

DOCUMENT TITLE:	Supplier Quality Manual	
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This manual is governed by comprehensive documentation as referenced herein. Procedures, practices, forms, drawings, and similar documentation used in the Elma organization that directly or indirectly influences the processes that affect product quality, are formally documented and controlled. All such documents are contained in a quickly identifiable, easily accessible **QMIS** System – Elma’s intranet-based **Quality Management Information System** at any workstation.

Customers and Partners are welcome to download the actual Supplier Quality Manual from our Homepage at:

[HTTP://WWW.ELMA.COM](http://www.elma.com)

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1.0 INTRODUCTION TO ELMA'S QUALITY POLICY



Quality Policy

Executive Management of Elma Electronic Inc. has established the following Quality Policy:

Awareness

Commitment

Improvement (through Process)

By this we mean,

“Awareness” of the importance of Quality is a key element in our daily activities at ELMA. We strive for excellence by practicing completeness, accuracy, timeliness and by meeting expectations and requirements in all our assignments.

We show **“Commitment”** to Quality in whatever we do. ELMA’s philosophy is that customers are our first priority and customer satisfaction is achieved at all levels. Only a satisfied customer is a long-term customer. It is our goal to provide our customers with reliable and economical products and solutions.

We understand that Quality is a living matter. We continuously aim for better quality by **“Improvement (through process)”**. We encourage improvements and suggestions for improvements from our employees and business partners.

2.0 PURPOSE

This manual outlines the requirements for supplier quality systems and performance. All product provided to Elma Electronic Inc. and its wholly owned subsidiary, Optima Stantron, shall meet all product specifications, including this Supplier Quality Manual (SQM), AS9102 for First Article Inspection (FAI) and Production Part Approval Process (PPAP) standards, as applicable.

These products shall adhere to Elma's inspection and testing standards, comply with Elma requirements and industry standards, meet all legal and regulatory requirements, and be suitable for Elma's intended purpose.

These products shall also meet the following Workmanship Manuals. The criteria as defined in these manuals do not supersede any Customer requirements or Elma/Customer drawing specifications.

Reference Supplier Resources on the Elma website to obtain the following Elma and Optima • Stantron Workmanship Manuals:

- WS-001 Optima • Stantron for inspection of sheet metal, fabrication, painting, assembly, and packaging for all mechanical fabrication, finishes, and fasteners assembled by Optima Electronic Packaging Systems.
- WS-102 Elma Electronic Inc. for Cosmetic Inspection of surface finish for incoming and outgoing inspections applicable at: Customer, approved Supplier or Subcontractor, and Elma Electronic Inc.

Suppliers are expected to continuously support and follow Elma's quality processes, aiming to deliver products with zero defects.

3.0 APPLICABILITY

This SQM applies to all suppliers that provide products and services to Elma Electronic Inc. and its subsidiaries. Elma's suppliers are responsible for ensuring the requirements set forth in this manual are flowed down to any of their suppliers included in the Elma supply chain.

This SQM also applies to internal suppliers within Elma (Elma owned companies).

4.0 OWNERSHIP AND APPROVAL

The Director of Quality, Elma Electronic Inc., is the owner of this Supplier Quality Manual. Any changes or clarifications to this manual must be reviewed and approved by the owner prior to implementation. Contact the owner or the Supplier Quality Manager with all questions regarding this standard.

5.0 SUPPLIER EXPECTATIONS

At a minimum, Suppliers Shall comply to the following:

- Demonstrate and maintain compliance with all Elma Electronic Inc. Quality standards, quality notes, Elma customer requirements and quality flow downs, technical drawings, compliance regulations, and Terms & Conditions as noted on Elma purchase orders.
- Pass down quality requirements (Quality Flow Downs) and Terms & Conditions (T & Cs) to their suppliers and sub-contractors.
- If technical data shared with a supplier is classified under ITAR, the supplier shall be responsible for ensuring it possesses the necessary registrations and complies with ITAR regulations.
- Provide resources to participate in product quality planning.
- Have an Engineering Change Control system that controls changes in a timely and accurate manner.
 - In all cases, written approval is required prior to implementing any changes that may affect fit, form and function. This shall include manufacturing processes, quality standards for product acceptance, and testing requirements.
- Supplier shall have in place a Quality Management System (QMS) in compliance with the current version of ISO 9001 which addresses all stages of product / process development, manufacturing, and delivery.
 - Suppliers shall agree to on-site quality system assessments and validation as requested.
- Retain records from their date of issue for a minimum of ten years, or as stated in the Elma Purchase Order and T & Cs. Records include, but may not be limited to, documents relating to manufacturing, assembly, inspection, testing, calibration, certificates of conformance and certificates of analysis.

