



General Quality Requirements for Purchased Products

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Procedure Description

1. Purpose

This CELQ-001-SPEC-7 (Celestica DOC#0073861) document ("Spec 7") sets out general quality requirements and the supplier quality terms and conditions applicable to Supplier for the quality of Goods and/or services supplied by Supplier ("Supplier") to Celestica or any of its affiliates ("Celestica"). This Spec 7 is effective and hereby deemed accepted by Supplier upon Supplier's acceptance of a purchase order.

2. Scope

By delivering to Celestica any "Goods" (as defined in Section 5 and in Appendix A), the Supplier agrees that this Spec 7 sets out terms and conditions relating to the quality of Goods which the Supplier supplies.

Where Goods are provided for specific Celestica business segments (i.e. Aviation, Space & Defense; HealthTech), the attached applicable appendix shall modify requirements defined in the main body of Spec 7 to the extent there are any conflicting or additional terms.



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3. Responsibilities

3.1 Suppliers are responsible for:

- Ensuring that they read and understand the requirements of this document.
- Incorporate Celestica's requirements into local systems as applicable.
- Flow down requirements to relevant supplier employees as well as sub-tier suppliers and subcontractors.
- Accepting these requirements are in conjunction with Purchase Orders ("PO").
- Ensuring that all sub-suppliers carrying out special processes have the necessary certifications.

3.2 Suppliers are also responsible for advising Celestica of, and getting signed approval for, any requested exclusions and amendments to the content of this document as listed within Section 7 Exclusions and Amendments. Exclusions and amendments in Section 7 are not effective until signed by Celestica and Supplier.

3.3 Suppliers can access this Spec 7 document (General Quality Requirements for Purchased Parts/Products) from Celestica's Supplier Resources webpage (www.celestica.com/supplierresources).

3.4 Celestica's Commodity Engineering groups are responsible for:

- issuing a copy of this document to Suppliers as part of the formal supplier qualification activities,
- responding to Supplier queries on the content or requested exclusions,
- responding to any queries or exclusions that are formally agreed or declined, including notification back to the Supplier of that decision,
- recording the agreement or signed document as part of the supplier qualification activities.

4. General Quality Requirements

If a conflict arises between the requirements of this Spec 7 document and other Celestica documents, the following order of precedence shall apply:

- (a) Celestica's Standard Purchasing Terms and Conditions
- (b) When required in accordance with Appendix A or mutually agreed upon, the signed Supplier Quality Agreement for quality related matters
- (c) Purchase order
- (d) Engineering drawings
- (e) Engineering Specifications and Material Specifications
- (f) The individual QSPEC
- (g) This General Quality Requirements for Purchased Parts (Spec 7), including relevant Appendices
- (h) Referenced standards

4.1 General Quality Requirements:

4.1.1 The Supplier shall not ship Goods to Celestica which deviate in any manner from the specification for the Goods, without prior written consent by Celestica.

This includes the shipment of "better than" specification parts in place of the requested specification, see section 4.11 Waivers.

4.1.2 Where the Supplier is a franchised distributor of the part the Supplier shall ensure that the parts sent to Celestica are from the AVL as shown on the Celestica QSPEC. The franchised distributor warrants that the parts shipped have been obtained from the official OEM sales channel.



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4.1.3 Suppliers shall adhere to the following requirements:

- a) Goods to be shipped that are identified by/assigned a Supplier defined Shelf Life, shall at the time of receipt by Celestica have a 'remaining' life of no less than one half of the original Shelf Life, or as otherwise specified in the Celestica QSPEC.
- b) Goods to be shipped not identified by/assigned a Supplier defined Shelf Life, but identified as requiring manufactured date codes, shall at the time of receipt by Celestica carry manufactured date codes that are not older than 24 months, or as otherwise stated in the Celestica QSPEC.

Where the above cannot be met, the Supplier shall not provide the Goods without a specific agreement or Waiver signed by Celestica and Supplier shall detail the justification, proven by testing and analysis, that Goods received by Celestica have no functional nor reliability concerns.

Celestica retains the right to refuse to accept parts with manufactured date codes greater than 24 months at point of receipt if an agreement or waiver is not in place.

4.1.4 The Supplier shall ensure and only provide Goods or parts which meet the relevant technical specifications, appropriate to the Goods they supply, namely:

- In the case of custom, or customized parts the parts meet the required technical specifications as issued by either Celestica or Celestica's customer,
- In the case of catalogue parts, the parts meet the Supplier's own manufacturing specification and any industry related specification,
- Where the parts are supplied on Tape & Reel they conform to the *EIA-481* standard,
- The Supplier will ensure and only provide Goods that are produced, repaired and packed under electrostatic "safe" conditions as advised in JESD625, ANSI S20.20, IEC61340-5-1 or equivalent.

