

Supplier Quality Clauses apply to all divisions of OTTO

Suppliers are required to comply with and flow-down to their subcontractors, all applicable Quality Clauses listed or referenced on the OTTO Purchase Order/order line. Questions regarding the applicability and/or how to comply with a Quality Clause should be directed to SupplierQuality@OTTOExcellence.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.

All certificates issued by OTTO's Tier 1 suppliers (holder of the OTTO Purchase Order) shall include the following:

A100	IS/ATEX Data
Deliverable	Supplier shall provide with each shipment, IS/ATEX data in support of OTTO drawing requirements.
Application	Each shipment of parts/product where the OTTO drawing indicates IS/ATEX.
A101	ROHS/REACH
Deliverable	Supplier shall provide the complete breakdown of the homogenous material to an elemental level. Data to be provided using OTTO Supplier Material Disclosure form # 4MA000009.
Application	<ol style="list-style-type: none"> 1. Initial production shipment 2. Initial shipment that includes a material change NOTE: material changes MUST be approved by OTTO in advance of implementation
C100	Certificate of Conformance
Deliverable	Supplier shall provide with each shipment, a Certificate of Conformance (CoC) that clearly indicates the material, parts, product and/or work performed in connection with the applicable OTTO drawing and Purchase Order were verified and found to meet all stated and/or referenced requirements. The CoC must include: <ol style="list-style-type: none"> 1. Amount of material or quantity of items covered by the CoC 2. Applicable lot, batch, job, heat number for the items covered by the CoC
Application	Each shipment of parts/product for which the supplier is responsible to provide. This code does not apply to raw material and special process suppliers.
C101	Raw Material Cert: BULK METAL
Deliverable	Supplier shall provide with each shipment, the raw material test data (chemical, physical, heat treatment, etc.) issued by the mill that demonstrates conformance to applicable specification and/or the OTTO drawing. The raw material test report/cert packet shall clearly indicate <ol style="list-style-type: none"> 1. The applicable material specification and revision level to which the material conforms 2. Material heat, lot or batch number 3. Name of mill that produced the material and issued the material test report/cert 4. Other applicable technical data 5. Complete material traceability (from the mill to OTTO) For material procured by OTTO's tier 1 supplier (holder of the OTTO Purchase Order), the cert packet submitted to OTTO shall be validated by the supplier's authorized representative.
Application	Each shipment of bulk raw metal, or where the supplier has procured raw material for use in producing parts/product furnished to OTTO. Does not apply to COTS, make from COTS or catalogue items

C102	Raw Material Cert: BULK NON-METAL (e.g., plastic, silicon)
Deliverable	Supplier shall provide with each shipment, the raw material test report issued by the manufacturer of the raw material that demonstrates conformance to applicable specification and/or the OTTO drawing The raw material test report/cert packet shall include 1. The applicable specification and revision level to which the material conforms 2. Material lot or batch number 3. Name of company that produced the raw material 4. Other applicable technical data 5. Complete material traceability (from the raw material producer to OTTO) 6. Manufacture date and shelf life/expiration date - if applicable For material procured by OTTO's tier 1 supplier (holder of the OTTO Purchase Order), the cert packet submitted to OTTO shall be validated by the supplier's authorized representative
Application	Each shipment of bulk raw plastic, silicon, rubber, etc. material, or where the supplier has procured raw material for use in producing parts/product furnished to OTTO. Does not apply to COTS, make from COTS or catalogue items
C102.1	Raw Material Cert: Colorant NON-METAL
Deliverable	Supplier shall provide with each shipment, a Certificate of Conformance (CoC) that clearly indicates the colorant provided or used conforms to applicable specifications per the OTTO drawing. The CoC shall include: 1. Colorant name, number or description 2. Lot or Batch number
Application	Each shipment of colorant or where the supplier is responsible for adding colorant to raw material provided by OTTO. This code does not require the supplier to furnish a raw material certificate
C103	Soldering Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates soldering was performed in accordance with all stated and applicable specifications and standards per the OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for soldering per the OTTO drawing
C104	Anodizing Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were anodized per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were anodized 3. The anodize color has been verified and found to meet color requirements/standard per the OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for anodizing per the OTTO drawing
C104.1	Anodizing Certificate - NADCAP
Deliverable	NADCAP certified supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were anodized per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were anodized 3. The anodize color has been verified and found to meet color requirements/standard per the OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for anodizing per the OTTO drawing
C105	Plating Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were plated per requirements noted on the OTTO drawing 2. The actual specification (including, as applicable, type, class, etc.) and revision level to which parts were plated per the OTTO drawing 3. Actual plating thickness readings
Application	Each shipment of parts/product where the supplier is responsible for plating per the OTTO drawing