- Deploy expectations and controls equivalent to those presented in this document to sub-tier supply chains.
- Suppliers shall submit a current 3rd party certification to AS9100, ISO9001 and/or ISO16949 issued by a registrar accredited by ANAB, IAF, PRI or IATF.
- Be accountable for the quality of all sub-tier suppliers, including Elma/Elma Customer Source-controlled suppliers:
 - If the use of a Nadcap supplier is required on the technical drawing or purchase order, the supplier shall use eAuditNet to find a supplier for the specific process mentioned.
 - Register at no cost to find Nadcap suppliers at <https://www.eauditnet.com>.
- Maintain the expertise and resources to perform effective root cause analysis and implement timely corrective and preventive action.
- Fully comply with the Elma Electronic Inc. Code of Conduct & Ethics and Anti-Bribery and Corruption Policy. [Code Of Conduct \(elma.com\)](https://www.elma.com)

6.0 SUPPLIER QUALIFICATION REQUIREMENTS

Suppliers are required to establish and maintain a Quality Management System (QMS) that ensures production and associated support processes meet the defined quality standards and expectations.

6.1 Quality Management System (QMS) Audit

A new supplier will be evaluated to determine if it has a compliant QMS using one or a combination of the following methods:

- Verification of independent 3rd Party QMS certification
 - EN9100:2018/AS9001D or later approved revisions
 - ISO9001:2015 or later approved revisions
 - IATF 16949:2016 or later approved revisions
 - ISO 13485:2016 or later approved revisions
- Nadcap accreditation for suppliers of Special Processes
 - Coatings, Heat Treating, Composite Materials, NDT, Welding, Chemical Processing or other processes as per Customer definition.
- Elma EF-224 Supplier Self-Assessment Questionnaire

Depending upon the Supplier classification and type of product or service provided, if a supplier does not have a 3rd Party QMS certification, the EF-414 Elma Electronic Supplier Audit Form may be used to assess the quality system at supplier manufacturing locations.

This audit may be performed on-site or via a desktop audit, by Elma Electronic Inc. resources, and the supplier must achieve a minimum audit score as per the Elma Supplier Audit to be qualified.

For suppliers of Special Processes, the Elma EF-410 Special Process Vendor Checklist will be used, in addition to the Elma Supplier Audit Form.

As determined by Elma Electronic Inc. Quality and/or Supply Chain, suppliers may still be subject to on-site audits regardless of achieving 3rd Party certification, depending upon the Supplier classification and type of product or service provided.

As per Elma Electronic Inc.'s purchase order T & Cs, if warranted by the Customer contract or purchase order, Elma will provide the right of access to its Customers' organizations, their Customers, and regulatory authorities, to the applicable areas of all Elma suppliers and sub-suppliers, at any level of the supply chain.

Re-audits by Elma resources at the supplier sites are required when no 3rd party QMS certification exists. Re-audit intervals will vary based on supplier classification and type of product or service provided.

Suppliers shall notify Elma Electronic Inc. immediately if their 3rd party certification, registration, or accreditation expires or is revoked.

Suppliers deemed Critical suppliers, which may include suppliers of special processes and custom parts, will be audited on-site or via desktop audit every 1-3 years.

Type of Critical Supplier	Previous Year Spend	Overall Risk Rate	Audit Frequency
Custom	>\$100K	Low, Medium or High	3 years
Single Source	>\$1 Million	Low, Medium or High	1 year
	\$500K - \$999K	Low, Medium or High	2 years
	\$100K - \$499K	Medium or High	3 years
Special Processes	>\$50K	Low, Medium or High	2 years

For suppliers of Special Processes that are not Nadcap or Customer approved, Elma will perform an on-site or desktop audit every 2-3 years, or per customer requirement.