4.1.5 The Supplier shall ensure that the parts meet the relevant Cosmetic Requirements for the parts as defined on the part drawing, a Celestica issued Cosmetic Standard or a Celestica's customer issued Cosmetic Standard.

At a minimum the Supplier shall ensure that the following is met:

- All parts shall be free from Oil, Grease, Dirt and other Contaminants which may result from the processing or manufacture of the part and which do not form part of the functional requirements of the part,
- All Mechanical parts shall be free from Rough and Sharp Edges, Flash and Burr, scratches and surface inclusions, as defined by component type, technology and industry standards where they exist,
- All Electronic parts which require to be soldered comply with the applicable solderability specifications *IPC/EIA J-STD-002* or *IPC/EIA J-STD-003*,
- All applied Labeling shall have defect free and legible printing and labels and nameplates shall be applied squarely to the part and within the defined area as per drawing.

4.1.6 The Supplier shall ensure that all personnel performing work which affects the product quality and / or conformance to specifications, including Celestica's and Celestica's customer requirements, are competent on the basis of appropriate education, training, competency, skills and experience.

4.1.7 The supplier shall maintain a documented business continuity / disaster recovery plan to insure continued operation and shipment to Celestica.

4.2 Supplier Quality Management Systems:

4.2.1 Celestica expects the Supplier to conduct its activities under appropriately controlled conditions for the product supplied.



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Where Celestica requires the supplier to operate under a third party certified Quality Management System ("QMS"), for example ISO9001, or ISO13485, etc., Celestica shall make this explicitly known to the Supplier. See market segment-specific Appendices.

The Supplier will submit to Celestica evidence of the controls in place or copies of the registration certificates upon request by Celestica.

4.2.2 Where the controlled conditions have been deviated from, the Supplier agrees that a pre-approved signed Waiver is required to continue to supply Celestica. Examples of such deviated conditions are shown in Waiver section 4.11 in this document.

4.3 Supplier Audits:

Supplier gives right of access, inspection and audit by Celestica, its partners, agents or subcontractors, its customers, notified bodies and regulatory authorities to Supplier's facilities, documents, and pertinent information at all levels of the supply chain. This includes unannounced inspections or audits by government or regulatory authorities.

4.3.1 Audits may be requested by Celestica, without limitation, for the following reasons:

- Corrective Action Audit: as a result of a formal CAPA to validate the CAPA and the effectiveness.
- Process Audit: for example, may be required for new process introductions, investigation of quality issues, Supplier Change Notification or Supplier Quality Improvement Plan (SQIP).
- Qualification Audit: in support of Celestica's Supplier qualification process.
- Conflict Minerals Audit: in support of Celestica's SEC reporting requirement.
- Regulatory Audit: as a result of or in connection with a regulatory authority's or notified body's inspection.

4.3.2 The scope of the planned audit, including the pre-audit, during audit and post-audit activities will be communicated by Celestica to Supplier in advance.

4.3.3 In exceptional cases it may be required to conduct on-site audits or verification at short notice. The Supplier agrees to support Celestica's schedule, including the provision when required for audits "next-day" or within 24-hour's notice. In these cases, Celestica will make direct contact with Supplier on a case by case basis for formal agreement.

4.3.4 The Supplier shall also ensure that when it is relevant to the successful outcome of an audit Celestica may extend the audit to the Supplier's supply base (sub-Supplier). Typical example may be to audit the external plating contractor for the Supplier's products.

4.4 Outgoing Quality Requirements:

4.4.1 Celestica and the Supplier's goal is to maintain a *ZERO Defect* Incoming Quality Level.

4.4.2 The Supplier shall maintain records which show that the Goods have been manufactured in a manner to assure compliance with the part specification for either:

- a) a minimum of five (5) years from date of manufacture as standard, or
- b) where there is a Celestica's customer requirement for record retention over 5 years, Celestica will make this requirement known during the contract stages and the requirement will be stated in the QSPEC or otherwise in a separate Supplier Quality Agreement.

In the case of 4.4.2b, the Supplier agrees to support Celestica by adapting their own record retention policy or agrees to work with Celestica on a mutually agreeable process to meet Celestica's customer requirements.

4.4.3 Supplier shall use statistical process controls and a supporting process capability analysis at a level appropriate for the Goods supplied. Supplier shall, develop and maintain a culture of continuous quality



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improvement including measurement and reporting of key business and manufacturing processes. Supplier shall, upon request, provide Celestica with evidence of such process controls and capabilities, including all supporting documentation.

