



## Supplier Quality Requirements Manual



**Helix Linear Technologies**  
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## 2. Introduction

This supplier quality manual is intended to provide guidance and requirements for suppliers of Helix Linear Technologies who are providing products and services that directly affect the quality of our products or services. This manual includes requirements from the AS/EN/JISQ 9100:2016 standard and is designed to ensure consistent quality of products and services received from suppliers.

## 3. Scope

Those suppliers of Helix Linear Technologies whose products or services affect the quality of Helix Linear Technologies products or services are subject to this manual. This document is invoked by reference on the Helix purchase order.

This document will contain mandatory provisions, which are indicated by the words “shall” or “required”. To claim conformance with the requirements, it is necessary to comply with the mandatory provisions. There can also be guidance contained in this document, which is generally indicated by the words "should" or "recommended". Because guidance might not be applicable to all suppliers, compliance is not required.

## 4. Definitions

**Certificate of Conformance (CofC):** A document furnished by the supplier certifying that, to the best of the organization’s knowledge, the parts or materials provided comply with all relevant purchase order requirements.

**First Article, First Article Inspection (FAI):** A product manufactured for the first time and documented in accordance with the AS9102 standard.

**Foreign Object Damage/Debris (FOD):** Any material or contamination that can inadvertently affect the safety or conformity of a product or material.


**Purchase Order:** The contractual document specifying to the supplier, at a minimum and where applicable, the part number(s), quantities(s), revision level(s) and special requirements of the materials/parts to be purchased.

**Raw Materials:** Materials used to fabricate a product.

**Secondary Processes:** Value-added processing, usually defined as a ‘special process’, such as heat treat, or chemical processing.

**Shelf Life-Sensitive:** A description of product having an expiration date or use-by date.

**Source Inspection:** A required inspection is when Helix elects to perform the incoming inspection of the purchased product or material at the supplier’s site.

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## 5. Right of Access

Suppliers shall provide right of access to Helix, its customers, and relevant government agencies to allow evaluation of quality system documentation and records, auditing, and verifying product compliance.

## 6. Order of Precedence

In the event of conflict between the requirements of this specification and other requirements of the applicable specification, the precedence in which requirements shall govern, in descending order is as follows:

- Applicable Helix Purchase Order
- Helix specification or drawing
- Applicable Statement of Work
- This manual
- Specifications, standards, and other documents referenced herein

## 7. Quality Policy

At Helix Linear Technologies, we are committed to:

- Passion for our customer's satisfaction in all products and services.
- Continual improvement in the effectiveness of the Helix Quality Management System.
- Quality products and services that meet all imposed requirements.


## 8. SUPPLIER RESPONSIBILITIES

### 8.1. Conflict Minerals

Conflict minerals refer to minerals that are mined in conditions of armed conflict, human rights abuses, and environmental degradation, particularly in the Democratic Republic of Congo and its neighboring countries.

Helix is committed to the responsible sourcing of minerals used in our products, and we do not support or tolerate the use of conflict minerals. We recognize the significant impact that our purchasing decisions can have on the communities and environment where these minerals are sourced, and we are committed to conducting our business in a socially responsible and sustainable manner.

- 8.1.1. Suppliers shall provide information on the sources of the minerals used in their products, and we will not work with suppliers who use conflict minerals.

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## 8.2. Anti-Human Trafficking Policy

We have established a policy to prevent, detect, and respond to human trafficking in all our operations and supply chains. Helix is committed to preventing human trafficking and modern slavery in all our operations and supply chains. We will not tolerate any form of forced labor or exploitation of people for commercial gain.

- 8.2.1. Suppliers shall not engage in human trafficking or use forced labor. Helix will terminate any relationships with suppliers or contractors that engage in human trafficking or forced labor.

## 8.3. Restriction of Hazardous Substances (REACH/RoHS)

- 8.3.1. Suppliers shall comply with all applicable local, state (or provincial or the equivalent) and national laws and regulations relative to hazardous substances including but not limited to RoHS (European Union Directive 2011/65/EU including the 4 new substances added via Commission Delegated Directive (EU) 2015/863), REACH (European Union Directive 1907/2006 including the latest list of Substances of Very High Concern (SVHC) and TSCA (United States).

When necessary, Suppliers shall be prepared to provide Helix Full Material Disclosure Statements (FMDS) on all products supplied. FMDS documents must analyze products at the homogenous level, providing a full material breakdown and chemical composition (XML, IPC 1752 or equivalent format preferred) of each component part in a finished product. This will typically be product line or industry specific and does not apply to all product supplied to Helix.