6.2 Process Qualification Audit

Elma may conduct a Process Qualification Audit at the supplier's manufacturing facility. This audit focuses on the specific process quality controls that the supplier has in place for the products being manufactured for Elma, in addition to part/commodity specific process requirements. Additionally, Elma reserves the right to conduct such an audit at sub-tier suppliers. Such audits shall not relieve the supplier's responsibility to produce and deliver defect-free parts.

7.0 AS9102 AND PPAP QUALIFICATION REQUIREMENTS

All production part sample submissions shall be in accordance with one of the following quality assurance standards, as determined by the Supplier Quality representative, depending upon the supplier's classification and type of product or service provided:

- AS9102 First Article Inspection – aerospace and defense products/services
 - Form 1 – Part Number Accountability
 - Form 2 – Product Accountability
 - Form 3 – Characteristic Accountability
- AS9145 – aerospace and defense products/services
 - Advanced Product Quality Planning (APQP)
 - Production Part Approval Process (PPAP)

Detailed instructions for completing AS9102 and AS9145 submissions can be found at the International Aerospace Quality Group (IAQG) website, www.iaqg.org.

- [9102 First Article Inspection Requirement – IAQG](#)
- [9145 Advanced Product Quality Planning and Production Part Approval Process – IAQG](#)
- PPAP – non-aerospace/non-defense products/services

Detailed instructions for completing PPAP submissions can be found at the Automotive Industry Action Group (AIAG) website:

- [\(PPAP\) Production Part Approval Process | AIAG](#)

Identified production part sample submissions shall be in accordance with the defined quality assurance standard methodology to ensure product quality and compliance.

8.0 CHANGE MANAGEMENT

Suppliers are not allowed to make changes to products that affect fit, form and/or function, to external suppliers that perform special processes or to transfer production of Elma Electronic Inc. parts to another facility without prior approval from Elma Electronic Inc.

Suppliers shall formally notify Elma Electronic Inc. in advance of a change in manufacturing facilities.

Suppliers shall not make any changes that deviate from the AS9102, AS9145 or PPAP approved product and/or process without prior written notification to, and approval from, Elma Electronic Inc.

This requirement also applies to sub-tier suppliers and sub-contractors.

Suppliers must use the Elma ENF-113 deviation form when requesting deviation approval.

9.0 NON-CONFORMING MATERIAL (NCM)

Non-conforming material is material that does not meet or fulfill specified requirements or standards. A non-conformance can occur in both product and process. Under no circumstances shall a supplier ship non-conforming material without receiving written approval/authorization from Elma Electronic Inc. prior to shipment.

9.1 Rejected Material

Supplier NCM discovered at Elma facilities will be rejected. Purchasing representative will contact the supplier to obtain a Return Material Authorization (RMA) for product return/scrap, and credit.

9.2 Corrective Action/Preventative Action

To aid in comprehensive root cause analysis and corrective action implementation, Elma Electronic Inc. promotes the use of the 8D Problem Solving Methodology:



Suppliers may be required to complete the Elma EF-115 8D Corrective Action Request Form to identify root cause(s) of failed parts to prevent future defects.

The 8D form will be issued by Elma Quality or Purchasing to the supplier’s Quality and/or Sales representatives.

Quarantine and containment measures must commence within 24 hours of receiving the initial notification.

The 8D form requires quarantine and containment activity be documented and submitted back to Elma within 48 hours of receipt of the form. Validation of permanent corrective action taken shall be documented on the form and submitted before the corrective action can be closed. The 8D form will specify a completion date; usually 30 days. An example timeline of activities to closure is as follows:

Day	Action to be Completed
0	Elma Electronic Inc. issues an 8D to the supplier
1	24-hour Quarantine and Containment Activity is documented on the 8D and submitted to Elma
2 - 10	Root cause analysis conducted by supplier
11 - 20	Corrective/Preventative action planning and implementation by supplier
21 - 29	Verification of corrective/preventative action(s)
30	Submission of Completed 8D to Elma Electronic Inc.

Timing as shown can vary, based on production scheduling and P.O. delivery requirements to Elma Electronic Inc. Timing delays shall be discussed with the Elma representative that issued the corrective action request. Deviation extensions may be granted depending upon the reason for the delay in completion.

10.0 SUPPLIER RATING

For critical suppliers, the Elma Supplier Rating process tracks four levels of performance for Quality and OTD on a yearly basis, per quarter, and scorecards are issued by Purchasing. Ratings are weighted evenly between Quality and OTD, 50-50. Suppliers are expected to perform at the “Gold” or “Green” levels.