4.4.4 For custom mechanical parts, where the parts are manufactured to a Celestica's customer or Celestica drawing:

a) Suppliers are required to perform a Ship Lot Audit / product audit before shipment by randomly selecting a representative sample of finished Goods and inspecting them to the Celestica QSPEC. The Critical to Function (CTF) dimensions will be shown on the QSPEC and/or referenced drawings. A statistically valid sampling plan shall be used for the Ship Lot / product audit based on an industry recognized standard (ANSI/ASQC Z1.4 or ISO2859). Results are to be documented, maintained by the Supplier for a minimum of 7 years, or for a longer period as defined within the requirement of 4.4.2, and made available to Celestica upon request.

b) When a lot fails the ship lot audit but in the opinion of the Supplier the product might be 'fit for use', the Supplier is required to notify the Celestica buyer of the non-compliance and ask for a Supplier Waiver prior to shipment. Without a documented Supplier Waiver, the lot is NOT to be shipped. If the failed lot is not 'fit for use' or the Supplier Waiver is rejected, the Supplier must not ship the material without some form of remedy (i.e. 100% screening for the defects, rework or correction of the defects, or manufacture of a new lot).

4.5 Material incoming quality oversight and inspection:

4.5.1 Goods purchased by Celestica and shipped by Supplier are subject to Celestica's reasonable inspection, testing, and approval at Celestica's point of receipt or final place of usage.

4.5.2 Chemical and consumables which are added to the final product (e.g. paste, flux, adhesive, conformal coating etc...) may be subjected to Surface Insulation Resistance (SIR) testing or an equivalent Material Compatibility testing. This is in addition to any requisite functional qualification against market peers.

4.5.3 Celestica shall have the right to reject and refuse acceptance of Goods which are not in accordance with Celestica purchase orders. This includes Supplier specifications, the specifications of the part, any written contract or agreement, or any of the terms of this Spec 7.

4.5.4 Payment for any Goods under the related Purchase Order shall not be deemed acceptance of the Goods.

4.6 Packaging of Goods:

4.6.1 Celestica expects Supplier to package the products which it supplies in packaging suitable for the product being shipped, and to prevent damage and deterioration during the method of shipment. Where Supplier is unsure of packaging requirements Celestica provides a specification document which may be referred to. Celestica's "Packaging and Handling Specification", PK0763-1, is available from Celestica's buyer, or through the link

www.celestica.com/supplierresources

Where specific packaging requirements are required at a Celestica part number level, they will be formally issued to the supplier through drawings, specifications or other purchasing documents.

4.6.2 For Goods that Supplier identifies as moisture sensitive, the following requirements apply:

4.6.2.1 The Goods shall be packaged in an ESD moisture free pack (dry pack).

4.6.2.2 The dry pack shall be bar-coded as per the requirements of section 4.7 of this document.



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- 4.6.2.3** The dry pack shall have an ESD warning on it.
- 4.6.2.4** The dry pack must contain a moisture indicator that conforms to J-STD-033 or EIAJ standard.
- 4.6.2.5** The dry pack must also contain desiccant, of an appropriate amount and type, so as to conform to the requirements of J-STD-033 or EIAJ standard.
- 4.6.2.6** The dry pack shall have a label indicating the dry pack date and usage window (after dry pack is opened 'hold-on time'), re-baking requirements (temperature, time and number of re-bakes permitted), and where shipments of 500 units or less are packaged in trays, the trays must be bakeable to 125 degrees C.
- 4.6.2.7** All moisture sensitive components shall comply with J-STD-033, J-STD-075 and J-STD-020 (or EIAJ ED4701/300-3) requirements where applicable.
- 4.6.2.8** Notification of changes to the moisture sensitivity rating by the Supplier is required through the Celestica Change Control notification process, see section 4.8 below.

4.6.3 The Supplier shall use reasonable efforts to ensure that reels or internal boxes of Goods contain only one date and/or lot code per reel or internal box. The Supplier shall advise Celestica if this is not possible, and then Supplier will ensure that there are no more than two date codes in one-unit pack container (reel, tube or tray) per internal box. If two date codes are used, the unit pack container and the outside of the internal box should be clearly identified as having mixed date codes and labels must indicate the quantity for each date code.

4.6.4 The Supplier shall only provide Goods in packaging that is clearly marked in written form with Celestica's name and the relevant delivery address as well as showing Celestica's order number, quantity or gross and net weights.