C105.1	Plating Certificate - NADCAP
Deliverable	NADCAP certified supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were plated per requirements noted on the OTTO drawing 2. The actual specification (including, as applicable, type, class, etc.) and revision level to which parts were plated per the OTTO drawing 3. Actual plating thickness readings
Application	Each shipment of parts/product where the supplier is responsible for plating per the OTTO drawing
C106	Heat Treat Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were heat treated per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were heat treated 3. Actual hardness readings
Application	Each shipment of parts/product where the supplier is responsible for heat treatment per the OTTO drawing
C106.1	Heat Treat Certificate - NADCAP
Deliverable	NADCAP certified supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were heat treated per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were heat treated 3. Actual hardness readings
Application	Each shipment of parts/product where the supplier is responsible for heat treatment per the OTTO drawing
C107	Passivation Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were passivated per requirements noted on the OTTO drawing 2. The actual specification, class, type, etc., and revision level to which parts were passivated per the OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for passivation per the OTTO drawing
C107.1	Passivation Certificate NADCAP
Deliverable	NADCAP certified supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were passivated per requirements noted on the OTTO drawing 2. The actual specification, class, type, etc., and revision level to which parts were passivated per the OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for passivation per the OTTO drawing
C108	Painting Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were painted per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were painted (as applicable) 3. The actual paint batch/lot number used 4. Parts meet OTTO abrasion and/or adhesion specification 3TL000176 (formerly 3QA000176) as applicable 5. Parts meet OTTO paint finish requirements per OTTO drawing and/or SQM appendix D as applicable 6. Actual paint thickness readings per OTTO drawing 7. Actual paint gloss readings per OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for painting per the OTTO drawing
C108.1	Painting Certificate NADCAP
Deliverable	NADCAP certified supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were painted per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were painted (as applicable) 3. The actual paint batch/lot number used 4. Parts meet OTTO abrasion and/or adhesion specification 3TL000176 (formerly 3QA000176) as applicable 5. Parts meet OTTO paint finish requirements per OTTO drawing and/or SQM appendix D as applicable 6. Actual paint thickness readings per OTTO drawing 7. Actual paint gloss readings per OTTO drawing
Application	Each shipment of parts/product where the supplier is responsible for painting per the OTTO drawing

C109	Pad Printing Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were pad printed per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were pad printed (as applicable) 3. Actual ink batch/lot number used 4. Parts meet OTTO abrasion and/or adhesion specification 3TL000176 (formerly 3QA000176) as applicable
Application	Each shipment of parts/product where the supplier is responsible for pad printing per the OTTO drawing
C110	Welding Certificate
Deliverable	Supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were welded per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were welded (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for welding per the OTTO drawing
C110.1	Welding Certificate - NADCAP
Deliverable	NADCAP certified supplier shall provide with each shipment, a certificate that clearly indicates 1. Parts were welded per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were welded (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for welding per the OTTO drawing
C111	Solderability Certificate
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates, external leads, pins, terminals, etc. of parts provided are capable of passing the solderability tests specified in MIL-STD-202 (Method 208).
Application	Each shipment of parts/product where the supplier is responsible for Iridite/Alodine (chem conversion coating) per the OTTO drawing.
C112	Iridite/Alodine (Chem Conversion Coating) Cert
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates 1. Iridite/Alodine was applied per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were iridited/alodined (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for Iridite/Alodine (chem conversion coating) per the OTTO drawing
C112.1	Iridite/Alodine (Chem Conversion Coating) Cert - NADCAP
Deliverable	NADCAP certified supplier shall include with each shipment, a certificate that clearly indicates 1. Iridite/Alodine was applied per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were iridited/alodined (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for Iridite/Alodine (chem conversion coating) per the OTTO drawing
C113	Brite Passivate/Electropolish Certificate
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates 1. Parts were brite passivated (Electropolished) per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were brite passivated (Electropolished) (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for brite passivated (Electropolished) per the OTTO drawing
C113.1	Brite Passivate/Electropolish Certificate - NADCAP
Deliverable	NADCAP certified supplier shall include with each shipment, a certificate that clearly indicates 1. Parts were brite passivated (Electropolished) per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were brite passivated (Electropolished) (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for brite passivated (Electropolished) per the OTTO drawing

