

Supplier Quality Clauses apply to all divisions of OTTO.

Suppliers are expected to comply with and flow-down to their subcontractors, the applicable clauses listed below. Compliance and flow-down is required regardless if Quality Clauses are specifically listed on the OTTO purchase order. Questions regarding the applicability and/or how to comply with a Quality Clause should be directed to SupplierQuality@OTTOExcelcnce.com

In accordance with OTTO's Document Control requirements, changes from the previous edition of this document will be typed in italics and identified with a vertical bar in the right-hand margin. This will be a continuing process.

A100 IS/ATEX Data Required

Each shipment shall include a legible and reproducible copy of the Supplier's ATEX data in support of the OTTO drawing requirement(s)

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

A101 ROHS/REACH

All supplied product for RoHS/REACH, as a part of the initial production shipment, must have a breakdown of the homogenous material to an elemental level. If any material changes are made they must be approved by OTTO in advance and require a restatement of homogeneous materials contained in the product.

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C100 Certificate of Conformance Required

Each shipment shall include a certificate of conformance as detailed in section 15.1 of OTTO's SQM

C101 Ferrous and Non-ferrous Metallic Certificate Required

Each shipment shall include a copy of the raw material test data (chemical, physical, heat treatment, etc.) for the ordered product that demonstrates conformance to applicable specifications (QQ-N-; AMS-; SAE-; etc.) and/or drawings requirements.

Complete certification traceability (from the Tier 1 to OTTO) is required. For material (parts/products) and/or services provided by a prime's sub-tier supplier, the documentation must provide complete traceability from the sub-tier to OTTO. If the OTTO purchase order and/or provided drawing do not call out any particular material specification for the material type being ordered, the Supplier may provide material to a specification of their choice.

See section 15.2 of OTTO's SQM for additional information

C102 Non-metallic Certificate Required

Each shipment shall include a copy of the raw material test report issued by the manufacturer of the material that demonstrates conformance to applicable specifications/requirements. This report shall include

- The specification and revision level to which the material conforms.
- Material Lot or batch number
- Material manufacture date and shelf life/expiration date if applicable
- Other technical data (material test results, composition, chemical or physical properties)

Complete certification traceability (from the prime supplier to OTTO) is required. For material (parts/products) and/or services provided by a prime's sub-tier supplier, the documentation must provide complete traceability from the sub-tier to OTTO

See section 15.2 of OTTO's SQM for additional information

C103 Soldering Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that soldering was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C104 Anodizing Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that anodizing was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C105 Plating Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that plating was performed in accordance with all stated and applicable specifications and standards. Additionally, actual plating thickness readings are required.

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C106 Heat Treat Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that heat treat was performed in accordance with all stated and applicable specifications and standards. Additionally, actual hardness readings are required.

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C107 Passivation Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that passivation was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C108 Painting Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that painting was performed in accordance with all stated and applicable specifications and standards. Additionally, actual paint thickness readings are required.

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C109 Pad Printing Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that pad printing was performed in accordance with all stated and applicable specifications and standards. Additionally, actual inspection results and/or a statement of conformity is required

- If actual results are provided – the specification limits are also required in order to determine if parts meet requirements
- If a statement of conformity is provided – it must clearly state that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification". See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C110 Welding Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that welding was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C111 Solderability Certificate Required

External leads, pins and terminals of all parts shall be capable of passing the solderability tests specified in MIL-STD-202 (Method 208).

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C112 Alodine/Iridite Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that Alodine/Iridite was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C113 Brite Passivate/Electropolish

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, indicating that brite passivation/electropolish was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C114 Critical Component Certificate Required

Each shipment shall include a certificate, signed by an authorized quality representative of the issuing body, stating that the critical component(s) identified on the OTTO drawing were used in the product being provided. Additionally, this certificate must clearly state the critical component Manufacturer or Producer, the component part number, model and description per the OTTO drawing. The above requirements can be accomplished by providing documentation issued by the Manufacturer or Producer to your company that list the component part number, model, description and manufacturer per the OTTO drawing.