4.6.5 Supplier will comply with all relevant provisions of applicable health and safety legislation. If Goods are potentially dangerous to health or safety, Supplier shall deliver the Goods (i) in suitable protective packing and/or containers, and (ii) clearly label the external surface of such packing and/or containers to indicate (a) any hazards to health or safety involved in handling and (b) the method for safe handling of the Goods.

4.7 Labeling and Traceability:

4.7.1 Unless otherwise agreed in writing, Supplier shall ensure that the bar code format as described in Celestica standard CELQ-033-STD-51 is used for the inner most level of part packaging and outer levels of packaging. In particular Celestica requires that the barcode format is CODE 39.

4.7.2 Each unit of electronics parts i.e. each reel, tube, tray, etc., shall have an ESD warning on it where applicable and shall also be labeled as per 4.7.1.

4.7.3 All parts, electronic and mechanical shall have the inner most level of packaging, "Final Carrier", labelled with a barcode in Code 39 according to Celestica's barcode specification CELQ- 033-STD-51. Specifically, the label shall contain:

- (a) Celestica's Part Number,
- (b) Manufacturer's Part Number,
- (c) Traceability Code
- (d) Date Code,
- (e) Quantity,
- (f) Supplier ID Code,
- (g) Country of Origin.

4.7.4 The Supplier will not mislabel Goods and shall have procedures in place to manage the labeling



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process and to avoid Misbranded Goods as defined in Appendix A.

4.8 Change Control:

4.8.1 No change, substitution or modification of any Goods, component parts, tooling, sources of raw materials, sub-tier suppliers, subcontractors, processes, manufacturing equipment or manufacturing location or sites, or shipment of alternate parts may be made without prior notification to Celestica. The Supplier shall notify Celestica by sending the details of the change to pcn@celestica.com. Suppliers are also required to notify Celestica of organizational changes such as restructuring or changes in ownership or leadership or of any Supplier personnel being banned, debarred, suspended, excluded or disqualified by a government or regulatory authority. For classification of types of change refer to legacy document CELQ-033-POL-2 (DOC#0073917) available at <http://www.celestica.com/supplierresources>.

4.8.2 Where changes are necessary the Supplier shall provide Celestica ninety (90) days written notice prior to the change taking place, except in the case of End of Life ("EOL") where an extended notice period is defined in 4.8.3 or unless the change is strictly required to resolve a safety issue.

4.8.3 Where the changes relate to the discontinuance or EOL of the Goods then the Supplier shall provide Celestica with a notification period of:

- 6 months prior notification of Last Time Buy dates
- 12 months prior notification of Last Time Ship dates.

4.8.4 The Supplier shall ensure Change Notifications contain a sufficient level of detail for Celestica to understand the change taking place and judge the impact.

All Change Notifications should have a unique tracking identification number and contain at a minimum:

- Reason for the change
- Full description of the change,
- List of all affected manufacturer's part numbers, including Celestica part numbers where possible,
- Proposed implementation date, which must be minimum 90 days after notification,
- All data necessary to show that the change has been fully verified and validated,
- Availability of samples for the change,
- Identification to provide traceability of the change e.g., date code, special marking etc.
- Supplier contacts.

4.8.5 All Change Notifications are required to be submitted to Celestica's central PCN team along with all necessary data to pcn@celestica.com.

4.8.6 In many cases EOL has to be tightly managed and may involve significant redesign by Celestica or Celestica's customer. In these cases, the Supplier agrees to provide the necessary support and flexibility to accommodate the management of the EOL.

4.8.7 Any concerns, requests for additional information, extension requests or rejection of the Supplier's Change Notification will be communicated by Celestica to the Supplier contact within 30 days of original receipt.

4.8.8 The Supplier must ensure that Celestica is identified as a customer in the Supplier's internal Change Notification processes and procedures.

Where the Supplier has OEM agreements for Change Notification, Celestica must also be written into the process to receive the Change Notification **in parallel to, and at the same time as** the OEM.

4.9 Product Quality Notifications:

4.9.1 The Supplier shall notify Celestica within 24 hours when Supplier suspects or has reason to suspect that non-conforming Goods have been shipped to Celestica and in any event upon initiation of a CAPA for non-conforming Goods whether or not already shipped to Celestica.



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4.9.2 All Product Quality Notifications shall contain at a minimum:

- Details of the suspected non-conformance,
- Time period over which the suspect parts were produced and shipped, including number of lots shipped to Celestica,
- List of the affected part numbers,
- List of date code, lot code or other identification code to allow the suspect Goods to be quarantined from use,
- Details of any method of screening if applicable,
- Details of returns management including valid RMA number and “ship to” details.
- Where applicable, reference to the CAPA initiated by Supplier.

