

Cutting Dynamics, Inc

Supplier Quality Assurance Requirements

1.0 PURPOSE

This document establishes product assurance requirements for all supplies ordered under the Purchase Order, of which this form is part, to assure that such supplies conform to required levels of quality and reliability. It is noted that supplies purchased on this order are intended for use in applications that require a high level of quality and reliability.

2.0 APPLICABILITY

- 2.1 General Requirements - Unless expressly excluded on the Purchase Order, the General Requirements defined in Section 3 apply to all orders
- 2.2 Special Requirements - The Special Product Assurance Requirements defined in Section 4 apply only when specifically called out by the appropriate clause number on the Purchase Order.
- 2.3 Reference Documents - Other specifications and documents, either customer, industry or government, are considered part of the General Purchase Order. Unless otherwise specified, the revision in effect on the date of the order of such specifications shall apply.

Q1

3.0 GENERAL REQUIREMENTS

- 3.1 Prohibited Practices - The following acts or practices are typical of those prohibited:
 - (a) Unauthorized Repairs - Repairs by welding, brazing, soldering, plugging, bushing or use of paints, adhesives, plating, or any other method, on parts damaged or found to be faulty during fabrication process, or on defects in castings, are prohibited unless specifically authorized by Buyer in writing.
 - (b) 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.
 - (c) Disregard of Approvals - Seller shall not change or delete any quality control procedures or process that is subject to specific approval by Buyer without prior approval of Buyer in writing.
 - (d) Unauthorized Submittal of Production Parts - When the Purchase Order requires Buyer acceptance of First Article prior to delivery, Seller shall not submit articles from a production run prior to Buyer's approval of First Article unless authorized by the Buyer in writing.
 - (e) Notification of Facility Change - Seller shall not relocate any production, manufacturing, and/or processing facilities, or transfer work between Seller's facilities, during performance of the Purchase Order, without promptly notifying Buyer and affording Buyer an opportunity to examine such facilities for compliance with Quality Assurance requirements, including any necessary approvals.
 - (f) Subcontracting - Seller shall not procure or contract for procurement the complete or substantially complete manufacturing or fabrication of any item covered by this order without first securing the written approval of the Buyer.
- 3.2 Proprietary Products Control- The seller shall notify the Buyer in writing of any changes in product design, fabrication methods, materials, or processes of proprietary products, and shall obtain the Buyer's approval prior to effecting such changes. In the event of Buyer's approval, Seller shall identify those products on which the change(s) is incorporated and furnish the applicable revised specifications, drawings, and/or catalogues with the initial shipment of the changed products on the Purchase Order.
- 3.3 Documentation
 - (a) Certifications/Documents - Seller shall furnish all certifications/documents required by the Purchase Order whether specified directly on the Purchase Order or specified by reference to the clauses herein.
 - (b) Sub-Tier Certifications/Documents - Seller is responsible for obtaining, identifying, and furnishing certificates/documents, from sub-tier suppliers when such certifications/documents are required by the Purchase Order. Prior to submittal, the Seller shall reference on such documents the purchase order number and item (part, process, material, etc.) for which the certification is supplied.
 - (c) Seller Certifications/Documents - Seller shall furnish the required certifications/documents, issued by the Seller or his sub-tier suppliers, with the initial delivery of articles on the Purchase Order. On all subsequent delivery of articles from the same lot, the Seller may reference on his shipping documents, the date and purchase order number on which the certifications/documents were supplied.
 - (d) Buyer Acceptance - Buyer may refuse to accept supplies delivered under the Purchase Order if the Seller fails to submit the certifications/documents, test data, or reports required by the Purchase Order.
 - (e) Retention of Records - Unless otherwise specified by the Purchase Order, the Seller 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. Such records shall be made available to Buyer for review upon request.
 - (f) Specification Revision - Seller must obtain and work to the "Current Revision" for all specifications called out on Buyer's PO.
- 3.4 Certificate of Conformance Audit- Certificates of conformance furnished under the terms of this Purchase Order shall be supported by Seller's certifications, procurement records, test records, data and quality control records, providing objective evidence of compliance to the certificate of conformance and to the Purchase Order requirements. Such records shall be subject to review and audit by the Buyer.
- 3.5 Authorized Deviations - The Seller must report any Order departure from drawings, specifications or other Purchase requirements and must describe such departures, including a description of the cause and corrective action taken to preclude recurrence. The report shall be submitted to the Buyer's Purchasing Department, which will be submitted for material review action. Seller shall not ship a discrepant item prior to Buyer's Material Review Board without concurrence and authorization to ship.
- 3.6 Corrective Action Requests - When a quality problem exists, the Buyer will request corrective action from the Seller. Such requests require timely responses and should include the following information:
 - (a) analysis of the cause of the problem
 - (b) statement of the action taken, and
 - (c) the effectivity of the corrective action.

