.5.4. Customer Property</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>NOTE <i>Customer property can include intellectual property, including customer furnished data used for design, production and/or inspection.</i></p> </div> <p>Processes for the control, verification, and protection of customer intellectual property such as data furnished for design, production, and/or inspection shall be established and maintained. Any such property that is lost or is otherwise rendered unsuitable for use shall be reported to the customer and records shall be maintained.</p>
<p>7.5.5. Product Preservation 7.5.5.1. Shelf-Life</p>	<p>7.5.5. Preservation of Product</p> <p>Preservation of product shall also include, where applicable in accordance with product specifications and/or applicable regulations, provisions for:</p> <ul style="list-style-type: none"> • Cleaning; • Prevention, detection and removal of foreign objects; • Special handling for sensitive products; • Marking and labeling including safety warnings; • Shelf-life control and stock rotation; • Special handling for hazardous materials. <p>Production processes, including the handling and storage of materials and products, shall include appropriate provisions for cleaning; foreign object prevention, detection, and removal; sensitive product handling; product marking and labeling; shelf-life control; stock rotation; and hazardous material handling.</p> <p>The organization shall ensure that documents required by the contract/order to accompany the product are present at delivery and are protected against loss and deterioration.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>When customer specified documentation is required to accompany the product through delivery, the requirement shall be effectively communicated to ensure its inclusion and shall be packaged in a manner to ensure protection from loss and deterioration.</p>
<p>7.6. Control of Inspection, Measuring, and Testing Equipment</p>	<p>7.6. Control of Monitoring and Measuring Devices</p> <p>The organization shall maintain a register of monitoring and measuring devices, and define the process employed for their calibration including the details of equipment type, unique identification, location, frequency of checks, check method and acceptance criteria.</p> <p>NOTE <i>Monitoring and measuring devices include, but are not limited to: test hardware, test software, automated test equipment (ATE) and plotters used to produce inspection data. It also includes personally owned and customer supplied equipment used to provide evidence of product conformity.</i></p> <p>Each Tyco Electronics location using product inspection, measuring, and testing equipment shall maintain a register of equipment to ensure that all equipment used to verify product quality are uniquely identified and calibrated at prescribed intervals. The methods and acceptance criteria for performing equipment calibrations shall be defined.</p> <p>The organization shall ensure that environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out.</p> <p>Conditions shall be established that provide a suitable environment for calibration and use of measuring equipment and that equipment is stored and handled in a way that maintains accuracy and fitness for use.</p> <p>Where necessary to ensure valid results, measuring equipment shall</p> <ul style="list-style-type: none"> • Be recalled to a defined method when requiring calibration. <p>Processes shall be developed for calibration and record collection with adequate controls that protect product quality. All measuring devices shall have an indication of calibration status. If the calibration status indication is invalid, the measuring device shall not be used. (TEC-1000)</p> <p>All product produced with suspect measuring equipment shall be segregated and audited. Customer notification and product recall shall be considered if suspect product was shipped. (TEC-1000)</p>