4.9.3 All Product Quality Notifications are required to be submitted to pcn@celestica.com

4.10 Control of Non-Conforming Product:

4.10.1 Where Goods are found to be non-conforming and are rejected by Celestica, the Supplier shall be notified. Supplier shall be responsible for the disposition of the non-conforming Goods and any further mutually agreed actions.

4.10.2 Rejected Goods, or non-conforming Goods which are found by Celestica, or which are advised to Celestica by Supplier under the Product Quality Notification process set out in section 4.9, may be returned to Supplier as the first option, or held by Celestica, at Supplier’s risk and expense.

4.10.3 Where the Goods are agreed to be non-conforming, the Supplier acknowledges that Celestica shall not fund any further inspection or screening of non-conforming Goods and the Supplier shall implement a CAPA in accordance with section 4.12.

4.10.4 The Supplier shall perform inspection or screening activities as required at Supplier’s expense. Where this activity (inspection, screening or rework) relates to Celestica's product (i.e. WIP or Finished Goods), the activity, the decision on who conducts the activity and the funding of such activity shall be mutually agreed with the Supplier.

4.10.5 The Supplier shall support Celestica's business needs by supplying Celestica with the appropriate Returned Material Authorization (“RMA”) to return non-conforming Goods to the Supplier.

The RMA requirement will be driven by the situation on a case by case basis, as follows:

Urgent Requests within 24 hours, typically these are line down situations where Supplier's top management will be made aware of the urgency.

Major Requests within 48 hours, typically these are situations where a specific problem is affecting Celestica's ability to build products.

Standard Requests with an RMA response time mutually agreed and documented, typically these may be routine returns.

4.10.6 The RMA response shall include details including:

- Unique RMA number which provides tracking of the activities,
- Shipment address where the non-conforming Goods are to be shipped, along with contact name,
- Details of any special shipping requirements including specific packaging if required,
- Details of Supplier’s required shipping method, courier and account information to arrange the shipment.

4.11 Waivers:

4.11.1 The Supplier must be in possession of a **Celestica approved and signed** Waiver prior to dispatching Goods where, without limitation:

- the Goods intended for dispatch do not conform to the specifications ordered, including “better than” parts,
- the manufacturing controlled conditions have been exceeded or not followed (example: ambient



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- temperature out of control limits),
- the parts were manufactured using a process or equipment undergoing qualification or changed after qualification without approval,
- the Supplier's QMS registration or the relevant ISO certification has been expired, terminated or suspended, see section 4.2.

4.12 Corrective Action and Preventive Action (CAPA):

4.12.1 The Supplier shall implement the necessary CAPA for non-conforming Goods as appropriate and when requested to do so on receipt of a Celestica SCAR.

The Supplier is required to provide lot / date code information within 24 hours of request by Celestica regarding the lot or date codes affected by the non-conformance, plus any lot or dates codes which could potentially be affected by the non-conformance.

4.12.2 The Supplier shall ensure that the CAPA investigation includes:

- Taking immediate action to contain the problem and minimize the impact of escapes or suspect material to Celestica,
- Confirming the failure mechanism,
- Define the root cause of the problem,
- Take Corrective Action ("CA") for the incident,
- Investigate PA opportunities to prevent future non-conformities,
- Verify the Effectiveness of the CAPA to eliminate the problem,
- The supplier shall use recognized quality tools and methodology for failure and root cause analysis as applicable, such as Design of Experiments, 3 Leg 5 Whys, DMAIC, Fishbone diagrams etc.

4.12.3 The Supplier shall implement CAPA in a timely manner and, when initiated at Celestica's request, in line with Celestica's requirements of SCAR timelines which are:

Urgent SCARs shall have a CAPA plan issued within 9 days or as mutually agreed to.

Standard SCARs shall have a CAPA plan issued within 23 days.

The SCAR will be issued as Standard or Urgent depending on the severity of the quality incident.

4.12.4 For instances of No Fault or No Defect Found (NTF or NDF) the Supplier agrees to work with Celestica to understand the reasons of the perceived non-conformance to achieve a mutually agreeable resolution.

4.13 Environmental Requirements:

4.13.1 The Supplier shall comply with applicable environmental laws and regulations and with Celestica's environmental requirements (available at <http://www.celestica.com/supplierresources>) as they relate to the Goods being supplied including without limitation:

- Celestica Environmental Requirements for Purchased Components legacy *CELQ-033-POL-7* (DOC#0075098)

- Celestica Environmental Requirements for Purchased Chemicals and Consumables legacy *CELQ-033-POL-15* (DOC#0075099)

4.13.2 The Supplier agrees on behalf of itself and its entire supply chain to adhere to and comply at all relevant times with Celestica's Conflict Mineral Requirements *CELQ-033-POL-63* (DOC#DOC0078175) (available at <http://www.celestica.com/supplierresources>)

All queries regarding Celestica's Conflict Mineral Requirements should be forwarded to conflictminerals@celestica.com.

