



# Supplier Quality Manual

# Contents

1. Scope.....	4
2. Business Communication .....	4
3. Expectation of the supplier:.....	4
4. Operation.....	5
5. Source Inspection .....	5
6. Counterfeit Parts .....	5
7. Quality Assurance.....	6
<b>7.1 Document Control &amp; Retention</b> .....	6
7.2 Quality Control .....	6
7.2.1 Control Plan shall be: .....	7
7.2.2 Process Failure Modes and Effect Analysis (PFMEA) shall:.....	7
7.2.3 Process Capability study shall be for: .....	7
7.2.4 First Article Inspection Report (FAIR) ensure:.....	7
7.2.5 PPAP (Production Part Approval Process) shall be: .....	7
<a href="https://amphenol-industrial.com/">https://amphenol-industrial.com/</a> .....	7
7.2.6 Control of Preventive Maintenance Plan .....	7
7.2.7 Control of Non-Conformance material.....	7
7.2.8 Calibration .....	8
7.2.9 Product Traceability .....	8
7.2.10 Lot Control Requirements.....	8
8. Certificate of Conformance (C of C) .....	8
9. Material Reports .....	9
10. Drop Ship Suppliers .....	9
11. Molding and Casting Suppliers .....	9
12. Sub-tier Suppliers .....	10
13. Perishable Materials .....	10
14. FOD Control .....	10
15. Performance Evaluation.....	10
8.1 Evaluating and Rating Supplier Risk .....	10
8.2 Suppliers Rating.....	11
16. Audit .....	11
17. Supplier Corrective Action .....	11

18.	Workmanship .....	11
19.	ITAR Restrictions .....	12
20.	Ozone Depleting Substances (ODS) .....	12
21.	Mercury Prohibition .....	12
22.	Toxic Substances Control Act (TSCA) .....	12
23.	RoHS certificate .....	12
24.	REACH certificate .....	12
25.	Proposition 65 certificate .....	13
26.	PFAS certificate .....	13
27.	POPs certificate .....	13
28.	CMRT .....	13
29.	EMRT .....	14
30.	FMD .....	14

## 1. Scope

This manual defines the minimum requirements for doing and maintain business with Amphenol Industrial Operations, according to align to Amphenol's customer specific requirements including: Terms and Conditions, Workmanship Standards, Drawing interpretation specification. Supplier shall process any corrective action requests submitted to them. Suppliers shall ensure that all business is conducted in an ethical manner, with consideration for product safety, regulations and conformance.

Document applicable to manufacturing companies and commercial off-the-shelf (COTS) that supply material to Amphenol Industrial Operations.

## 2. Business Communication

Suppliers shall:

- Communicate all documentation in English unless otherwise specified by Amphenol Industrial Operations.
- Communicate any significant changes in business climate including but not limited to acquisitions, divestitures, pending litigation, or any activity that may change financial viability in the supplier's organization.

Supplier shall not change the Amphenol specified drawings, materials, special processes, and tooling's without prior written approval by Amphenol Purchasing and Procurement Quality Engineering. (Special Processes include: Soldering, Welding, Brazing, Passivation, Electropolish, Plating, Heat-Training, Potting, Wire-wrapping, casting, molding, non-conventional machining, bonding.) This requirement specifically includes changes made for RoHS compliance.

Supplier shall not change any drawing, process, material, or procedure without prior written approval by Amphenol Industrial Operations, if such drawing, process, material, or procedures were originally approved by Amphenol Industrial Operations.

Suppliers shall have a policy/program in place to control obsolescence. Supplier shall notify to Amphenol Industrial Operations of any part numbers that Amphenol Industrial Operations has purchased in the past that are now considered obsolete.

## 3. Expectation of the supplier:

- Review, understand and ensure compliance to this manual as a part of doing business with Amphenol Industrial Operations.
- Adhere to all requirements including all purchase order terms (CoC's, FAI's, PPAP and others), regulations and conditions.
- Be able to supply material on time and form with all the documents required by Amphenol Industrial Operations.
- Meet with Amphenol Industrial Operations Quality Policy on material supplied.

## 4. Operation

Supplier's shall be responsible for documenting and executing processes for supplied products in order to ensure the product meets with Amphenol Industrial Operation's expectation.

- Design & Development
- Product execution
- Production and service provisions.
- Control of Non-Conformance material
- Change management

Suppliers shall have a business continuity management capability for critical and sole sourced items. This may include safety stock and risk mitigation efforts. The Business Continuity Plan will be provided for critical and sole sourced items.