## 8.4. Foreign Object Debris/Damage (FOD)

- 8.4.1. Foreign objects and debris are a threat to aviation safety and could contribute to a lack of mission readiness or mission success. The supplier is responsible for ensuring the products and/or processing provided to Helix are free of FOD. The supplier shall implement a FOD Prevention program necessary to reduce the occurrence of Foreign Objects and the risk of Foreign Object Damage to Helix supplied products. The program should be compliant with the requirements of NAS 412 (National Application Systems Foreign Object Damage/Foreign Object Debris Prevention) and/or SAE AS9146 (Foreign Object Damage (FOD) Prevention Program – Requirements for Aviation, Space, and Defense Organizations).

## 8.5. Quality Management System

Depending on the supplier category, suppliers may be required to establish and maintain a suitable quality management system which is certified by an IAF accredited certification body to the latest the requirements of one or more as defined in Table I. This system must include policies, procedures, and processes that ensure the consistent delivery of high-quality products or services.


**Table I**

Supplier	Requirements
Distributors/Stockists	Shall establish and maintain a QMS that is certified to AS9120, AS9100 or ISO 9001.
Calibration/Testing*	Shall establish and maintain a measurement management system that is certified to ISO/IEC 17025
Special Process**	Shall establish and maintain a QMS that is certified to AS9100 or NADCAP AC7004.
Commercial Off The Shelf (COTS)	Suppliers that provide commercial products must have a suitable quality management system in place and be able to provide all required traceability for purchased parts, as required.
All Other Suppliers	<p>Shall establish and maintain a quality management system that is certified to AS9100, ISO 9001 or equivalent.</p> <p>In the absence of third-party certification approval, Helix Purchasing and Supplier Quality may approve the supplier based on second party (Helix) or self-assessment to the specified criteria, or to a set of alternative basic quality requirements.</p>

\*When the calibration provider is the OEM, ISO 9001 certification is acceptable, providing there is evidence that the calibration was performed in accordance with ISO 10012 or equivalent and must exhibit traceability to NIST. This is subject to Helix Supplier Quality Engineering approval.

\*\*Special Process – When AMS requirements are specified the special process provider must be certified.

8.5.1. Whenever the Quality System status changes, such as changes to the scope of approval, or changes in third-party or regulatory Quality Approvals, the supplier must notify Helix buyers in writing within 30 working days. In the event of the supplier losing certification or failing to notify Helix of the loss, the supplier may be disapproved by Helix.

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8.5.2. Helix reserves the right to provide quality system findings, associated quality system data and quality performance data to the supplier's quality system registrar.

## 8.6. Awareness

8.6.1. The supplier shall ensure those personnel performing work affecting the quality of materials, products and services intended for Helix are competent and capable within the scope of their activities performed.

Additionally, the supplier shall ensure that all personnel (including their subcontractors) are aware of their contribution to product or service conformity, their contribution to product safety (the state in which a product is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage to property), and the importance of ethical behavior.

## 8.7. Training

8.7.1. The supplier shall ensure their employees and subtier suppliers are qualified and trained (internally or externally) as applicable to ensure product or service conformity. Records of this qualification or training shall be maintained.

## 8.8. Counterfeit Part Control

8.8.1. The supplier shall establish and maintain an appropriate counterfeit part prevention plan in accordance with AS6174. If any material or product delivered to Helix is suspected as counterfeit material, the appropriate government agency will be notified and per our AS9100 policy, product or material will not be reintroduced into the supply chain. Helix will not compensate any supplier for counterfeit parts or material delivered to Helix.

## 8.9. Purchasing Controls


Suppliers shall adhere to our purchase order requirements to ensure that purchased products or services meet our requirements. Purchasing controls include, but are not limited to, requirements for supplier approval, purchasing information, verification of purchased products or services, and records retention.

8.9.1. When a Helix Purchase Order is received, the supplier should perform a contract review. To support the purchase order, the Helix buyer is responsible for providing all relevant technical data and revisions.

8.9.2. Before committing to fulfilling the contract, the supplier shall ensure it has all necessary technical data, at the revision levels specified on the purchase order.

## 8.10. Control of Subtier Suppliers

8.10.1. All requirements must be met by the supplier, including work performed by its subtier suppliers. Whenever a supplier uses subtier suppliers to perform work for Helix, all technical and quality requirements included in Helix's purchase order

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must be flowed down. Among these are quality system requirements, regulatory requirements, the use of Helix-designated sources, and the requirement to document and control key characteristics and to submit certifications and test results.