8. MEASUREMENT, ANALYSIS AND IMPROVEMENT

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>8.1. Measurement, Analysis, and Improvement – General</p> <p>8.1.1. Statistical Techniques</p>	<p>8.1. General</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>NOTE According to the nature of the product and depending on the specified requirements, statistical techniques may be used to support:</p> <ul style="list-style-type: none"> • Process control including selection and inspection of key characteristics, process capability measurements, statistical process control, and design of experiment; • Inspection – matching sampling rate to the criticality of the product and to the process capability; • Failure mode and effect analysis. </div> <p>Quality (or other designated function) shall identify the need for and use of statistical techniques required for establishing, controlling, and verifying processes that impact product characteristics and process capability. Statistical tools (as needed to assure robust processes) shall be determined during design and development or as a result of a continual improvement effort (e.g., Six Sigma, Lean, QOS reviews, corrective actions, etc.). Process measurements shall be implemented and monitored at the appropriate points to ensure continual product conformance and to promote increased effectiveness of the process. (TEC-1000)</p>
<p>8.2. Monitoring and Measurement</p> <p>8.2.1. Customer Satisfaction</p> <p>8.2.2. Internal Assessments and Audits</p> <p>8.2.2.1. Manufacturing Process Audits</p> <p>8.2.2.2. External Assessments</p>	<p>8.2.2. Internal Audit</p> <p>Detailed tools and techniques shall be developed such as checklists, process flowcharts, or any similar method to support audit of the quality management system requirements. The acceptability of the selected tools will be measured against the effectiveness of the internal process and overall organization performance.</p> <p>Internal audits shall also meet contract and/or regulatory requirements.</p> <p>Internal audits shall be performed by qualified Auditors using appropriate tools and techniques as defined in Tyco Electronics procedures. These tools may involve formal or informal checklists including the AS 9101, Quality Management System Questionnaire</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>8.2.3. Process Monitoring and Measurement</p>	<p>8.2.3. Monitoring and Measurement of Processes</p> <p>In the event of process nonconformity, the organization shall</p> <ul style="list-style-type: none"> • Take appropriate action to correct the nonconforming process, • Evaluate whether the process nonconformity has resulted in product nonconformity, and • Identify and control the nonconforming product in accordance with clause 8.3. <p>When a process nonconformity or the implementation of the quality management system is deemed inadequate, appropriate corrective action shall be initiated and implemented. The corrective action process shall include the containment and control of possible nonconforming product in accordance with established and documented procedures for the control of nonconforming product.</p>
<p>8.2.4. Monitoring and Measurement of Product</p> <p>8.2.4.1. In-Process Inspection</p> <p>8.2.4.2. Final Inspection</p>	<p>8.2.4. Monitoring and Measurement of Product</p> <p>When key characteristics have been identified, they shall be monitored and controlled.</p> <p>When the organization uses sampling inspection as means of product acceptance, the plan shall be statistically valid and appropriate for use. The plan shall preclude the acceptance of lots whose samples have known nonconformities. When required, the plan shall be submitted for customer approval.</p> <p>Product shall not be used until it has been inspected or otherwise verified as conforming to specified requirements, except when product is released under positive-recall procedures pending completion of all required measurement and monitoring activities.</p> <p>Product characteristics shall be measured and monitored throughout the manufacturing process to ensure that the product meets the established requirements. Usually these inspection and testing activities are documented in a quality inspection plan for the part number, product, or process. (TEC-1000)</p> <p>Where applicable, inspection plans shall identify key characteristics and monitor their conformance to specified requirements.</p> <p>When quality inspection plans utilize sample sizes or frequencies as means of product acceptance, the plan shall be statistically valid and appropriate for use. The plan shall preclude the acceptance of lots whose samples have known nonconformities. As required, the plan shall be customer approved.</p> <p>Local procedures shall include the manner for identifying product released prior to required measuring and monitoring activities, the control of released product discovered to be nonconforming, and the requirements that product incorporating such components and materials not be shipped to external customers.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>8.2.4.1. Inspection Documentation</p> <p>Measurement requirements for product or service acceptance shall be documented. This documentation may be part of the production documentation, but shall include</p> <ul style="list-style-type: none"> • Criteria for acceptance and/or rejection, • Where in the sequence measurement and testing operations are performed, • A record of the measurement results, and • Type of measurement instruments required and any specific instructions associated with their use. <p>Test records shall show actual test results data when required by specification or acceptance test plan.</p> <p>Where required to demonstrate product qualification the organization shall ensure that records provide evidence that the product meets the defined requirements.</p> <p>Product inspection plans established product acceptance criteria for each value-added operation in the manufacturing process. As applicable, the product inspection plan shall include:</p> <ul style="list-style-type: none"> • Product part number, factory order number or purchase order number, the individual conducting the inspection, and the date of the inspection. • Current revision of the product inspection plan. • Quantity inspected. • Type of measuring equipment used with any applicable instructions for use. • Results for each characteristic on the product inspection plan with actual dimensions recorded whenever possible. <p>Evidence of conformity with the acceptance criteria shall be maintained and the records shall identify the individual(s) completing the inspection activities. (TEC-1000)</p>
	<p>8.2.4.2. First Article Inspection</p> <p>The organization's system shall provide a process for the inspection, verification, and documentation of a representative item from the first production run of a new part, or following any subsequent change, that invalidates the previous first article inspection result.</p> <p>NOTE See (AS)(EN)(SJAC) 9102 for guidance.</p> <p>The applicable Business Unit shall adopt a process or procedure using a representative item from the initial production run of a new part number to assure that tooling and processes are capable of producing parts that are in conformance with the product drawing and specification requirements. This process shall include performing a new first article inspection when a change invalidates any previous first article inspection result.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
<p>8.3. Control of Nonconforming Product and Materials</p>	<p>8.3. Control of Nonconforming Product</p> <div data-bbox="703 268 821 331" style="background-color: black; color: white; padding: 5px; display: inline-block;">NOTE</div> <p data-bbox="862 275 1349 359"><i>The term “nonconforming product” includes nonconforming product returned from a customer.</i></p> <p data-bbox="695 411 1451 527">The organization’s documented procedure shall define the responsibility for review and authority for the disposition of nonconforming product and the process for approving personnel making these decisions.</p> <p data-bbox="695 562 1463 800">All product; whether production materials, components, assemblies, final product, or other types of work; detected or suspected as not conforming to requirements shall become the responsibility of the Quality function. The review and disposition of nonconforming or suspect nonconforming material shall be coordinated by Quality with the appropriate operations / manufacturing and engineering functions.</p> <p data-bbox="695 835 1455 894">The organization shall not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if</p> <ul data-bbox="743 900 1373 989" style="list-style-type: none"> • The product is produced to customer design, or • The nonconformity results in a departure from the contract requirements. <p data-bbox="695 1024 1463 1173">Unless otherwise restricted in the contract, organization-designated product which is controlled via a customer specification may be dispositioned by the organization as use-as-is or repair, provided the nonconformity does not result in a departure from customer-specified requirements.</p> <p data-bbox="695 1220 1463 1707">If a nonconforming product dimension, feature, or characteristic is a specified customer requirement, no deviation shall be issued unless the customer has granted documented concession. This applies equally to product or services purchased from suppliers. The Business Unit shall concur with any requests by a supplier before submission to the customer. All deviations shall clearly specify the temporary limits of acceptability, state the definitive corrective action and be approved by the appropriate engineering functions. The Business Unit shall maintain records of the expiration date or quantity authorized. The Business Unit shall also ensure compliance with the original or superseding specification and requirements when the deviation expires. Material shipped with authorization for concession shall be identified on each shipping container as required by the customer.</p> <p data-bbox="695 1738 1403 1829">Product dispositioned for scrap shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Nonconforming or suspect nonconforming material, including unidentified material, shall immediately be positively and visually identified as nonconforming, and shall be prevented from inadvertent further processing. The Business Unit is responsible for implementing processes, internal or external, for ensuring that scrap is physically rendered unusable.</p> <p>In addition to any contract or regulatory authority reporting requirements, the organization's system shall provide for timely reporting of delivered nonconforming product that may affect reliability or safety. Notification shall include a clear description of the nonconformity, which includes as necessary parts affected, customer and/or organization part numbers, quantity, and date(s) delivered.</p> <p>NOTE <i>Parties requiring notification of nonconforming product may include suppliers, internal organizations, customers, distributors, and regulatory authorities.</i></p> <p>In the interest of both customers and Tyco Electronics, customers will be notified if suspect or confirmed nonconforming product has been delivered. When determined, the applicable organizational quality manager will coordinate internal communications between the appropriate internal parties to discuss the situation and develop a plan to notify the affected customer(s) and implement a solution.</p> <p>The quality manager shall coordinate the decision and plan and determine who shall participate in contacting the customer. Typical solutions may include:</p> <ul style="list-style-type: none"> • Sort by the customer at their site. Return only the defective product. • Sort at the customer site by contracted resources. Return only the defective product. • Sort at customer site by personnel from the manufacturing unit. Return only the defective product. • Return to Tyco Electronics for quick turnaround sorting or immediate replacement with conforming product. <p>In addition, the manner for managing nonconforming product for internal and external use is defined procedurally and includes the process for obtaining temporary approval to deviate product or processes when conformance or compliance to documented requirements cannot be achieved. User notification and approval is obtained through a structured deviation process.</p>