C115	IPC-J-STD-001xS Certificate
Deliverable	Each shipment shall include a certificate that clearly indicates the product was produced in accordance with IPC-J-STD-001xS. NOTE: x indicates the revision level of the IPC-J-STD-001 standard to which the product conforms. Unless otherwise indicated or communicated by OTTO – conformance to current revision is expected/required. Per IPC-J-STD-001xS, 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.
Application	Each shipment of wire/cable or product containing wire/cable where the OTTO drawing states IPC-J-STD-001xS applies
C116	Sandblast Certificate
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates 1. Parts were sand/bead blasted or tumbled per requirements noted on the OTTO drawing 2. The actual specification and revision level to which parts were blasted/tumbled (as applicable) 3. The actual media type and size 4. The actual blast pressure and time 5. Part were verified/ inspected and found to meet requirements
Application	Each shipment of parts/product where the supplier is responsible for sandblast per the OTTO drawing
C117	Chromate Conversion
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates 1. Chromate conversion was performed per the OTTO drawing 2. The actual specification and revision level to which chromate conversion was applied (as applicable) 3. Actual thickness readings (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for chromate conversion per the OTTO drawing
C117.1	Chromate Conversion - NADCAP
Deliverable	NADCAP certified supplier shall include with each shipment, a certificate that clearly indicates 1. Chromate conversion was performed per the OTTO drawing 2. The actual specification and revision level to which chromate conversion was applied (as applicable) 3. Actual thickness readings (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for chromate conversion per the OTTO drawing
C118	Wire/Cable/Insulation Certification
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates - as applicable per the OTTO drawing • Wire Size • Conductor Material • Insulation Material • Filler Material • Shielding • Wrap Material • Jacket Material • Agency/industry approvals and/or standards and revision level
Application	Each shipment of wire/cable or product containing wire/cable where the OTTO drawing specifies wire/cable construction and the supplier is responsible for the manufacture of the wire/cable

C118.S	Wire/Cable/Insulation Sub-Level Certification
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates the wire/cable provided meets the referenced wire/MTL requirements per the OTTO drawing. These requirements may include <ul style="list-style-type: none"> • Wire manufacturer's name and part number • Wire Size • Conductor Material • Insulation Material • Filler Material • Shielding • Wrap Material • Jacket Material • Agency/industry approvals and/or standards and revision level
Application	Each shipment of wire/cable or product containing wire/cable where the OTTO drawing specifies wire/cable construction/requirements on a sub-level drawing and the supplier is responsible for the manufacture or procurement of the wire/cable
C119	Black Oxide Certificate
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates <ol style="list-style-type: none"> 1. Black oxide was applied per requirements noted on the OTTO drawing 2. The actual specification and revision level to which black oxide was applied (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for black oxide per the OTTO drawing
C119.1	Black Oxide Certificate - NADCAP
Deliverable	NADCAP certified supplier shall include with each shipment, a certificate that clearly indicates <ol style="list-style-type: none"> 1. Black oxide was applied per requirements noted on the OTTO drawing 2. The actual specification and revision level to which black oxide was applied (as applicable)
Application	Each shipment of parts/product where the supplier is responsible for black oxide per the OTTO drawing
C200	CoC (COTS/CAT): Include COTS/Catalog p/n on cert
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates <ol style="list-style-type: none"> 1. Parts were procured from Approved Source of Supply or Manufacturer per the OTTO drawing 2. Parts are the Approved Source of Supply or Manufacturer's part number as noted on the OTTO drawing
Application	Each shipment of parts/product where the OTTO drawing indicates the items is a commercial off the shelf item, or the lists the manufacturer's catalog item number
C210	Military (MIL) Part/Product Certification
Deliverable	Supplier shall include with each shipment, a certificate that clearly indicates <ol style="list-style-type: none"> 1. The Military part number and revision level (as applicable) 2. The actual military specification and revision level (as applicable) per the OTTO drawing
Application	Each shipment of parts/product that carry a Military part number per the OTTO drawing
C500	Life Cycle Test Data
Deliverable	Supplier shall provide, when required, part/product Life cycle test data indicating conformance to OTTO drawing requirements
Application	As required by OTTO's Engineering and/or Quality department and/or noted on the OTTO purchase order