4.14 Certificate of Conformance:

Celestica Confidential. Uncontrolled copy when printed without valid control stamp.

Verify Online Document for Current Version Before Use.



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- 4.14.1.** The Supplier shall, upon request, make available to Celestica any Certificate of Conformance, material declaration and / or analytical test reports in accordance with Celestica's requirements and/or specifications.

5. Definitions

CAPA:

Acronym for Corrective Action, Preventive Action.

Correction:

Action to eliminate a detected nonconformity. This may or may not involve a corrective Action.

Corrective Action:

Action to eliminate the cause of a detected nonconformity or other undesirable situation (2).

Preventive Action:

Action to eliminate the cause of a potential nonconformity or other undesirable situation (2).

Components:

Any raw material, components, manufacturing material (including but not limited to chemicals and consumables), substance, piece, part, software, firmware, labeling, assembly or subassembly which is intended to be included as part or as an accessory of the finished, packaged, and labeled device (3).

Engineering Specification:

Documents which define and describe requirements and specifications for components, products and / or manufacturing materials.

Goods:

In this document it refers to any Components or product supplied to Celestica by the Supplier.

Manufacturer:

The organization which makes the Goods which Celestica purchases, this may be different to the "Supplier".

Specification:

A document, or set of documents which clearly describe the specifications of the Goods. The documents could be Supplier, Celestica's customer or Celestica issued and controlled documents.

Quality Management System (QMS):

Refers to the Supplier's coordinated activities, responsibilities, resources, policies, processes, procedures and documentation to direct and manage their organization with regards to the Supplier's quality objectives.

QSPEC:

The QSPEC is Celestica's quality specification for a Celestica part number. Each Celestica part number has its own QSPEC.

Supplier:

The entities that receive Celestica's PO and supply the components or manufacturing materials or products requested by purchase order. The "Supplier" may be different to the "Manufacturer"

IQL:

IQL is the defect level measured in Celestica's internal process. Component IQL is an ongoing measurement and is reviewed regularly by Celestica.

Third Party Certification Body or Notified Body:

Organizations who are independent from a Manufacturer, and who are accredited by national government bodies to assess and issue certifications to organizations in relation to international standards.

Waiver:

Celestica's internal process for handling a deviation or concession for, including but not limited to off-spec approvals, non-conformities or situations that could affect the safety or efficacy of the Goods and/or Celestica's customer's products.

References: Any hyperlink references are outside of the control of Celestica and are listed only to identify the reference source.

(1) FDA General Controls for Medical Devices

<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Overview/GeneralandSpecialControls/ucm055910.htm>

(2) Global Harmonization Task Force GHTF/SG3/N18:2010 Now available through the International Medical Device Regulators Forum (IMDRF) after the disbanding of the GHTF in November 2012.

<http://www.imdrf.org/documents/doc-ghtf-sg3.asp>

(3) FDA 21CFRPart820.3 Definitions

<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=820.3>



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6. *Related Documents*

6.1. The standard documents listed below (the “Related Documents”) are referenced in this Agreement and Supplier acknowledges and agrees that it has a copy of the Related Documents which are applicable to its business in its possession on the Effective Date of this Spec 7, and that the terms of the Related Documents apply to this Spec 7 except as otherwise expressly indicated. Where there are doubts as to the applicability of documents the Supplier should contact the relevant Celestica Commodity Manager or Engineer.

6.2. As required, Supplier shall flow down through their supply chain the Related Documents and any other applicable requirements issued by Celestica to the Supplier.

6.3. Drawings and related technical data may be export controlled and licensable under US, Canadian or other national country law. Such government regulation is typically applicable to, but not limited to the technologies listed below:

Aerospace and Defense, High Performance Industrial (not consumer), Computing and High Performance Telecommunications (notably those using encryption technologies).

Supplier should check with Celestica in case of doubt before sending drawings or other technical data internationally within Supplier’s organization as well as with third-parties.

6.4. Supplier agrees to adhere to and comply with the terms and standards set out in the Related Documents which are relevant to the Supplier’s business, (as they are updated and amended from time to time), and shall be responsible for ensuring that it is always in possession of the latest update version of the Related Documents.