## 5. Source Inspection

Supplier agrees that Amphenol Industrial Operations, Amphenol's customers, and applicable regulatory authorities have the right to inspect any Amphenol order at the Supplier's facility upon request. Amphenol also reserves the right to contract a 3<sup>rd</sup> party source inspector at the supplier's expense, if deemed necessary to enforce due to supplier's inability to supply conforming product, or due to other supplier deficiencies.

## 6. Counterfeit Parts

This means "Work" that is or contains unlawful or unauthorized reproductions, substitutions, or alterations that have been knowingly mismarked, misidentified, or otherwise misrepresented to be an authentic, unmodified part/material from the original manufacturer, or a source with the express written authority of the original manufacturer or current design, activity, including an authorized aftermarket manufacturer.

Manufacturing companies and Commercial Off-the-Shelf (COTS) that supplied material to Amphenol Industrial Operations, shall control and maintain a counterfeit prevention and control plan that complies with ISO 9001-2015, and shall not deliver Counterfeit Work of suspect Counterfeit Work to buyer under this contract.

Supplier shall only purchase parts/materials provided to Buyer and evidence of authenticity is subject to review by Amphenol Industrial Operations Quality team.

Supplier shall notify Amphenol Industrial Operations Quality and Purchase team of the suspicious of any counterfeit part founded and provide the evidence that material is on quarantine.

## 7. Quality Assurance

Supplier shall complain an effective Quality System according to: ISO 9001, or AS9100, AS9120, AC7004, ISO/IEC17025, IATF 16949, and others.

Supplier's quality system shall ensure that:

- Latest engineering drawing and specification are available at the manufacturing, test and inspection location.
- Review process is established to confirm that applicable drawings and specifications are at the latest revision level.
- Quality records are maintained in sufficient detail with evidence of actual results of required tests and verifications and help to the traceability of the integrity of Amphenol Industrial product.
- Quality records are stored in a location or media that prevents exposure to elements that would compromise the integrity of the information and will retrieval upon request by Amphenol Industrial Companies.

### 7.1 Document Control & Retention

Supplier is responsible to obtain all referenced documents. Documents not provided with the Purchase Order are available upon request from Amphenol Purchasing. Some documents are also viewable via internet: For Workmanship Standards, ISO 9001-2015, Supplier Ratings and other Quality Documents are available at: <https://amphenol-industrial.com/>

Suppliers shall retain in good condition for at least ten (10) years unless otherwise specified adequate quality system records, including records associated with:

- Management reviews
- Internal audits
- Calibration
- Change management
- Maintenance
- Root cause corrective action

Supplier is advised that the recording of false or fraudulent statements or entries in any record created for Amphenol may be punished as a felony under statutes including U.S federal law, Title 18, Chapter 47. Records after retain period can be destroyed.

### 7.2 Quality Control

Before a product is supplied to Amphenol Industrial Operations, Suppliers shall implement the following:

- Control Plan (when applicable) (It will be determined in the Purchase Order).
- PFMEA (when applicable) (It will be determined in the Purchase Order).
- Process capability (when applicable) (It will be determined in the Purchase Order).
- First article inspection report (FAIR) (If this is a first purchase or there was a drawing change).
- PPAP (when applicable)

\*Note: For Commercial off-the-shelf (COTS) it will be necessary the certificate of compliance statement signed by supplier.

#### 7.2.1 Control Plan shall be:

- Documented.
- Followed for each supplied product.
- Used to control high risk processes identified in the PFMEA.
- Basis for operation and inspection work instruction.

#### 7.2.2 Process Failure Modes and Effect Analysis (PFMEA) shall:

- Be completed for the production processes of each product.
- Show the risks associated with each process of the product manufactured.

#### 7.2.3 Process Capability study shall be for:

- All special characteristics defined as critical by Amphenol Industrial Operations Engineering team.

#### 7.2.4 First Article Inspection Report (FAIR) ensure:

- Supplier is under a good inspection plan.
- Supplier is capable to process Amphenol Industrial Operations product.
- Utilize appropriate measuring and monitoring infrastructure and resources.