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

C115	IPC-J-STD-001xS: Applies - Certificate Required
<p>Each shipment shall include a certificate of conformance, signed by an authorized quality representative of the issuing body, indicating the product was produced in accordance with IPC-J-STD-001xS as specified below: IPC-J-STD-001xS, section 0.1.7.1 Red Plague Control Plan - Minimum Requirements The use of silver-coated copper conductors shall require the implementation of a User-approved Red Plague Control Plan (RPCP) to reduce and control exposure to environmental conditions and contamination that promote the development of cuprous oxide corrosion (Red Plague) and latent damage. The minimum requirements are as outlined below: 0.1.7.1.1 Shipping and Storage Wire and cable shall be shipped and stored in sealed water-vapor-proof packaging (i.e.: Moisture Barrier Bag, dry pack, etc.), with capped ends, activated desiccant, and humidity indicator card. Silver-coated copper wire and cable shall be segregated and dispositioned if the humidity indicator card registers 70% or more RH. 0.1.7.1.3 Limited Life Article per OTTO Drawing Requirements See section 15.0 of OTTO’s Supplier Quality Manual (SQM) for additional information regarding certification requirements. (NOTE: x indicates revision of standard and unless otherwise indicated or communicated by OTTO – conformance to current revision is expected/required.)</p>	
C116	Sandblast Certificate Required
<p>Each shipment shall include a certificate of conformance, signed by an authorized quality representative of the issuing body, indicating that sandblasting /tumbling was performed in accordance with all stated and applicable specifications and standards. Additionally, actual media (type and size) used for the sandblasting /tumbling must be included on the certificate as well as pressure and time as noted on the OTTO drawing or required to meet drawing requirements. See section 15.0 of OTTO’s Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C117	Chromate Conversion
<p>Each shipment shall include a certificate of conformance, signed by an authorized quality representative of the issuing body, indicating that chromate conversion was performed in accordance with all stated and applicable specifications and standards and that “Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification”. See section 15.0 of OTTO’s Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C118	Wire/Cable/Insulation Certification Required
<p>As evidence that product provided meets OTTO drawing requirements, certification is required with each shipment. Certifications must include confirmation for the below requirements as applicable to wire/cable provided.</p> <ul style="list-style-type: none"> • Wire Size • Conductor Material • Insulation Material • Nominal Insulation Thickness • Nominal Insulation OD • Temp Range • Voltage Rating • Agency/industry approvals and/or standards <p>For material (parts/products) and/or services provided by a prime’s sub-tier supplier, the documentation must provide complete traceability from the sub-tier to OTTO. See section 15.0 of OTTO’s Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	

C119	Black Oxide Certificate Required
<p>Each shipment shall include a certificate of conformance, signed by an authorized quality representative of the issuing body, indicating that black oxide was performed in accordance with all stated and applicable specifications and standards and that "Parts/products listed on this Certificate have been verified and found to conform to the requirements referenced on the drawing, purchase order and applicable specification".</p> <p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C200	CoC (COTS/CAT): Include COTS/Catalog p/n on cert
<p>Each shipment of Commercial Off The Shelf (COTS) and/or supplier catalog items shall include a certificate of conformance. This certificate of conformance is to clearly list the COTS or catalog item number as noted on the OTTO drawing and be signed by an authorized quality representative of the issuing body.</p> <p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C210	Military (MIL) Part/Product Certification Required
<p>Each shipment of material, parts, or product that carry a Military part number, must include a certificate of conformance. This certificate of conformance is to clearly list the Military part number and, if noted on the OTTO drawing, the revision level and military specification and be signed by an authorized quality representative of the issuing body.</p> <p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C500	Life Cycle Test Data Required
<p>Each shipment shall include a legible and reproducible copy of the supplier's life cycle test data in support of the OTTO drawing requirement(s).</p> <p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C501	Pull Test Data Required
<p>Each shipment shall include a legible and reproducible copy of the supplier's pull test data in support of the OTTO drawing requirement(s).</p> <p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C502	Flex Test Data Required
<p>Each shipment shall include a legible and reproducible copy of the supplier's pull test data in support of the OTTO drawing requirement(s).</p> <p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C800	NIST Traceable Calibration Certificate Required
<p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C801	ISO 17025 Calibration Certificate Required
<p>See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.</p>	
C850	OTTO Provided Material NO Certification Required
<p>This order includes parts/products produced with OTTO provided material and therefore supplier is not required to provide raw material certification.</p>	
P100	Special Packaging Required
<p>All parts and/or assemblies shall be packaged in accordance with all applicable drawings, specifications and special packaging instructions. If specific packaging instructions are not imposed, the best commercial packaging practices must be used to prevent damage.</p>	