**8.11. Control of Helix-owned Documents and Intellectual Property**

- 8.11.1. Documents supplied by Helix to the supplier are furnished for the purpose of doing business with Helix. Proprietary documents may be supplier in hard copy, electronic, cloud, or other means. The supplier is responsible for the control and maintenance of Helix documentations to preclude improper use, loss, damage, alteration and/or deterioration.
- 8.11.2. Unless authorized by Helix Purchasing, the supplier may not transmit or supply any Helix documents, or copies of such documents, to anyone outside of Helix except to a subtier source used by the supplier for work performed ohnh the Helix purchase order.

**8.12. Supplier Corrective Action Requests (SCARs)**

- 8.12.1. A SCAR may be issued to a supplier if the supplier's performance falls below the company's on-time delivery objective, nonconformances, or if there is a specific supplier concern.


Unless otherwise directed, the supplier is expected to submit the completed SCAR by the noted due date(s) (containment and long-term corrective action) to the Helix point of contact. As long as it includes the required inputs of the Helix SCAR form, the supplier may use their own form. If the corrective action investigation needs more time than allotted, a request may be submitted in writing.

**9. PRODUCT REALIZATION**

Suppliers shall follow our requirements for product realization to ensure that products or services are delivered according to our specifications. Product realization includes, but is not limited to, requirements for planning, design and development, production and service provision, and control of production processes.

This section outlines the basic requirements for approving and qualifying production parts. The goal is to ensure that the supplier understands all Helix design and specification requirements and has the ability to consistently meet them during manufacturing. When producing a product for a new design, system, or application, it's crucial for both the supplier and Helix to take responsibility for meeting all quality, performance, and safety requirements.



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## 9.1. Change Management

9.1.1. Changes that may affect the quality of the product or service Helix requested must be documented and communicated to the Buyer and may require approval prior to proceeding with processing a Helix Linear Technologies' order. Examples of reportable changes include but are not limited to:

- Change in ownership,
- Change in facility location,
- Change in process, product, inspection techniques, services
- Change in suppliers, and/or
- Change of certification status, i.e. suspension, revocation, voluntarily surrendered.

## 9.2. Nonconforming Material, Containment

9.2.1. Request for Deviation/Waiver


- The supplier must thoroughly review the Helix Linear Technologies' documentation and Purchase Order.
- Any deviations (prior to processing) or waivers (identified after manufacture) must be communicated and accepted by the Buyer prior to shipment.
- The acceptance or rejection of nonconforming material is at the sole direction of Helix Linear Technologies. The supplier must receive approval in writing, prior to shipping any material that has been identified as nonconforming.

9.2.2. Helix may give notice to a Supplier when non-conforming material is discovered and documented as a discrepant material report. The DMR may also require a formal corrective action at Helix's discretion. Containment must take place, unless otherwise stated in writing, within twenty-four (24) hours. For purposes of this section, "Containment" means the implementation of measures to prevent the shipment by Supplier of products containing the identified defect and measures to prevent the manufacture of additional products containing the defect. It is critical that all suspect material throughout the entire Supplier supply chain is purged and replacement of defective parts with conforming parts is planned and executed. This includes but not limited to parts in transit, in stock, etc.

## 9.3. Prohibited Practices

9.3.1. The following acts or practices are typical of those prohibited:

- Unauthorized Repairs – Repairs by welding, brazing, soldering, plugging, bushing or use of paints, adhesives, or plating, or any other method, on parts damaged or found to be faulty during the fabrication process, or on defects in castings/forgings, are prohibited unless specifically authorized by Buyer in writing.
- Unauthorized Processing – Seller shall not change, add, or delete any process, material, or procedure without prior Buyer written approval if such process, material, or procedure was originally subject to approval by the Buyer.

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- Disregard of Approvals – Seller shall not change or delete any quality control procedure or process that is subject to specific approval by Buyer without prior approval of Buyer in writing.

#### **9.4. First Article Inspection Report (FAIR)**

- 9.4.1. The AS9102 FAI process involves a series of checks and tests that are used to confirm that the part, component or assembly meets all of the specified requirements and is suitable for use in the intended application.
- 9.4.2. When required by the Helix Purchase Order, products supplied to Helix are subject to a first article inspection report (FAIR) in compliance with the AS9102 standard if one of the following conditions apply:
- The product(s) are being manufactured and delivered to Helix for the first time.
  - Design revisions have occurred after the first article was accomplished (Delta or Partial FAIR required).
  - There has been a lapse in production greater than or equal to 2 years.
  - A change in manufacturing source, process, inspection methods, location of manufacture, tooling or materials has occurred and can potentially affect fit form or function.
  - A change in NC program or translation to another media that can potentially affect fit form or function.
  - A natural or man-made event has occurred, which may adversely affect the manufacturing process.

