



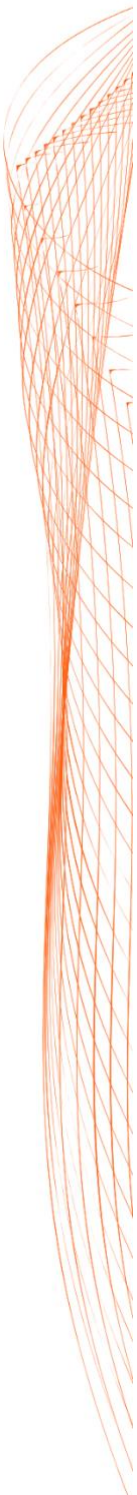
Quality Assurance Purchase Order Requirements

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APPROVAL

See Arena Product Life Cycle Management Tool for signatures on file.

Revision History

Revision	Date	Description
-	06/22/2023	Initial Release
A	08/29/2023	Updated QA02 and QA03

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1 PURPOSE/SCOPE

This document provides an established list of quality requirements for procurement. The below quality requirements are applicable to all purchase orders.

2 QUALITY CLAUSES

Table 2-1: Quality Assurance Reference

New	Description	Old
QA00	No Purchase Codes Assigned	QA0
QA01	Seller's Quality System Requirements	QA1
QA02	Quality System (ISO9001:2015)	QA2
QA03	Quality System (AS9100D)	QA3
QA04	Source Inspection	QA4
QA05	Government Source Inspection	QA5
QA06	Inspection and Inspection Data	QA8
QA07	Product Inspection	QA9
QA08	First Piece Inspection by Buyer	QA18
QA09	First Article Inspection	QA15
QA10	Foreign Object Debris Prevention	QA13
QA11	Shelf-Life Material	QA6
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QA13	Certificate of Conformance from Original Equipment Manufacturer	QA19
QA14	Certification of Conformance Required	QA7
QA15	Special Process Certification	QA12
QA16	Raw Material Certification	QA11
QA17	Functional Test	QA10
QA18	Repair Reports	QA16
QA19	Part Obsolescence Management	QA17
QA20	Part Marking Unique Identification and Grading Report	QA20
QA21	Advance Notification of Potential Product Issue	New
QA22	Counterfeit Parts Mitigation Program	New

2.1 QA00 - NO PURCHASE CODES ASSIGNED

No Purchase codes assigned.

2.2 QA01 - SELLER'S QUALITY SYSTEM REQUIREMENTS

Seller shall implement a quality management system which complies with ISO 9001:2015, AS9100D or an equivalent system approved by Buyer. Seller shall

employ advanced quality techniques and tools which foster continuous improvement of fabrication and assembly processes.

Buyer's approval of Seller's program does not constitute acceptance of product/services or relief of purchase order requirements.

2.3 QA02 - QUALITY SYSTEM (ISO9001:2015)

Seller's Quality System shall be certified or compliant to the requirements of ISO 9001:2015. Third party registration by an accredited Registrar will be accepted as proof of compliance.

Obtaining and maintaining certification/registration by seller does not disallow Buyer to conduct audits, reviews, and inspections at the Seller's facility. Buyer reserves the right to conduct surveillance audits at seller's facility and assess seller's conformance to the ISO 9001:2015 Quality Management System (QMS) requirements.

Seller shall immediately notify Buyer in writing of any change to the quality management system that may affect the inspection, conformity, or safety of the product or quality system status. (e.g., Seller discontinues/loses their ISO 9001:2015 based system certification).

2.4 QA03 - QUALITY SYSTEM (AS9100D)

Seller's Quality System shall be certified or compliant to the requirements of AS9100D. Third party registration by an accredited Registrar will be accepted as proof of compliance.

Obtaining and maintaining certification/registration by Seller does not disallow the Buyer to conduct audits, reviews, and inspections at the Seller's facility. Buyer reserves the right to conduct surveillance audits at seller's facility and assess seller's conformance to the AS9100D Quality Management System (QMS) requirements.

Seller shall immediately notify Buyer in writing of any change to the quality management system that may affect the inspection, conformity, or safety of the product or quality system status. (e.g., Seller converts to an ISO9001:2015-based system; or Seller is no longer registered to AS9100D).

Buyer's approval of Seller's program does not constitute acceptance of product/services or relief of purchase order requirements.