C501	Pull Test Data Required
Deliverable	Supplier shall include with each shipment, documentation that clearly indicates 1. Pull test requirements/specification per the OTTO drawing 2. Quantity of parts/product tested 3. Actual pull test results per sample tested
Application	Each shipment of parts/product where the supplier is responsible for meeting pull test requirements as noted on the OTTO drawing
C502	Flex Test Data Required
Deliverable	Supplier shall include with each shipment, documentation that clearly indicates 1. Flex test requirements/specification per the OTTO drawing 2. Quantity of parts/product tested 3. Actual flex test results per sample tested
Application	Each shipment of parts/product where the supplier is responsible for meeting flex test requirements as noted on the OTTO drawing
C800	NIST Traceable Calibration Certificate Required
Deliverable	Calibration supplier shall provide a NIST Traceable calibration certificate
Application	New, repaired and periodically calibrated measuring equipment
C801	ISO 17025 Calibration Certificate
Deliverable	Calibration supplier shall provide, for the indicated gage, an ISO 17025 calibration certificate
Application	New, repaired and periodically calibrated measuring equipment that requires calibration in compliance with ISO 17025
C850	OTTO Provided Material NO Certification Required
Deliverable	Notification only informing supplier that OTTO has provided material for use in the parts or products listed on the OTTO PO - therefore are not required to provide material certification
Application	Each shipment of parts/product where OTTO has provided some or all raw material and/or components
C900	Customer Supplied Product-NO Certification Required
Deliverable	Notification only indicating provided material is supplied by OTTO's customer - therefore no certification is require
Application	Each shipment of customer provided material
P100	Special Packaging Required
Deliverable	Notification only informing supplier the part/product listed on the OTTO PO requires special packing as noted on the OTTO drawing
Application	Each shipment of parts/product where the OTTO drawing indicates special packing is required.
P110	Parts shall be packaged in static shielding packaging materials per IPC-A-610
Deliverable	Notification only informing supplier the part/product listed on the OTTO PO requires special packing
Application	Each shipment of PCBAs that contain active components

P120	Parts shall be packaged in antistatic (low charging) packaging materials per IPC-A-610
Deliverable	Notification only informing supplier the part/product listed on the OTTO PO requires special packing
Application	Each shipment of PCBAs that contain passive components
Q100	First Article Inspection report per AS9102
Deliverable	The supplier shall provide a First Article Inspection report in accordance with the current revision of AS9102 requirements. Required documentation includes, but is not limited to: <ul style="list-style-type: none"> •AS9102 forms 1, 2 and 3. •Ballooned OTTO Drawing, including notes, materials, processes. •Applicable supporting documentation such as material & process certs and when an assembly is being provided... component FAIs.
Application	<ol style="list-style-type: none"> 1. The initial shipment of production parts/product for aerospace applications. 2. The initial shipment following changes that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes). 3. Lapse in production for 2 or more years. 4. Per OTTO request. <p>Actual first production without OTTO's first-piece inspection approval is solely at the supplier's risk.</p>
Q101	First Article Inspection report
Deliverable	The supplier shall provide a First Article Inspection report in accordance with OTTO requirements. Required documentation includes, but is not limited to: <ul style="list-style-type: none"> •Dimensional layout that includes notes, materials, processes •Applicable supporting documentation such as material & process certs and when an assembly is being provided... component FAIs.
Application	<ol style="list-style-type: none"> 1. The initial shipment of production parts/product. 2. The initial shipment following changes that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes). 3. Lapse in production for 2 or more years. 4. Per OTTO request. <p>Actual first production without OTTO's first-piece inspection approval is solely at the supplier's risk.</p>
Q102	PPAP Required
Deliverable	The supplier shall provide a Level 3 PPAP in accordance with AIAG Production Part Approval Process manual.
Application	<ol style="list-style-type: none"> 1. The initial shipment of production parts/product 2. The initial shipment following changes that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes) 3. Per OTTO request <p>Actual first production without OTTO's first-piece inspection approval is solely at the supplier's risk</p>