As determined by Quality and Purchasing, critical suppliers operating at the “Yellow” level will be required to prepare an improvement plan, the status of which will be reviewed with Elma Supplier Quality and/or Purchasing monthly until resolved. Critical suppliers operating at the “Red” level will have the “Yellow” level action requirement, in addition to completing a 8D or other approved problem-solving methodology.

Supplier Performance Levels	Quality and Delivery Performance	Action
GOLD	96-100%	No Action Required
GREEN	90-95%	No Action Required
YELLOW	80-89%	Supplier Quality & Purchasing monthly monitoring meetings with supplier Improvement Implementation Plan may be required by Quality or Purchasing
RED	79% and below	Supplier Quality & Purchasing monthly monitoring meetings with supplier EF-115 Supplier Corrective Action Request (8D), including Implementation Plan

11.0 COUNTERFEIT AVOIDANCE

It is the responsibility of the supplier to ensure that it is working to the latest version of specifications referenced within this section, as well as purchase order requirements.

Suppliers of electrical and/or electronic components shall meet the requirements of AS5553 Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts; Avoidance, Detection, Mitigation, and Disposition.

- Suppliers providing EEE components to Elma shall have a counterfeit materials policy in effect that is equivalent to the requirements as defined in AS5553.
- Suppliers of EEE components to Elma shall also certify compliance to AS5553 by signing the Elma EF-406 Counterfeit Avoidance Assessment Criteria form.

[AS5553D: Counterfeit Electrical, Electronic, and Electromechanical \(EEE\) Parts; Avoidance, Detection, Mitigation, and Disposition - SAE International](#)

Suppliers that provide non-EEE components, assemblies and other types of materials shall meet the requirements of AS6174 Counterfeit Material; Assuring Acquisition of Authentic and Conforming Material.

- Suppliers of EEE components may also be required to comply with AS6174, dependent upon Elma/Elma Customer certification requirements.

[AS6174A: Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel - SAE International](#)

Elma does not buy from Independent Distributors or Brokers except in emergencies; in which case, it requires Customer approval and proof that the parts are authentic. In such instances, Independent Distributors of electrical components shall meet the requirements of AS6081 Counterfeit Material; Assuring Acquisition of Authentic and Conforming Material.

[AS6081A: Counterfeit Electrical, Electronic, and Electromechanical \(EEE\) Parts: Avoidance, Detection, Mitigation, and Disposition - Independent Distribution - SAE International](#)

12.0 AWARENESS OF MALPRACTICE PREVENTION

Suppliers and their sub-suppliers shall remain vigilant against Malpractice, Fraud and Falsification (F&F) to prevent negative impacts on contract and product compliance. These acts can lead to severe and costly damage, as well as compromise the safety of people and products.

It is the responsibility of the supplier to avoid the possibility of Fraud and Falsification of documents i.e., test and inspection results, analysis of product, etc.

The supplier shall make Elma aware if it suspects or confirms that F&F has occurred on any documents/tests or reports for products delivered to Elma.

13.0 GENERAL CUSTOMER FLOW DOWNS

Below is a list of Elma's general customer flow downs noted on purchase orders. These customer flow downs shall apply to all Purchase Orders but are subject to change based on P.O. requirements.

It is the supplier's responsibility to read and acknowledge acceptance of the P.O. - and the associated customer flow downs - for every Elma purchase order.

- Nonconforming material may not be shipped until Elma has been notified and a product nonconforming disposition approval has been received (EF-112).
- Products manufactured per Elma drawings and/or custom Elma Specifications, require Elma approval before any repair or rework is performed.
- Elma must be notified of changes to the product, processes, suppliers and facilities.