2.5 QA04 - SOURCE INSPECTION

Parry Labs source inspection is required prior to delivery of product. Notify Parry Labs Procurement/Quality ten (10) workdays prior to shipment. Supplier shall have available and will present, upon request, documented evidence of inspection/test performance.

2.6 QA05 - GOVERNMENT SOURCE INSPECTION

Government inspection is required prior to shipment from your facility. upon receipt of this order, promptly notify the government representative who normally services your plant so that appropriate planning for government inspection can be accomplished. In the event that the representative of office cannot be located, the Parry Labs buyer shall be notified immediately.

2.7 QA06 - INSPECTION AND INSPECTION DATA

Supplier shall record (after final finish) all mechanical/dimensional features on one part from **each lot/batch** shipped against this purchase order.

The results of this inspection must be furnished with the shipment. Actual dimensions for each mechanical/dimensional feature and the minimum and maximum tolerance range must be part of the inspection data.

This inspection data document shall be signed and/or stamped by a member of the Quality Assurance group at the supplier’s facility.

The remainder of the lot shall be inspected 100% or in lieu of 100% inspection, the zero-based acceptance sampling plan shown below may be used, using a 1% Acceptable Quality Levels (AQL). One instance of a nonconformance SHALL cause the sampling inspection to stop and the lot/batch inspected 100% for the out of tolerance feature. If no additional product is found discrepant, the sampling plan may be continued.

The acceptance of product using statistical sampling does not relieve the supplier from the responsibility of delivering all product conforming to specification/drawing requirements.

Acceptable Quality Level

LOT SIZE	.010%	.015%	.025%	.040%	.065%	.10%	.15%	.25%	.40%	.65%	1.0%	1.5%	2.5%	4.0%	6.5%	10.0%
1-8	A	A	A	A	A	A	A	A	A	A	A	A	5	3	2	2
9-15	A	A	A	A	A	A	A	A	A	A	13	8	5	3	2	2
16-25	A	A	A	A	A	A	A	A	A	A	20	13	8	5	3	2
26-50	A	A	A	A	A	A	A	A	32	20	13	8	5	5	5	2
51-90	A	A	A	A	A	A	80	50	32	20	13	8	7	6	5	4
91-150	A	A	A	A	A	125	80	50	32	20	13	12	11	7	6	5
151-280	A	A	A	A	200	125	80	50	32	20	20	19	13	10	7	6
281-500	A	A	A	315	200	125	80	50	48	47	29	21	16	11	9	7
501-1200	A	800	500	315	200	125	80	75	73	47	34	27	19	15	11	8
1201-3200	1250	800	500	315	200	125	120	116	73	53	42	35	23	18	13	9
3201-10,00	1250	800	500	315	200	192	189	116	86	68	50	38	29	22	15	9
10,001-35,000	1250	800	500	315	300	294	189	135	108	77	60	46	35	29	15	9
35,001-150,000	1250	800	500	490	476	294	218	170	123	96	74	56	40	29	15	9
150,001-500,000	1250	800	750	715	476	345	270	200	156	119	90	64	40	29	15	9
500,000 & Over	1250	1200	1112	715	556	435	303	244	189	143	102	64	40	29	15	9

Figure 2-1:Acceptable Quality Level

Note: "A" Indicates that the entire lot/batch must be inspected.

(Highlighted column represents -the AQL level we want to use when performing Hardware Source Inspections)

2.8 QA07 - PRODUCT INSPECTION

All product furnished against this purchase order shall be inspected 100% for all drawing/specification/technical data package requirements. Sampling inspection is not permitted.

2.9 QA08 - FIRST PIECE INSPECTION BY BUYER

If supplier is manufacturing this part number and/or dash number for first time, one part (first article) shall be submitted to the buyer for approval prior to shipment of the remaining order.

2.10 QA09 - FIRST ARTICLE INSPECTION (FAI)

If a Supplier is manufacturing a part/assembly for the first time, a First Article Inspection (FAI) is required per the requirements of AS9102B, "Aerospace First Article Inspection Requirement" In addition to the top assembly, all subassemblies that are part of the top assembly shall be included in the FAI report.

The FAI must be completed and submitted **prior** to product acceptance and shipment to Parry Labs.