Whenever a First Article is required, (First time build, revision change, a lapse in production of 24 months, significant process change, or a plant relocation) Suppliers shall provide a production part and a QDF-QV40 Supplier report in English of actual measurement data for each characteristic which the supplier generated. QDF-QV40 (or equivalent form) is available online at <https://amphenol-industrial.com/>

**COTS (Commercial off the shelf), Catalog Items, MIL, Raw material, and QPL parts does not require FAI's.** Material test reports for all materials in an item are to be included in the First Article Report. If the drawing refers to a lower level drawing whose characteristics were likewise generated by the Supplier, a First Article shall also be submitted for that part. All samples and reports shall be sent to Amphenol Procurement Quality. Production shall not start until written approval is received from Amphenol Procurement Quality.

#### 7.2.5 PPAP (Production Part Approval Process) shall be:

- Based on the latest version of the AIAG PPAP Manual.
- According to level required by Amphenol Industrial Operations Quality Engineering team.
- Submitted with sample parts as instructed.

PPAP shall meet minimum requirements listed on:

<https://amphenol-industrial.com/>

#### 7.2.6 Control of Preventive Maintenance Plan

- Supplier shall have a preventive maintenance program that is documented with history of repairs utilized to reduce quality defects.

#### 7.2.7 Control of Non-Conformance material

- Supplier shall have a process that identify and segregate the non-conforming or suspect material in a specific area assuring the control, contention and disposition of material.
- Supplier shall notify Amphenol Industrial Operations immediately upon suspicion of non-conforming material with all the traceability on hand.

- Supplier shall not ship Nonconforming material without prior authorization.
- If supplier determines Nonconforming material has shipped, they must notify Amphenol Industrial Operations within 48 hours of finding the non-conformance.
- A Supplier cannot disposition Nonconforming material for repair or “use as is” without authorization.

#### 7.2.8 Calibration

- Supplier shall maintain a system for calibration and maintenance of tools, inspection and test equipment that is compliant with an industry recognized standard (ISO 17025, ISO 10012-1, ANSI Z540).

#### 7.2.9 Product Traceability

Suppliers shall establish a lot traceability that:

- Tracks components throughout the value stream, from raw material through shipment to Amphenol Industrial Operations.
- Includes all process steps including inspection and test procedures and rework.

#### 7.2.10 Lot Control Requirements

Supplier shall maintain lot control integrity for all Amphenol Industrial Operations supplied components for value added products. Amphenol Industrial Operations Stock requisition sheets which include pertinent data part numbers(s) and lot control number(s) shall be kept with the lot and sent back to Amphenol Industrial Operations with the finished product.

## 8. Certificate of Conformance (C of C)

Suppliers shall provide a certificate of conformance with each delivery to Amphenol Industrial Operations confirming that all Purchase Order terms, and technical requirements have been met. The C of C should include the following as a minimum:

- Amphenol Industrial Operations Part Number
- Amphenol Industrial Operations Drawing Revision
- Part Name
- Amphenol Industrial Operations Purchase Order number
- Quantity shipped
- Lot/Batch/Serial numbers
- Raw material trace by heat or lot number must be listed
- Special processes performed, the specification, and revision certified to per print

C of C's also need to include the raw material certifications as required by drawing and shall have a traceable heat, lot or serial number for the raw material used in the manufacture of the product being delivered. C of C's should have a statement of conformance to all PO requirements and be signed. Special processes certificates from the processor performing the process shall be included with the cert package and linked to the shipment by cert number. If the manufacturer is performing the special process



internally, they shall include the process, and specification number on the C of C. COTS and Supplier designed parts need to be purchased at the most current revision of the documents ordered.

Note: for COTS it is necessary the certificate of compliance statement.

## 9. Material Reports

Accompanying each lot, Suppliers of items made from a single material and suppliers of raw materials shall submit a material report listing physical and chemical properties of the lot(s) in English. Material reports shall only come from a certified lab or the raw material manufacturer. If more than one material comprises the procured item, the supplier shall process and maintain material reports for each material for a period of 10 years with copies provided to Amphenol upon request, unless special PO requirements exist. The material report shall specify chemical and physical properties in accordance with Amphenol imposed requirements per drawing spec, or PO. Raw materials certified to an industry standard shall also include the revision of said specification on the certification. Exceptions: 1) For materials that the supplier considers proprietary, provide instead a Certificate of Conformance that specifies a traceable lot/batch number; 2) Qualified Mil-Spec items and COTS (Commercial off the shelf); 3) material supplied by Amphenol; 4) Items/materials that are purchased to the supplier's catalog or to supplier's specific part number. All material, specifications, special and processes shall be certified to the specification, and revision of said specification. **All specialty metals shall be in compliant to DFARS.**

