

Creation Technologies Inc. and its subsidiaries (collectively, “Creation”)

Supplier Quality Flow Downs

Quality Code	Category	Description
These Supplier Quality code requirements are applicable to material furnished under every Purchase Order. If a code referenced on the Purchase Order cannot be located within this document, please notify the appropriate Creation purchasing agent for clarification prior to shipment of product. Failure to comply with these requirements, when referenced on the Purchase Order, may be cause for rejection of material at Creation receiving inspection.		
SQ01	QMS system - ISO9001 Requirements	The subcontractor/supplier shall have and maintain a documented quality system in accordance with ISO 9001 (latest revision) or Creation approved list. The quality system shall be subject to audit and approval by Creation and its customers.
SQ02	QMS system -AS9100 Requirements	The subcontractor/supplier shall have and maintain a documented quality system in accordance with AS9100 (latest revision) , or Creation approved list. The quality system shall be subject to audit and approval by Creation and its customers.
SQ03	AS9102 (FAIR)	Suppliers are responsible for assuring completion of the First Article Inspection Report (FAIR) per AS9102 for all drawing(s) design characteristics. Raw Material, critical dimensions and any special process certs shall be provided and referenced on the FAIR. Information on completing the AS9102 FAIR can be found in the AS9102 specification
SQ04	Sub-Tier Flowdowns	Supplier is required to flow down applicable purchasing document requirements including critical characteristics to any and all Sub-Tier suppliers where required.
SQ05	Certificate of Conformance (C of C)	Supplier is required to supply Certificate of Conformance documentation for items ordered that meets characteristics and specifications of part number. The Certificates of Conformance must include manufacturer's traceability identifications such as:- Supplier/ Manufacturer's company name and full address- Creation purchase order number, sales or work order- Part number, revision, serial number(s) when applicable- Lot/ Date Code or batch number- Signature and title of the suppliers authorized quality representative
SQ06A	GEIA-STD-0006 1A	Supplier is required to follow the GEIA-STD-006 that defines the requirements for replacing surface finishes using robotic hot solder dip. This includes qualifying and testing of the refinished parts. Robotic Dip (Default) with Qualification and Production Testing.
SQ06B	GEIA-STD-0006 1B	Supplier is required to follow the GEIA-STD-006 that defines the requirements for replacing surface finishes using robotic hot solder dip. This includes qualifying and testing of the refinished parts. Robotic Dip Without Qualification or Production Testing
SQ06C	GEIA-STD-0006 1C	Supplier is required to follow the GEIA-STD-006 that defines the requirements for replacing surface finishes using robotic hot solder dip. This includes qualifying and testing of the refinished parts. Robotic Dip with Production Testing Only
SQ06D	GEIA-STD-0006 1D	Supplier is required to follow the GEIA-STD-006 that defines the requirements for replacing surface finishes using robotic hot solder dip. This includes qualifying and testing of the refinished parts. Robotic Dip with Life-Testing Qualification and Production Testing
SQ07	Quality Inspection Requirements	When applicable, the supplier shall perform quality inspection in accordance with J-STD-001, IPC-A-610, IPC-A-600 class 3, unless specified by PO flowdown, part drawing or SCD files. This shall be available upon request.
SQ08	Test Data	Manufacturer to test product in accordance with drawing or SCD requirements. Each completed part/assembly delivered, must be functionally and/or electrically tested, as applicable. When specified, each item tested must be identified with part number, revision, and a unique serial number. A copy of any test/inspection data shall be provided upon request.
SQ09A	Age Sensitive Material <5 Years Old	Age sensitive material. Expiration date and storage instructions shall be clearly identified on material packaging. Products with manufactured lot codes or date codes greater than 5 years old are prohibited unless authorized in advance and in writing by Creation.