Should any of the following conditions apply since the last build of a Parry Labs part numbered product, the Supplier shall perform a full or partial FAI in accordance with the AS9102B requirements:

- Any change in the design affecting fit, form or function of the part.
- Any change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling or materials that can potentially affect fit, form or function.
- Any change in numerical control program or translation to another media that can potentially affect fit, form or function.
- Any natural or man-made event, which may adversely affect the manufacturing process.
- Any lapse in production for two years.

2.11 QA10 - FOREIGN OBJECT DEBRIS (FOD) PREVENTION

Supplier shall establish and maintain a program to control and eliminate FOD and/or contamination during the supplier's manufacturing, assembly, test, and inspection operations. When applicable, the supplier's FOD control program shall include controls to preclude FOD or contamination at the supplier's sub-tier sources.

The supplier's FOD prevention program shall include the review of design and manufacturing processes to identify and eliminate foreign object entrapment areas and paths through which foreign objects can migrate. Supplier shall ensure work is accomplished in a manner preventing foreign objects or material in deliverable items.

The supplier shall maintain clean and orderly inspection, assembly, and test area worktables to prevent contamination and foreign objects from entering the product.

Operators should practice a “clean as you go” approach to every product being assembled. Only the parts, tools and/or equipment necessary for performing the work shall be allowed on the worktables. All tools used during the product assembly, shall be accounted for upon completion of each assembled unit or groups of units.

All hardware items shall be accounted for upon completion of each assembled unit or groups of units. Assembly/inspection personnel shall ensure all assemblies are visually inspected for FOD prior to closing.

Supplier shall document and investigate each FOD incident and ensure elimination of the root cause and implement corrective action of each such incident.

The supplier's FOD program is subject to on-site review and approval by Parry Labs. Delivery of product shall be deemed as certified that items delivered are FOD free.

2.12 QA11 - SHELF-LIFE MATERIAL

Each container of limited shelf-life material shall have the shelf-life expiration date clearly marked on the container and/or annotated in certifications provided with the material.

Material furnished in kits consisting of two or more components must have equal shelf-life dates.

Material received with less than 75% of the of shelf life remaining shall result in the rejection of material.

2.13 QA12 - ELECTROSTATIC DISCHARGE (ESD) PROGRAM

The supplier shall have procedures for protection and identification of ESD sensitive devices during all phases of handling, packaging, storage, and testing. The supplier’s ESD program shall be in accordance with MIL-STD-1686, MIL-HDBK-263, EIA/JEDEC JESD625 or ANSI/ ESD-20-20

2.14 QA13 - CERTIFICATE OF CONFORMANCE (COC) FROM ORIGINAL EQUIPMENT MANUFACTURER (OEM)

Material used for this order must have traceability to the OEM.

- A certificate of conformance from the manufacturer shall be supplied with each shipment of material supplied against this Purchase Order.
- The certificate shall be signed and dated by the responsible manufacturer representative and shall certify that the material meets all applicable

specification requirements or military/industrial specification requirements.

- The certificate shall certify the seller is the OEM or Authorized Distributor.

2.15 QA14 - CERTIFICATION OF CONFORMANCE (CoC) REQUIRED

Seller is required to submit a CoC as objective quality evidence to attest that all materials, components, assemblies, and services delivered to Parry Labs in performance of this order comply with the requirements of the order, including but not limited to; all applicable drawings and specifications, materials and part requirements, and processes contained or referenced therein. Failure to supply the required certification will be cause for rejection of shipment.

At a minimum, the certification shall:

- Accompany each shipment of material.
- Be formatted on seller's company standard form or seller's company letterhead
- Reference the Parry Labs purchase order number.
- Reference part number ordered on the purchase order
- Reference the serial numbers shipped if applicable
- Be legibly signed by an authorized seller representative responsible for validity of the certification

2.16 QA15 - SPECIAL PROCESS CERTIFICATION

When special processes (i.e. plating, welding, heat treating, anodizing, paint, chemical coating, conformal coating, etc.) are specified on the drawing(s) and/or specification(s) and/or additional technical requirements cited on the Purchase order, the supplier shall include in each shipment a certification for each special process performed. The properties listed shall include those specified on the drawing (s) and/or specification(s) and/or additional technical requirements cited on the Purchase order.

The special process certification shall include as a minimum

- The Buyer's part no. including revision
- Name and address of special processor
- The special process specification including revision, and complete designation (e.g., associated grade, class, type, etc.)
- Quantity processed
- The date(s) of which the special process was performed
- For heat-treated material the actual hardness reading(s)
- For conformal coating the manufacturer, material lot number and thickness applied

Certificates shall bear the signature and title of an authorized agent of the supplier that performed the process. Unsigned certifications are acceptable if it contains a statement confirming the validity of the document.