## 10. Drop Ship Suppliers

If contract stipulates that shipment is to be made directly to Amphenol's customer, supplier shall submit to Amphenol Procurement Quality the inspection plan to be applied and a proved First Article Report for each part number to be shipped. Supplier shall receive written approval from Amphenol Procurement Quality prior to making Drop Shipments. Supplier shall retain inspection records. Form 4-QDF-01 will be completed, with any special requirements as noted above, and approved before the drop ship is approved. Drop ship forms will be maintained Quality and kept in the official internet page of Amphenol Industrial Operations. <https://amphenol-industrial.com>

## 11. Molding and Casting Suppliers

Supplier shall submit a First Article Report whenever any of the following events first occurs; 1) a new or revised part is to be produced; 2) a new or modified tool or cavity is to be used; or 3) the process or material has changed. Molding suppliers shall keep a sample of raw material used for each lot consumed, for a period of 1 year for possible testing. In addition, rubber compound suppliers shall submit a cured, representative test specimen with each lot shipped; the specimen's durometer and tensile strength values shall be recorded in the accompanying material report.

## 12. Sub-tier Suppliers

Suppliers shall flow down to sub-tier suppliers all applicable requirements including critical items and Key characteristics when defined.

Sub-tier suppliers shall not change any drawing, process, material, or procedure without prior written approval by Amphenol Industrial Operations, if such drawing, process, material, or procedures were originally approved by Amphenol Industrial Operations. Suppliers are responsible for relaying this information to Amphenol Industrial Operations.

## 13. Perishable Materials

Suppliers shall ensure that perishable materials, if employed, are not used beyond their recommended expiration dates. Suppliers shall also furnish date of manufacture for each lot as applicable.

## 14. FOD Control

Suppliers shall maintain a FOD control program and ensure Foreign Objects and subsequent Foreign Object Damage (FOD) is eliminated from all parts prior to shipments. In addition, work areas shall be controlled in such a manner as to preclude the risk of FOD incidents.

## 15. Performance Evaluation

In a manner of keep Supplier information and for future acknowledgment, a supplier survey will be sent for new suppliers and at least once in a year to all approved suppliers to track the information and improvements of Amphenol Industrial Operations Suppliers (4-QA16-039). Available on <https://amphenol-industrial.com>

Supplier performance will be measured every month according to the following:

- Quality: Measured by Quality team, the Quality of material supplied shall meet the requirements of spec according to drawing, and all the documents delivered on time and form, the maximum score will be 60% and it will be measured according to acceptance or rejection criteria, every LOT rejected will affect considerably, and there will be a penalty of -10% if supplier does not send SCAR on time and form.
- Delivery: Measured by Purchase team, the maximum score will be 40% and it will be measured according to the promise date of delivery adding 5 business days for import process from United States of America to Mexico, custom processes and other.

### 8.1 Evaluating and Rating Supplier Risk

Supplier will be rated according to the following combined Delivery and Quality performance:

- Low Risk => 90%
- Medium Risk => 71%

- High Risk =< 70%

## 8.2 Suppliers Rating

- Suppliers rated as Medium Risk shall be monitored until satisfactory levels above 90% are achieved.
- Suppliers rated High Risk shall provide an improvement plan to Purchasing if the High Risk was caused because a bad score in the On Time Delivery, to Quality if the High Risk was caused because a bad score in the Quality of material supplied.
- Suppliers failing to improve their performance in sequential months may be disqualified.

## 16. Audit

According to follow to the Quality System Assurance of Amphenol Industrial Operations, supplier's quality system will be evaluated at least once in a year according to ISO 9001:2015 requirements with our Supplier Survey 4-QA16-039 by a Supplier Quality Engineer or Quality Assurance Manager and may be performed on-site visit or via on-line meeting under prior communication accordance. The purpose of evaluating suppliers is to minimize risks to Amphenol Industrial Operations in regard to:

- Product or service integrity
- Product or service availability
- Financial liability
- Meeting customer commitments

\*Note: This audit will apply to suppliers according to Amphenol Industrial Operations Business convenience.

## 17. Supplier Corrective Action

Corrective action with a full 8D shall be executed in accordance with the following timeline from the Suppliers receipt of Quality Issue Notification (QIN):

- Containment action – 24 hours (and need to be communicated).
- Root Cause Analysis & Corrective Action Plan Defined (Full 8D) – 10 business days once material arrived at Supplier's facility.

## 18. Workmanship

A full list of Amphenol Industrial workmanship requirements can be found at the below link. It is expected that all suppliers shall meet the requirements defined within these identified quality standards.