The form enclosed in Section 9 Exclusions and Amendments must be used to list any of the Related Documents that do not apply to Supplier’s business.

Due to copyright restrictions, non-Celestica standards cannot be issued by Celestica. Supplier needs to refer to the specific industry or standards body for the document, for example JEDEC standards are available through www.jedec.org.

Celestica standards are available through www.celestica.com/supplierresources.

A list of industry recognized (external) and Celestica standards are provided in the tables which follow.

6.5. It is the Supplier’s sole responsibility to have the latest version of the part number specific Celestica QSPEC (Individual QSPEC) in its possession on the effective date of the purchase order. The Individual QSPEC can be requested from Celestica or downloaded from Celestica's Supplier Web Portal. Supplier can request online QSPEC access by sending an email to AskQSPECS@Celestica.com. The Supplier agrees that it shall be assumed that the Supplier has the latest version of the part number specific Celestica QSPEC (Individual QSPEC) in its possession on the effective date of the purchase order.

R ef	External Document Name	Document Number	Current Revision
a	8 MM THROUGH 200 MM EMBOSSSED CARRIER TAPING AND 8 MM & 12 MM PUNCHED CARRIER TAPING OF SURFACE MOUNT COMPONENTS FOR AUTOMATIC HANDLING	EIA-481	See standards agency
b	HANDLING, PACKING, SHIPPING AND USE OF MOISTURE/REFLOW SENSITIVE SURFACE MOUNT DEVICES	IPC/JEDEC J-STD-033	See standards agency
c	CUSTOMER NOTIFICATION OF PRODUCT/PROCESS CHANGES BY SOLID-STATE SUPPLIERS	JEDEC standard No. 46 (JESD46)	See standards agency

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d	COMPONENT QUALITY PROBLEM ANALYSIS AND CORRECTIVE ACTION REQUIREMENTS (INCLUDING ADMINISTRATIVE QUALITY PROBLEMS)	JEDEC standard No. 671 (JESD671)	See standards agency
e	PRODUCT DISCONTINUANCE	JEDEC standard No. 48 (JESD48)	See standards agency
f	REQUIREMENTS FOR HANDLING ELECTROSTATIC- DISCHARGE-SENSITIVE (ESDS)DEVICES	JEDEC standard No. 625 (JESD625)	See standards agency
g	SOLDERABILITY TESTS FOR COMPONENT LEADS, TERMINATIONS, LUGS, TERMINALS AND WIRES	IPC/EIA J-STD-002	See standards agency
h	SOLDERABILITY TESTS FOR PRINTED BOARDS	IPC/EIA J-STD-003	See standards agency
i	IPC/JEDEC MOISTURE/REFLOW SENSITIVITY CLASSIFICATION FOR NONHERMETIC SOLID STATE SURFACE MOUNT DEVICE	IPC/JEDEC J-STD-020	See standards agency
j	JOINT INDUSTRY STANDARD CLASSIFICATION OF NON-IC ELECTRONIC COMPONENTS FOR ASSEMBLY PROCESSES	IPC/JEDEC J-STD- 075	See standards agency
k	GUIDELINES FOR PACKING AND LABELING OF INTEGRATED CIRCUITS IN UNITCONTAINER PACKING (TUBES, TRAYS, AND TAPE AND REEL)	JEP130	See standards agency
l	FOR THE DEVELOPMENT OF AN ELECTROSTATIC DISCHARGE CONTROL PROGRAM FOR - PROTECTION OF ELECTRICAL AND ELECTRONIC PARTS, ASSEMBLIES AND EQUIPMENT (EXCLUDING ELECTRICALLY INITIATED EXPLOSIVE DEVICES)	ANSI/ESD S20.20	See standards agency
m	ELECTROSTATICS - PART 5-1: PROTECTION OF ELECTRONIC DEVICES FROM ELECTROSTATIC PHENOMENA - GENERAL REQUIREMENTS	IEC61340-5-1	See standards agency

R ef	Celestica Document Name	Document Number
n	Celestica Bar Coding Standard for Procured Production Goods	CELQ-033-STD-51
o	Celestica Packaging and Handling Specification	PK0763-1
p	Celestica Notification of Products / Process Changes, Discontinued Availability and Product Alerts by Suppliers	DOC#0073917 Legacy CELQ-033- POL-2
q	Environmental Requirements for Purchased Components	DOC#0075098 Legacy CELQ-033- POL-7
r	Celestica Conflict Materials Requirements	DOC#DOC0078175 Legacy CELQ-033-POL-63
s	Environmental Requirements for Purchased Chemicals and Consumables	DOC#0075099 Legacy CELQ-033- POL-15

**General Quality Requirements for Purchased Products****Appendix A:*****Additional Quality Requirements for Purchased Part: Celestica HealthTech*****A-1 Purpose:**

This Appendix A modifies and/or extends Spec 7 requirements for Suppliers supplying Goods and/or services for use in Celestica Health Tech business. Spec 7 as modified and/or extended by Appendix A applies to any Goods and/or services provided for use by Celestica's HealthTech business.