Q2

- Seller's Quality Control System - The Seller shall maintain an inspection/quality control system in compliance with the clauses designated. Seller's system shall be subject to audit by the Buyer.
- Basic Inspection System - The Seller's inspection system shall conform to the following basic requirements established by CDI.
- Subcontractors - All suppliers which purchase items, equipment, or parts, on which all specified quality characteristics can be verified by CDI upon receipt, shall have an established basic inspection system in accordance with the following requirements.
 - (a) Receiving Inspection - Supplies purchased by the Seller for use in Buyer's orders shall be subjected to receiving inspection to assure conformance to Buyer's Purchase Order requirements. Such supplies shall be adequately identified and controlled to prevent co-mingling with other supplies.

(b) In-Process Controls - 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 drawings/specification revision status during the manufacturing process.

(c) Calibration - The Seller shall implement and maintain a documented system for control and use of Inspection Equipment. All Inspection Equipment shall be calibrated against certified standards which have known valid relationships to National Standards.

(d) Non-Conforming Material Control- The Seller shall maintain a system for control of non-conforming material, a system for assuring prompt action to correct the cause of non-conforming material, and a system for withholding and separating nonconforming material from normal production pending disposition.

(e) Dimensional Inspection - The Seller shall, as required, perform a complete and thorough dimensional inspection of the item(s) to be delivered, prior to shipment to Buyer. Inspections shall be documented, and as a minimum, shall show lot size, characteristics inspected, quantity rejected, and description of defects found.

(f) Handling and Packaging – The Seller shall handle and package to maintain the cosmetic appearance and integrity of product at all times.

Distributors - All distributors or warehouses furnishing items, Parts, or supplies to Buyer shall have an established and adequate system of:

(a) Stock Control- Seller shall maintain a control system to assure that traceability to the manufacturer and manufacturing documentation is maintained and that the manufacturing quality levels are not degraded while articles are under Seller's control.

Prior to shipment to Buyer, such articles shall be inspected for identification, degradation during storage, and adequate packaging.

(b) Alteration by Seller –If Seller is authorized to perform operations or to make alterations on articles to be furnished to Buyer, Seller shall maintain drawings specifications, technical data, and inspection records pertinent to the work being performed. Seller shall employ inspections using suitable measuring and test equipment to assure conformance of articles to Buyer's purchase order. Such records shall be available for Buyer review upon request.

4.0 SPECIAL PRODUCT ASSURANCE REQUIREMENTS

Q3

Quality System per MIL-I-45208 - The Seller's quality system shall meet the requirements of MIL-I-45208 - "The Inspection System Requirements"

Q4

Quality System per MIL-Q-9858 - The Seller's quality system shall meet the requirements of MIL-Q-9858 - "Quality Program Requirements."

4.1 BUYER SOURCE INSPECTION

Q5

In-Process Source Inspection - Items to be delivered under this Purchase Order require in-process inspection tests or both by the Buyer at Seller's plant. Parts, assemblies, processes, and tests are subject to detailed inspection by Buyer prior to assembly, test, and/or delivery. When the product is ready for source inspection, the Seller shall notify the Buyer's Purchasing Department at least 48 hours in advance to permit scheduling of source inspection. Upon request, the Seller shall make available to the Buyer, facilities, equipment, and personnel to operate the equipment as required.

Q6

Final Source Inspection - Items to be delivered under this Purchase Order require final inspection, tests, or surveillance by the Buyer at the Seller's plant, prior to delivery. When the product is ready for source inspection, the Seller shall notify Buyer's Purchasing Department at least 48 hours in advance to permit scheduling of source inspection. Upon request, the Seller shall make available to the Buyer facilities, equipment and personnel to operate the equipment as required.

4.2 CERTIFICATIONS AND TEST REPORTS

Q7

Certificate of Conformance - The Seller shall supply a certificate of conformance with each shipment referenced to: purchase order, part no. and revision, quantity shipped, material designation or description, lot or serial numbers when applicable, required specifications and revisions, and bearing the signature and title of a management or quality assurance representative. The certification shall contain a statement worded substantially as follows:

"This is to certify that all items delivered on this packing sheet/shipper # conform to all applicable drawing specifications or purchase order requirements. Objective evidence to support this certificate of conformance is on file and will be made available to the Buyer for review upon request"

When applicable, the certificate of conformance shall include a statement as follows:

"Any items furnished under this order applicable to a Government Qualified Products List (QPL) or a Preferred Parts List (PPL) have been manufactured by and/or procured from a source on the QPL/PPL."

Q8

Raw Material Test Reports - For each lot or heat of material supplied on this order, the Seller 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, and in addition show the actual values of chemical and physical properties obtained from the lot or heat versus required by the applicable material specification..