<https://amphenol-industrial.com>

## 19. ITAR Restrictions

Orders relayed may involve information and/or items that are subject to the International Traffic in Arm Regulations (ITAR) and may not be released to “Foreign Persons” inside or outside the United States of America without the proper export authority.

## 20. Ozone Depleting Substances (ODS)

Class I or II Ozone Depleting Substances, as listed in 40 CFR part 82 Appendices A & B. are prohibited from directly contacting Amphenol Parts in the manufacturing process and shall not be contained in products sold to Amphenol.

## 21. Mercury Prohibition

The intentional incorporation of mercury (Hg) or mercury containing compounds exceeding 0.001% by weight per homogenous material into products sold to Amphenol is prohibited.

## 22. Toxic Substances Control Act (TSCA)

Seller shall ensure for every chemical substance or mixture, or applicable article supplied:

- 1- The chemical constituent(s) of the product(s) is listed by the Toxic Substances Control Act (TSCA) inventory and is not offered for entry in violation of TSCA or any applicable rule or order under TSCA.
- 2- The chemical constituent(s) of the product(s) is not subject to TSCA.

## 23. RoHS certificate

- 1- Directive 2011/65/EU of the European Parliament, published 21 July 2011;
- 2- Directive 2015/863/EU of the European Parliament, published 4 June 2015, pertaining to the addition of four substances classified as phthalates;
- 3- The Council of 8 June 2011 on the restriction of the use of certain hazardous substances in the electrical and electronic equipment.

## 24. REACH certificate

This document shall serve as notification regarding the European Union’s (EU) Registration, Evaluation, and Authorization of Chemicals regulation (REACH) and its requirements:

- 1- REACH SVHC per Article 33 of EU Regulation 1907/2006  
<https://echa.europa.eu/nl/candidate-list-table>

- 2- REACH Annex XVII of EU Regulation 1907/2006 [www.echa.europa.eu/authorisation-list](http://www.echa.europa.eu/authorisation-list)
- 3- REACH Annex XVII of EU Regulation 1907/2006: [www.echa.europa.eu/substances-restricted-under-reach](http://www.echa.europa.eu/substances-restricted-under-reach)

## 25. Proposition 65 certificate

Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) is a Californian law that requires business to notify Californians about significant chemicals that cause cancer or birth defects or other reproductive harm. The law requires that no person doing business knowingly and internationally exposes and individual to a chemical known to the state of California to cause cancer, birth defects, or reproductive toxicity without first giving a clear and reasonable warning.

- 1- The Prop 65 list can be accessed at [www.oehha.ca.gov/prop65](http://www.oehha.ca.gov/prop65)

## 26. PFAS certificate

Per-and polyfluoroalkyl substances are a large class of thousands of synthetic chemical that are used throughout society. However, they are increasingly detected as environmental pollutants, and some are linked to negative effects on human health.

- 1- The PFAS list can be accessed at [PFAS Chemical Lists and Tiered Testing Methods Descriptions | US EPA](#)

## 27. POPs certificate

Persistent organic pollutants (POPs) are organic substances that persist in the environment, accumulate in living organisms, and pose a risk to our health and the environment.

- 1- The POPs substance list can be accessed at [List of substances subject to POPs Regulation - ECHA \(europa.eu\)](http://List%20of%20substances%20subject%20to%20POPs%20Regulation%20-%20ECHA%20(europa.eu))

## 28. CMRT

The Conflict Minerals Reporting Template (CMRT) is a free, standardized reporting template developed by the Responsible Minerals Initiative (RMI) that facilitates the transfer of information through the supply chain regarding mineral country of origin and the smelters and refiners being utilized.

- 1- The CMRT template can be accessed at [Conflict Minerals Reporting Template \(responsiblemineralsinitiative.org\)](http://Conflict%20Minerals%20Reporting%20Template%20(responsiblemineralsinitiative.org))

## 29. EMRT

The Extended Minerals Reporting Template (EMRT) is a free, standardized reporting template developed by the Responsible Minerals Initiative to identify pinch points and collect due diligence information in the cobalt and mica supply chains.

- 1- The EMRT template can be accessed at [Extended Minerals Reporting Template \(responsiblemineralsinitiative.org\)](https://responsiblemineralsinitiative.org)

**This is a request that will be requested annually.**

## 30. FMD

An FMD provides full transparency into the substances that make up a product. These disclosures show product composition, including substance concentration, and whether they exceed regulatory thresholds.