2.17 QA16 - RAW MATERIAL CERTIFICATION

Copy of original mill and/or manufacturing material certifications (Chemical and Physical test reports) must accompany shipment.

2.18 QA17 - FUNCTIONAL TEST

Each completed part/assembly delivered on this purchase order, must be functionally and/or electrically tested, as applicable. Each test data package shall reflect the actual results of each parameter tested. The test data must be signed and dated by the test conductor, as certification that the item(s) shipped have been functionally tested and meet all the requirements of the functional test. A copy of this data packet must accompany each item being delivered.

2.19 QA18 - REPAIR REPORTS

If this item is being returned for repair, a detailed description of the repair action taken including part numbers, serial numbers (if applicable) and nomenclature of replaced components/assemblies shall be returned with the repaired product.

2.20 QA19 - PART OBSOLESCENCE MANAGEMENT

Supplier shall be responsible for managing part obsolescence over the entire period of the purchase order, and notwithstanding any obsolescence issues or problems, the Supplier remains responsible for meeting all performance and other requirements of the purchase order. This obsolescence management responsibility includes an ongoing review and identification of actual and potential obsolescence issues, including but not limited to obsolescence of components, assemblies, sub-assemblies, piece parts, and material.

The Supplier is responsible for obtaining a replacement if and when any parts and/or material become obsolete. This includes, but is not limited to the investigating of part availability, interchangeability, and substitutability, locating part replacement, drawing changes, etc. The Seller shall notify Parry Labs, prior to implementation, of any configuration changes that affect the fit, form, or function of any purchase order end item due to parts and/or material obsolescence. In addition, the Parry Labs Buyer shall be notified immediately when any purchase order end item will be no longer available (Last time buy/END OF LIFE) due to parts and/or material obsolescence.

2.21 QA20 - PART MARKING UNIQUE IDENTIFICATION (UID) AND GRADING REPORT

If specified in the purchase order or drawing Seller shall produce and verify UID markings in accordance with the latest revision of MIL-STD-130. Seller shall submit with each shipment Quality (symbol verification) reports IAW MIL-STD-130, 5.2.7 MRI marking quality. The first and last UID markings of the lot shall be part of the samples that are verified. Human Readable Information (except direct part markings) shall be legible and accurate. UID markings shall be affixed to be easily accessible for scanning and visual verification unless otherwise noted on the applicable drawing(s).

2.22 QA21 - ADVANCE NOTIFICATION OF POTENTIAL PRODUCT ISSUE

When the Seller is, or becomes, aware of a potential product problem or issue that may have an adverse effect on the quality, reliability, or delivery of a product to the Buyer, the Seller shall immediately notify the Buyer. The following are examples of, but are not limited to, issues requiring notification: unintended events, weather related events, major manufacturing issues, and supply chain related events.

2.23 QA22 - COUNTERFEIT PARTS MITIGATION PROGRAM

The Seller (and all Sub-tier Suppliers) shall implement a counterfeit parts mitigation program in accordance with SAE standard AS5553 to manage and mitigate the possibility of inclusion of counterfeit parts/electronics.

3 APPENDICES

3.1 ACRONYM LIST

Figure 3-1: Acronym List

Acronym	Description
AS	Aerospace
AQL	Acceptable Quality Level
ESD	Electrostatic Discharge
FAI	First Article Inspection
FOD	Foreign Object Debris
IAW	In Accordance With
ISO	International Organization for Standardization
MIL	Military
MRI	Machine-Readable Information
OEM	Original Equipment Manufacturer
QMS	Quality Management System
SAE	Society of Automotive Engineers
STD	Standard
UID	Unique Identifier

3.2 DEFINITIONS

Table 3-1: Definitions

Term	Descriptions
Buyer	The purchaser of Parry Labs products and services.
Order	The Purchase Order (PO) issued by the buyer to the seller.
Product	A hardware item that Parry Labs sells.
Registrar	Also called an accredited certification body (CB), is an organization accredited by a recognized accrediting body for its competence to audit and issue certification confirming that an organization meets the requirements of a standard.
Seller	The corporation that is providing the products or services to the buyer.
Sub-tier Supplier	The supplier that the seller purchases hardware or software from.