- Material purchased from a non-franchised distributor or broker is not allowed due to the possibility of counterfeit material.
 - During extreme situations, such as manufacturer's allocation of products which causes material shortages and material is only available through a non-franchised distributor or broker, the Elma Buyer must be notified prior to purchasing this material.
- Elma must be notified if the source of material supplied to Elma becomes the subject of a legal or counterfeit issue.
- All vendors of electronic and/or electronic components must be compliant with Elma's counterfeit avoidance form (EF-406).
- Elma must be notified if the source of material supplied to Elma becomes the subject of a legal or counterfeit issue.
- Supplier must provide a 12 month advance notification of any part obsolescence. The opportunity for a last time buy is required.
- Any applicable flow-down requirements specified on a Purchase Order, including Customer requirements, shall be flowed down the supply chain.
- All pertinent records must be retained for a minimum of ten (10) years unless otherwise specified in the Purchase Order.
- Buyer and authorized Customer Representative reserve the right to enter Seller's plant(s) or those of Seller's suppliers, at every tier, or such parts thereof as may be engaged in work relating to this order, at all reasonable times, for the purpose of surveillance inspection of Seller's processes, controls, quality records, and systems as well as supplies/services procured under this order.
 - This inspection of Seller's processes and controls will not constitute acceptance of the supplies/services being procured.
- The seller shall maintain a Quality Management System.
 - At a minimum, the system must be compliant with ISO9001.
- All products shipped shall be accompanied by a Certificate of Conformance (C of C).
 - For catalogue/Commercial off the Shelf (COTS) items available in distribution, a stamped C of C on the packing slip is acceptable.
- All products shipped to be inspected and to be free of FOD (Foreign Object and Debris) prior to shipment.

- The seller shall ensure that regular Product Safety communication is made to internal employees and external providers to ensure all individuals understand their contribution to product and service safety and its importance to overall product safety.
- The supplier shall handle and package materials in a manner that will ensure protection against corrosion, oxidation, deterioration, ESD and physical damage during shipment to Elma Electronic Inc.
 - Bulk packaging may only be used if the component lead integrity is maintained, the material is protected against damage, and the bundles are properly labeled with part number and quantity.
 - ESD protective packaging shall be used for all electronic components.
 - Moisture sensitive items need to be vacuum sealed with an MSL label with MLS number and package date indicated.

14.0 REFERENCE MATERIALS

Below is a partial listing of the key standards frequently referenced in the supply chain for manufacturing Elma products.

It is the responsibility of the supplier to ensure that it is working to the latest versions of specifications referenced within this document, per Elma Electronic Inc. drawings and per Elma purchase order requirements.

MIL-HDBK-454 General Guidelines for Electronic Equipment

[MIL-HDBK-454B | www.dau.edu](#) or [ASSIST-QuickSearch Document Details \(dla.mil\)](#)

MIL Standards

MIL-DTL-5541 Chemical Conversion Coatings on Aluminum and Aluminum Alloys
MIL-PRF-23236 Coating Systems for Ship Structures
MIL-PRF-24712 Coatings, Powder, Thermosetting
MIL-PRF-22750 Coating, Epoxy, High Solids
MIL-A-8625 Anodic Coatings for Aluminum and Aluminum Alloys
A-A-56032 Epoxy Marking Ink

IPC Standards

IPC-A-630 Acceptability Standard for Manufacture, Inspection & Testing of Electronic Enclosures

IPC -A-620 Requirements and Acceptance for Cable and Wire Harness Assemblies

IPC-A-610 Acceptability of Electronic Assemblies

IPC J-STD-001/IPC-HDBK-001, IPC-AJ-820 Requirements for Soldered Electronic Assemblies

IPC-A-600 Acceptability of Printed Boards

IPC-6011, 6012, 6013, 6017, 6018 Qualifications for Printed Boards

IPC-4101, 4104, 4202, 4203, 4204 Base Materials for Printed Boards

American Welding Society (AWS) Standards

AWS C3.7 Specification for Aluminum Brazing

AWS D1.1 Structural Welding Code - Steel

AWS D1.2 Structural Welding Code - Aluminum

AWS D1.3 Structural Welding Code - Sheet Steel

AWS D17.1 Specification for Fusion Welding for Aerospace Applications

Additional Standards/Specifications

ASTM-B633-13 Electrodeposited Coatings of Zinc on Iron and Steel (type II & type V)

SAE AMS 2770 Heat Treatment of Wrought Aluminum Alloy Parts

15.0 REVISION/REVIEW UPDATES

Revision Level	Rev Description	Approved By & Title	Revision Date
B	Deviation form # updated from EF-159 to ENF-113 Critical supplier audit frequency revised in accordance with EESP-119 rev. AG	Carmen Theumer Director, Quality	August 12, 2025
A	Initial Release	Carmen Theumer Director, Quality	March 24, 2025
		Seamus Callan Director, Supply Chain	March 24, 2025