TEC-1000	SUPPLEMENTARY AS 9100 (B) REQUIREMENTS
	<p>Deviations that are intended to satisfy special customer requirements do not require completion of the corrective action.</p>
<p>8.4. Measurement and Analysis of Organizational Performance Improvement</p> <p>8.5.1. Continual Improvement</p> <p>8.5.2. Corrective Action</p> <p>8.5.3. Preventive Action</p>	<p>8.5.2. Corrective Action</p> <p>A documented procedure shall be established to define requirements for</p> <ul style="list-style-type: none"> • Flow down of the corrective action requirement to the supplier, when it is determined that the supplier is responsible for the root cause, and • Specific actions where timely and/or effective corrective actions are not achieved. <p>Quality management system procedures define the manner for the applicable Tyco Electronics procurement organization to coordinate activities that assist the suppliers in eliminating situations that could cause delays, rejections, rework, deviations, excessive scrap, or any condition that impairs the supplier’s ability to meet established requirements. When requested, the supplier will submit a corrective action plan that provides the details of how the nonconformity will be resolved. The Supplier Corrective Action 8- Discipline Worksheet Form 4725-9 is the preferred format for supplier corrective action responses. Suppliers shall respond to parts non-conformance reports and corrective action requests within the due dates indicated on the request. If an extension is necessary, the supplier must request one from the originator. Should that corrective action be ineffective, untimely, or performance not be restored, Tyco Electronics may exercise all rights available under contracts or purchase orders.</p> <p>Quality management system procedures define the manner for corrective action escalation when prescribed actions are not effective or timely. As defined, Quality Directors, Global and Regional, maintain responsibility for the corrective action process for their respective organizations within Tyco Electronics and serve as the authority for escalation support.</p>

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Bill Arbogast
Tyco Electronics Corporation
2100 Paxton Street, MS 18-11
Harrisburg, PA 17105

June 15, 2009

Dear Mr. Arbogast:

A special assessment document review was undertaken by LRQA to examine Tyco Electronics Corporation's Global Quality Management System Process (quality manual) TEC-1019. After verifying correction of non-conformances and associated revision of the document, LRQA has determined that TEC-1019 conforms to the quality manual requirements of AS 9100 (B).

This statement of conformance is limited, applying only to Tyco Electronics Corporation's top level quality management document and as such does not meet the requirements for a full Stage 1 assessment as described in ISO/IEC 17021 or LRQA assessment procedures.

Sincerely,

Krissi Temple
QMS Technical Manager