Q103	Inspection Data Required- Key Characteristics
Deliverable	Supplier shall include with each shipment, actual inspection results and the method of inspection for key characteristics noted on the OTTO drawing
Application	Each shipment of parts/product where the OTTO drawing identifies features/characteristics as key or special, and the supplier is directly or indirectly responsible for producing those features/characteristics
Q104	Source Inspection Required
Deliverable	Supplier to contact OTTO (SupplierQuality @OTTOexcellence.com) to schedule source inspection prior to shipping parts/product to OTTO
Application	As directed by OTTO's Quality, Engineering or Purchasing department and noted on the OTTO purchase order
Q500	PCB must be fabricated in accordance with and meet IPC-A-600 class 2 Reqmts
Deliverable	Notification only informing supplier the PCB must be fabricated in accordance with IPC-A-600 class 2
Application	Each shipment of PCBs where the OTTO drawing requires fabrication in accordance with IPC-A-600 class 2
Q500.1	PCB must be fabricated in accordance with and meet IPC-A-600 class 3 Reqmts
Deliverable	Notification only informing supplier the PCB must be fabricated in accordance with IPC-A-600 class 3
Application	Each shipment of PCBs where the OTTO drawing requires fabrication in accordance with IPC-A-600 class 3
Q501	PCBA must be fabricated in accordance with IPC-J-STD-001 and meet IPC-A-610 class 2 Reqmts
Deliverable	Notification only informing supplier the PCBA to be fabricated in accordance with IPC-J-STD-001 and must meet IPC-A-610 class 2 Reqmts
Application	Each shipment of PCBAs where the OTTO drawing requires fabrication in accordance with IPC-A-610 class 2
Q501.1	PCBA must be fabricated in accordance with IPC-J-STD-001 and meet IPC-A-610 class 3 Reqmts
Deliverable	Notification only informing supplier the PCBA to be fabricated in accordance with IPC-J-STD-001 and must meet IPC-A-610 class 3 Reqmts
Application	Each shipment of PCBAs where the OTTO drawing requires fabrication in accordance with IPC-A-610 class 3
Q502	Cable or Wire Harness must be fabricated in accordance with IPC/WHMA-A-620
Deliverable	Notification only informing supplier the cable or wire harness is to be fabricated in accordance with IPC/WHMA-A-620
Application	Each shipment of the cable or wire harness where the OTTO drawing requires fabrication in accordance with IPC/WHMA-A-620
Q510	ESD Sensitive Item, Handle per ANSI/ESD S20.20
Deliverable	Notification only informing supplier the part/product listed on the OTTO PO is an ESD Sensitive Item and requires handling per ANSI/ESD S20.20 or equivalent
Application	Each shipment where the OTTO drawing indicates the part/product is an ESD sensitive item.
S100	ISO9001 System Certification
Deliverable	Notification only informing supplier they must hold a valid ISO 9001 certificate in order to accept the applicable OTTO PO
Application	As required by OTTO's Engineering and/or Quality department and noted on the OTTO purchase order
S200	AS9100 System Certification
Deliverable	Notification only informing supplier they must hold a valid AS9100 certificate in order to accept the applicable OTTO PO
Application	As required by OTTO's Engineering and/or Quality department and noted on the OTTO purchase order
S300	NADCAP Certification Required
Deliverable	Notification only informing supplier they must hold NADCAP accreditation for the special process(es) noted or referenced on the OTTO drawing and/or PO in order to accept the applicable OTTO PO
Application	As required by OTTO's Engineering and/or Quality department and noted on the OTTO purchase order