Q100 FAI per AS9102 Required

The supplier shall furnish a First Article Inspection in accordance with AS9102 requirements. Representative sample of product to be supplied shall be submitted to OTTO prior to production. Samples shall be manufactured using the same tooling, processing and methods as planned for actual production. Inspection and test reports shall accompany samples and shall indicate actual measurement and performance data. Packaging and shipping documents shall identify three samples as first-piece. Actual production without OTTO first-piece inspection approval is solely at the supplier's risk on the first production run of a part or product.

First Article Inspection report to include the following:

- AS 9102 compliant forms must be used
- Form 3: Characteristic Accountability, Verification and Compatibility Evaluation to include the inspection equipment used (description and ID #) per characteristic
- A ballooned print (all features and notes to be addressed)
- CMM (coordinate measuring machine) report, if applicable, is to be included
- Material & Processing certifications are required
- Copies of any nonconformance reports

Q101 FAI Required

The supplier shall furnish a First-Article Inspection (FAI) report on the first shipment of each part number revision level. One (1) production part shall be identified as the "First Article" and accompanied by verifiable qualitative and quantitative test/inspection data and submitted to OTTO for approval prior to shipment of the remaining parts of the production lot. The OTTO Buyer shall notify the Supplier, in writing, of First Article disposition and information regarding shipment of the remaining parts. Actual production without OTTO first-piece inspection approval is solely at the supplier's risk on the first production run of a part or product.

First Article Inspection report to include the following:

- Full Dimensional Layout
- Inspection equipment used (description and ID #) used per characteristic
- A ballooned print is required and is to include all drawing notes
- CMM (coordinate measuring machine) report, if applicable, is to be included
- Material & Processing certifications are required
- Copies of any nonconformance reports

Q102 PPAP Required

The supplier shall furnish a Level 3 PPAP (unless otherwise noted on the PO) in accordance with AIAG Production Part Approval Process manual. Packaging and shipping documents shall identify the applicable number of samples as first-piece. Actual production without OTTO first-piece inspection approval is solely at the supplier's risk on the first production run of a part or product.

Q103 Inspection Data Required- Key Characteristics

Each shipment shall include a legible and reproducible copy or the supplier's inspection data report. The report shall include, for those characteristics indicated as key on the OTTO drawing, actual data and an indication of acceptance or rejection. Additionally, the report is to include the OTTO part number and revision, inspection date(s), inspection method used per characteristic and name of person performing the inspection.

See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.

Q104 Source Inspection Required

If source Inspection is required, the supplier will be notified in advance. The supplier shall provide an appropriate inspection area and equipment required by Source Representative. All documentation related to the part must be completed prior to presenting the inspection packet and parts to the Source Inspector. The documentation may include, but is not limited to: Purchase order and supplements, blue prints, travelers/routers/operation sheets, specification, approval source list for Special Processes, certifications, dimensional layout, corrective action request, etc.

Q500	Printed Circuit Boards	Bare PCB fabrication shall be in accordance with IPC-A-600 class 2. See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.
Q501	Printed Circuit Board Assemblies	PCB assembly fabrication shall be in accordance with IPC-A-610 class 2. See section 15.0 of OTTO's Supplier Quality Manual (SQM) for additional information regarding certification requirements.
Q510	ESD Sensitive Item - Handle per OTTO 3PR000059	ESD Sensitive Item - Handle per OTTO 3PR000059
S100	ISO9001 System Certification Required	Supplier receiving this order must have a Quality System certified to ISO9001
S200	AS9100 System Certification Required	Supplier receiving this order must have a Quality System certified to AS9100
S300	NADCAP Certification Required	Supplier receiving this order must hold NADCAP accreditation for the special processes noted or referenced on the OTTO drawing and/or purchase order.