Q9

CDI Furnished Material - Accountability of material furnished on this order must be maintained. The Seller shall place on or attach to his packing sheet covering each Shipment of articles, a statement certifying that

(a) the articles were manufactured from material furnished by CDI,

(b) from material supplied on debit memo or shipper #__, and

(c) no material substitution was made. In the event that more than one lot of material is furnished, the Seller shall maintain individual integrity.

Q10

Seller Furnished Material - The Seller shall furnish with each delivery of parts, material certifications/test reports covering all material used to fill the order. The certifications/test reports shall be traceable to the material producer's heat, lot, batch or melt number as applicable, and meet the requirements for material test reports specified in Code Q8. If more than one lot of material is used, each lot of parts shall be identified to maintain traceability to the applicable material test report(s). All material certifications/test reports furnished by the Seller, shall be signed by the Seller's representatives.

Q11

Material Traceability, Identification and Control- The Seller shall provide positive traceability of each part, including serial numbers, if applicable to the material certifications/test reports of the specific raw material from which it was manufactured. Traceability may be provided by marking individual parts. Parts with insufficient surface for marking may be packaged in separate lots and identified with lot numbers on unit packages or attached tags.

Q12

Control of Special Processes - All special processes such as surface treatments, plating, heat treating, welding, and non-destructive testing required for completion of this order shall be performed only by processors approved for the process by CDI. For a list of processes requiring approval and names of approved process suppliers contact the CDI Buyer who placed the order.

Q13

Special Processes (Plating, Heat Treat, Impregnation, Brazing, Welding, Chemical Coating, etc.) - For all special processes required by the Purchase order and performed by the Seller or by his sub-tier supplier, the Seller shall furnish the certification/test report issued by the supplier actually performing the process. The certification/test report shall include a complete description of the process performed (name, applicable specification, revision in effect at time of order, type, class, grade, quantity, part number/name, etc.) The certification/test report shall contain results of all testing, chemical analysis, and/or inspection required by the applicable specification. The frequency and scope of these tests shall be as defined in the specification.

Q14

Test Samples - The Seller shall furnish to the Buyer any and all test samples used for the verification of process (es). Test samples must be made of the same material and processed simultaneously with each lot of parts supplied on this order.

Q15

Non-Destructive Test (NDT) - The Seller shall furnish with each shipment one copy of the certified test report for all NDT tests (penetrant, magnetic particle, radiographic, ultrasound) performed. The report shall be issued by the organization actually performing the test, including a complete description of the test (test name, specification type, method, acceptance criteria, and the certified technician who performed and/or evaluated the test(s), and shall be signed by a responsible official of the issuing organization.) All items subjected to NDT tests shall be identified with the appropriate NDT stamp. When required, radiographic reports shall be accompanied by the exposed film. When parts are serialized or identified with lot or batch numbers, such identification shall appear on the test reports and exposed film.

Q16

All fasteners as defined under Public Law 101-592 must comply with the requirements of Public Law 101-592, the Fastener Quality Act. All shipments received from suppliers must be identified with the part number, quantity, lot number, and manufacturer's name. Written certifications must be traceable to all material, processes, and testing reports, both submitted with the lot and those records retained by the supplier.

Q17

Elastomeric Parts - Purchase orders that require Supplier certifications shall include the following: manufacture's lot number, cure date, material specification, revision, hardness, and applicable shelf life. The certification shall include test results for all quality conformance tests required by the applicable specification. The frequency and scope of the tests shall be as defined in the specification.

Q18

Limited Shelf Life Materials - Seller shall show on each container of materials having a limited or specified shelf life, the cure date, expiration date, lot or batch number, and special storage and handling conditions applicable to the contents. This information shall be in addition to the normal identification requirements of name, part or code number, specification number, type, size and quantity. A minimum of 75% of shelf life must remain at time of receipt. Elastomeric materials (o-rings and rubber goods) shall conform to the requirements of MIL-STD-1523A.

4.3 INSPECTION AND REPORTS

Q19

First Article Inspection at Seller's Facility - Buyer acceptance of first article is required prior to the production run. The first article shall be identified as such, including the Purchase Order number, part number, and part name. The Seller is required to notify the Buyer in advance so that first article inspection can be scheduled at Seller's facility.

Q20

First Article Inspection at Buyer's Facility - Buyer acceptance of first article is required prior to acceptance of lot. The first article shall be identified as such, including the Purchase Order number, part number, and part name. The Seller shall submit the first article to Buyer's receiving inspection for test/inspection by Buyer at Buyer's facility.

Q21

First Article Reports - Seller shall submit the first article parts to the Buyer receiving inspection department together with documents showing data representing results of Seller's first article test/inspection, including actual dimensions or values for each specified characteristic. The first article parts shall be clearly identified by tagging serial number or other positive method.