SQ09B	Age Sensitive Material <2 Years Old	Age sensitive material. Expiration date and storage instructions shall be clearly identified on material packaging. Products with manufactured lot codes or date codes greater than 2 years old are prohibited unless authorized in advance and in writing by Creation.
SQ10	Shelf Life	Materials with a shelf life less than 6 months till expiration shall not be provided to Creation unless authorized in advance and in writing by Creation. Expiration date and storage instructions shall be clearly identified on material packaging.
SQ11	ESD Control	Products must be manufactured & processed with proper ESD controls. All ESD sensitive components shall be handled, packaged, identified, and shipped to Creation in accordance with ESD requirements.
SQ12	MSL Controls	The supplier shall determine the moisture sensitive level (MSL) of parts, unless specified on the customer drawing or SCD. All components that are moisture or reflow sensitive shall be adequately received, stored, processed, packaged and marked to prevent degradation due to moisture.
SQ13	Drawing Specification	Supplier shall understand all applicable program requirements or technical risks to ensure documents and specifications referenced in the drawings are built per print or SCD specifications.
SQ14	Product Safety	Awareness of Contribution to Product Safety: Supplier organization and their employees are aware of their contribution to product or service conformity and contribution to product safety. In the fulfillment of this order, the supplier will be aware of and consider the following where applicable:1. Product safety requirements; including but not limited to handling, packaging, and marking of the end item deliverables, 2. Safety aspects related to components from sub-tier suppliers,3. Safe manufacturing practices, equipment, and the production environment. The supplier shall flow this requirement to sub-tier suppliers
SQ15	Foreign Object Debris (FOD)	Creation suppliers shall have a documented FOD prevention procedure in compliance with AS/EN/SJAC 9146 Foreign Object Damage (FOD) Prevention Program – Requirements for Aviation, Space, and Defense Organizations. The FOD procedure shall ensure material handling, parts protection, work area cleanliness, tool and hardware accountability, and materials detect and prevent risks of foreign object entrapment within cavity devices/ assemblies. FOD contamination will be cause for rejection.
SQ16	Prohibited Materials	Creation expects our suppliers to take steps to determine if their products contain conflict minerals (tin, tantalum, gold, and tungsten) and if so, implement supply chain due-diligence processes to identify sources of these minerals and support efforts to eradicate the use of conflict minerals which directly or indirectly finance or benefit armed groups in the Democratic Republic of Congo or adjoining countries.
SQ17	Source inspection	Creation Source Inspection is required prior to shipment from the supplier's facility. When source inspection needs to be performed, notify Creation a minimum of ten (10) days in advance of the scheduled shipment date. The supplier shall furnish the necessary facilities and equipment to perform inspections and tests required by the Creation to demonstrate conformance to the PO and other referenced documents.
SQ18	Packaging	Materials must be bagged/ boxed to prevent shipping or handling damage. All materials must be clearly identified and markings must be legible. Parts must not be co-mingled with different part numbers or different lot numbers.
SQ19	Calibration	It is the suppliers responsibility to ensure all equipment used for test and inspect products are maintained in a calibration system that follows ISO 9001 or AS9100. Calibration records must show traceability of the standards used for calibration to the National Institute of Standards and Technology (NIST).
SQ20	Counterfeit Prevention	The supplier shall have a documented and active counterfeit detection process in place that aligns with SAE standard AS5553 standards. The supplier shall deliver product made only from new and authentic materials. The delivered product shall contain no counterfeit or suspect counterfeit parts. The supplier shall purchase parts and materials directly from the OEM (original equipment or component manufacturer), or through a distributor authorized by the OEM. Any changes or deviations from this requirement must be approved from Creation prior to delivery of material
SQ21	ITAR	Supplier agrees to comply with all export regulations and the international traffic-in-arms regulations (ITAR).
SQ22	Traceability	Manufacturer shall maintain complete component traceability including certificates of conformance with product identity for all components. Raw Materials: All materials shall be traceable to manufacturer or production lot or date code. Documentation shall be in place to provide traceability of materials from receipt to the highest assembly level. Assembly: Material and processes used must be traceable by record to the contractually imposed drawings and functional test