#### **9.5. Process Control**

- 9.5.1. The Seller shall employ a system for controlling the hardware throughout the manufacturing process. This may be accomplished by a manufacturing outline or other suitable method which details the operation sequence and inspection points and includes provisions for controlling the drawing/specification revision status during the manufacturing process.
- 9.5.2. Suppliers are responsible for understanding and reducing variation within processes, and are encouraged to use control-charting statistical techniques. When control charting is not performed, sample inspection of all attributes shall be performed to ANSI/ASQ Z1.4 (MIL-STD-105), Level II, 1.0 AQL, C = 0, or an equivalent plan approved by Helix. Suppliers using sample inspection plans (including Helix approved) are not relieved from the responsibility for all attributes on parts or assemblies.
- 9.5.3. The contract or drawing may specify key characteristics, special requirements or critical items. The Supplier shall demonstrate conformity to these characteristics through documentation and appropriate control methods. The Supplier should also identify, document, and control other product and process characteristics critical to achieving quality, beyond those specified by Helix Linear Technologies.

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## 9.6. Final Inspection

9.6.1. The supplier shall in all instances perform a complete and thorough inspection of the item(s) to be delivered, prior to shipment to Helix. Inspections shall be documented and as a minimum shall show lot size, characteristics inspected, quantity inspected, quantity rejected and description of defects found.

## 9.7. Material Compliance

9.7.1. When required by the Helix PO, for each lot or heat of material supplied, the supplier shall furnish a certified material test report showing the material description, including as applicable, the material name, alloy, type, grade or condition, the producer's (mill) name, the lot or heat number and the material specification and revision to which the material complies.

## 9.8. DFARS

9.8.1. When required by the PO, metals must be melted in the United States or a qualifying country, or they can be melted anywhere but must be "incorporated in an article manufactured in a qualifying country". This clause allows a qualifying country to manufacture parts from metal that was melted anywhere, provided it meets specifications, but a United States company can only use metal that was melted in the United States or a qualifying country.

## 9.9. Software Control Requirements

9.9.1. Non-deliverable software used to inspect physical features or attributes of the product and software used in the manufacture of the product shall be controlled by the supplier to ensure that the software development, testing, and library management are properly monitored and maintained.


## 9.10. Calibration

9.10.1. All Helix Linear Technologies' suppliers shall comply with a calibration system described by ISO 10012, MIL-STD-45662, ANSI/NC SL Z540-1, or equivalent and must be traceable to the National Institute of Standards and Technology (NIST).

## 9.11. Contingency Plans

9.11.1. Supplier shall have and maintain a contingency plan for potential catastrophes (e.g. utility interruptions, fire, flood, storm damage, temporary or limited data loss, chemical spills, air/water contamination, earthquakes, tornados, hurricanes, and storm surges, complete data loss) that may disrupt the flow of products to Helix. Disaster Recovery Plans should not be confused with internal Health and Safety plans.

9.11.2. This plan shall include, but not be limited to, provisions for prompt and effective notice to Helix of such catastrophes and their impact, provisions for restoration of disrupted manufacturing capabilities and resumption of the manufacture and

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shipment of products. This plan must be shared and/or reviewed with Helix if requested.

9.11.3. In addition, all electronic records (e.g. design file, manufacturing test measurements) should be backed up per industry standards. This includes encrypted regular backups, on and off-site, for redundancy. Cloud storage which contains information related to ITAR parts shall be compliant with CMMC.

## 9.12.Retention of Records

9.12.1. Unless otherwise specified by the Purchase Order, the supplier shall retain objective evidence, including records of the inspections and tests performed in the course of manufacturing, testing, processing, inspecting, preserving, packaging, and shipping of items on the Purchase order for a minimum of ten (10) years after completion of the order. Such records shall be made available to Helix for review upon request.

## 10. Continuous improvement

We partner with our suppliers and drive a continuous improvement mindset, where ongoing evaluation and optimization of processes is crucial. This involves regularly assessing current practices, identifying areas for improvement, and implementing changes to streamline workflows and eliminate waste. Additionally, it requires a culture of collaboration, where all team members are encouraged to provide feedback and suggestions for improvement, and are empowered to make changes to their own work processes. By embracing a continuous improvement and lean mindset, organizations can enhance their efficiency, reduce costs, and ultimately provide better value to their customers.

Suppliers should implement a continuous improvement program which could include performance monitoring and data analysis to identify and rank areas of improvement, focusing on quality, cost and delivery. Suppliers are expected to share their continuous improvement roadmap, examples of completed projects or other information that is relevant.

## 11. Document Changes:

Revision	Date	Description of Revision	Approved By	Documented Training Required Yes/No
0	16-JUN-2023	Created	Jeremy Kearns	No
1	13-MAR-2024	Added sections 9.5.2-9.5.3	Jeremy Kearns	No