Q22

Seller Inspection - Seller shall perform 100% inspection results showing quantity tested and rejected shall accompany each delivery of articles.

Q23

Seller Inspection Report - The Seller shall perform all required inspections/tests, and record actual results, dimensions, or values on a report, and submit a signed copy of the report with each shipment to the Buyer.

Q24

Identification - All markings for items on this order shall be assigned as agreed by the Buyer and Seller and applied on all items reflected on all applicable documentation by the Seller. The assigned markings shall not be altered or replaced without written authorization from Buyer.

Q25

Functional Test Reports - The Seller shall furnish the actual test results (data sheets) recording actual readings for all test parameters specified by the drawing, test procedure or Purchase Order. Test reports must be identifiable with the individual item or lot, signed, and submitted by Seller's authorized representative.

Q26

Foundry/Forging Control

Foundry Control - The Seller shall implement foundry control in accordance with the Purchase Order requirements. Sample castings/forgings are required when new tooling (patterns or molds) are made, when a change is made in gates, risers, or as cast shape, or when a pattern is transferred to a different supplier. The foundry will deliver sample castings/forgings as specified in the Purchase Order, heat treated to the drawing requirements, for examination and approval. Sample castings/forgings shall be representative of the industry practices and processes to be used for the production castings/forgings.

4.4 SOFTWARE QUALITY ASSURANCE

Q27

The Seller shall document and implement a Software Quality Assurance Plan (SQAP) meeting the minimum requirements of MIL-S-52779, for all software used by the Seller to manufacture, tool or inspect articles (includes raw materials, parts, components, assemblies or tool(s) for delivery to the Buyer). The Seller's SQAP shall be subject to Buyer approval.

5.0 DELIVERY REQUIREMENTS

Q28

Each Purchase Order will have a delivery code on it. Delivery of product must be made within the requested date. The codes are as follows:

- D1 - Same day delivery
- D2 - Due within 2 working days from Purchase Order date
- D3 - Due within 3 working days from Purchase Order date
- D4 - Due within 4 working days from Purchase Order date
- D5 - Due within 5 working days from Purchase Order date
- D6 - Due within 6 working days from Purchase Order date
- D7 - Due within 7 working days from Purchase Order date

6.0 AS9100 PURCHASING FLOW-DOWN Q29

The items on this purchase order must meet all of their applicable requirements/documents. In addition, the following parameters must also be met. All listed requirements are intended for the purchase order as a whole and not for the sole purpose of the line item that they are contained within.

1. Seller agrees that production, overhaul, or sale of material using proprietary drawings, data, tooling or technical data for or to anyone is strictly forbidden.
2. A physical/chemical test report for raw materials is required and will contain the following: 1) The name/number of applicable specification. 2) Melt/heat lot number and PO #. 3) Report will indicate percentage of each element making chemical composition and physical properties of raw material and a statement of conformance to applicable specification.
3. All items supplied by a distributor are required to include a copy of the manufacturer's certification stating compliance with applicable requirements.
4. Fastener Quality Act: product will comply with Public law 101-592 (HR 3000), Fastener Quality Act. All product will be tested and certified by laboratories accredited in methods recognized by the Fastener Quality Act. Fasteners from different lots will be physically segregated and each container is required to be conspicuously identified with lot and part numbers. A copy of certified test reports from an accredited laboratory is required for each lot of fasteners delivered.
5. Cutting Dynamics, Inc. purchasing documentation, including the application of "Q" codes, may include the following:
 - a) requirements for approval of product, procedures, processes, and equipment,
 - b) requirements for qualification of personnel,
 - c) quality management system requirements,
 - d) the identification and revision status of specifications, drawings, process requirements, inspection/verification instructions, and other relevant technical data,
 - e) requirements for design, test, inspection, verification (including production process verification), use of statistical techniques for product acceptance, and related instructions for acceptance by Cutting Dynamics, Inc. and as applicable critical items including key characteristics,
 - f) requirements for test specimens (e.g., production method, number, storage conditions) for design approval, inspection/verification, investigation or auditing
 - g) requirements for the supplier to notify Cutting Dynamics, Inc. of nonconforming product and arrangements for Cutting Dynamics, Inc. disposition of supplier nonconforming material
 - h) requirements for the supplier to notify Cutting Dynamics, Inc. of changes in product and/or process, changes of suppliers, changes of manufacturing facility location and, where required, obtain Cutting Dynamics, Inc. approval,
 - i) flow down to the supply chain the applicable requirements including customer requirements
 - j) records retention requirements, **supplier must retain all information for a minimum of 10 years.**
 - k) right of access by Cutting Dynamics, Inc., our customer, and regulatory authorities to the applicable areas of all facilities involved in the order, at any level of the supply chain involved in the order, and to all applicable records,
 - l) All purchased material shall comply with governmental and safety constraints on restricted, toxic, and hazardous substances.