SQ23A	Retention of Records	Such records shall be retained by the contractor for a period of seven (7) years after the completion of this purchase agreement/order or as otherwise specified by Creation.
SQ23B	Retention of Records	Such records shall be retained by the contractor for a period of ten (10) years after the completion of this purchase agreement/order or as otherwise specified by Creation.
SQ23C	Retention of Records	Such records shall be retained by the contractor for a period of twenty (20) years after the completion of this purchase agreement/order or as otherwise specified by Creation.
SQ23D	Retention of Records	Such records shall be retained by the contractor for a period of thirty (30) years after the completion of this purchase agreement/order or as otherwise specified by Creation.
SQ24	Printed Circuit Boards (PCB)	Solder samples, micro-sections, test coupons, and all other required items, paperwork or test sampled required on the drawing shall be supplied with delivery of each lot.
SQ25	Printed Circuit Board (PCB) Array	All new or up rev'd PCB array files shall be sent to Creation prior to build for panel lay out approval.
SQ26	Material Review Board (MRB) Authority	The supplier does not have the MRB authority to accept or repair nonconforming products for delivery to Creation or its customers. Any product nonconformance to the purchase order, drawing, specifications or other applicable documents must have a deviation/ waiver request submitted to Creation for approval design authority prior to usage or shipment.
SQ27	Corrective Action Request	A supplier corrective action request shall be forwarded by Creation when corrective action is required. Upon notification of the non-conformance, the supplier shall take immediate containment action and complete the analysis of root cause and proposed corrective action within thirty (30) days or within the due date assigned. Failure to respond in a timely manner may result in the removal of the supplier from the Creation Supplier List. Upon notification of the non-conformance, shipments may be suspended until containment processes are put into place
SQ28	Inspection Requirements 100%	100% Inspection is required for all parts produced and sent to Creation.
SQ29	Test Requirements 100%	100% test is required for all parts produced and sent to Creation. Test results must be supplied to Creation when requested, within 3 business days of request.
SQ30	SDS	Supplier shall furnish a Safety Data Sheet (SDS) for each item on this Purchase Order. The SDS must accompany each shipment of material.
SQ31	Storage Sensitive	When environment is a factor in determining useful life, the indication shall include the storage conditions (i.e. temperature, humidity) required to achieve the stated life.
SQ32	NOE	When a nonconformance is determined to exist or is suspected to exist on goods and/or services already provided to buyer under contract, Seller shall provide notice to buyers supply chain personal within three (3) business days of when the nonconformance was determined. For submittals that are returned / rejected back to the supplier, the supplier shall resubmit updated information within three (3) business days.
SQ32	Serialization	Supplier shall mark the part with the SN sequence called out on the drawing. No duplicate SN are allowed.

SQ33 Solderability Testing

Articles to be delivered under this Purchase Order shall meet the solderability requirement of J-STD-001. Solderability testing shall be performed by the Seller (or by a capable test facility of the Seller's choice). Testing shall be performed using the latest revision of J standards available at the execution of this Purchase Order. Devices utilized for Solderability testing shall be segregated from the lot and not be delivered to the Buyer. Seller shall include test report for solderability testing with each shipment which states that testing has been performed and result is acceptable. This test report shall include: 1. Buyer Purchase Order and Line Item Number2. Part Number(s)3. Date Code(s) and/or Lot Number(s)4. Specify Pre-condition Type and Exposure Parameter5. Name of the Testing Facility if different from the Manufacturer6. Testing Date7. Signature and Title of an Authorized Seller's Representative Printed Wiring Boards (PWBs): Solderability test shall comply with J-STD-003, Class 3, Category 3, unless otherwise specified in the governing purchasing document/drawing. Solder float test is the preferred method. Test samples shall comply with the fabrication specification of Printed Wiring Boards. An acceptable solderability test result shall be within six (6) months of the date of delivery from either the Original Equipment Manufacturer (OEM), the Seller, or by a capable test facility of the Seller's choice. Components, Lugs, Terminals, Wires and Shields: Test in accordance with J-STD-002 unless otherwise specified in governing purchasing document (i.e. Source Control Drawing, Altered Item Drawing, Buyer's drawing, or Mil-Specification). An acceptable solderability test result shall be within two (2) years of the date of delivery from either the Original Equipment Manufacturer (OEM), the Seller, or by a capable test facility of the Seller's choice. Wires and Shields shall be tested per J-STD-002, preceded by one (1) hour of steam exposure. When testing shields, the component wires of the cable may be left in place. Components, Lugs and Terminals shall be tested per J-STD-002, preceded by pre-conditioning Category C (after eight (8) hours of steam exposure for tin and tin alloy finishes) or pre-conditioning Category A (after one (1) hour for non-tin or non-tin alloy finishes). A minimum of three pieces from each deliverable Lot or Date Code shall be tested.

Revision History

Rev.	Date Released	Summary of Change	Changed By
A	7/9/2021	EC-9843: Initial Release	Kelly Stanton
B	10/2/2022	EC-10168: Adding supplier flowdown quality code SQ33- "Solderability Testing" along with description to Form F-137A to align with customer requirements.	Diego Rael