By accepting a purchase order and delivering any Goods for Celestica HealthTech, the Supplier agrees that this Appendix A sets out the terms and conditions, in addition to Spec- 7 (DOC#0073861) above, relating to requirements and the quality of Goods which the Supplier supplies.

Suppliers undergoing a qualification process by Celestica for Celestica's HealthTech business are required to complete the details below and sign off on its acceptance to Spec- 7 and this Appendix A, except as otherwise excluded or amended pursuant to Section 7.

Supplier Name:	
Supplier Site:	
Site Address:	
Supplier Acceptance of Spec 7. Accepted & signed by Supplier's authorized representative:	
Date:	

Where new, similar or conflicting requirements appear in Appendix A and Spec-7 (DOC#0073861), the requirements in Appendix A shall take precedence for Suppliers of Goods provided for Celestica HealthTech business.

This Appendix A defines *mandatory requirements* related to Celestica's HealthTech regulated products. The Supplier shall comply with these requirements or provide a mutually agreeable alternative which meets the intent of these requirements.

A-2 Definitions, in addition to Spec-7 (DOC#0073861):**Adulterated:**

Subjected to the FD&C Act, "adulterated" in relation to Medical Devices includes, but is not limited to products which contain filthy, putrid or decomposed substances, is prepared, packed or held under unsanitary conditions, is in violation of Good Manufacturing Practice requirements (1).

Medical Device

The definition of a Medical Device is described fully by the following or other equivalent regulatory definitions in an applicable jurisdiction:

Regulation (EU) 2017/745 of 5 April 2017 on medical devices Article 2 : <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02017R0745-20170505&from=EN>

US FDA Medical Device Classification:

<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Overview/ClassifyYourDevice/ucm051512.htm>

Misbranded:

Within the scope of this document this refers to any component or product where there is false and / or misleading information on the label, whether this is added intentionally or otherwise. For a full



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description related to finished medical devices use the reference link (1) available at the end of this Appendix A.

A-3 Additional Quality Requirements:

In addition to section 4.1.6 of Spec-7; The Supplier shall ensure that all personnel performing work which affects the product quality and / or conformance to specifications are competent on the basis of appropriate education, training, skills and experience, including regulatory knowledge and experience.

In addition to section 4.1.6 of Spec-7; As part of training, Supplier's personnel shall be made aware of typical defects which could arise from not performing their specific tasks and activities.

In addition to section 4.1.6 of Spec-7; Supplier's personnel who are responsible for performing inspection or quality assurance activities shall be made aware of typical defects which they could encounter as part of their job function.

In addition to section 4.2 of Spec-7; Suppliers who supply Goods which are considered in their own right to be Medical Devices shall only provide such Goods when the Supplier is ISO13485 certified and, as applicable, FDA/EU registered to manufacture the Goods or other equivalent regulatory registration in applicable jurisdictions.

Where appropriate this requirement shall be identified on the individual QSPEC for the part number being supplied, but Supplier is expected to be aware if their own products are considered a medical device as identified in the definitions above.

In addition to section 4.2 of Spec-7; Suppliers shall notify Celestica of any changes to QMS certification through the Change Notification process within 48 hours of those changes occurring, or provide a suitably agreeable method to communicate those changes.

In addition to section 4.2 of Spec-7; Supplier is responsible for notifying Celestica and Celestica's customer of any changes to certifications, including any alterations to certificate scope and period of validation, as well as change of Registrar / Notified Body, upgrade to another QMS and / or expiration or termination of certification.

In addition to section 4.3.1 of Spec-7; The agreement to allow announced and unannounced inspections and audits shall be extended to a regulatory authority and Notified Bodies, if required to do so.

- **In addition to section 4.4.2 of Spec-7;** Supplier shall have and/or adapt its own record retention policy so that Supplier maintains its records for at least 15 years from the date of record creation or a longer time period as required to meet Celestica's customer's or regulatory requirements. Prior to discarding, transferring or destruction of records, the Supplier and sub-tier supplier shall notify Celestica in writing and provide the opportunity to obtain records. Records having a retention period of "Indefinitely" may be reviewed periodically to determine if they have surpassed their useful legal and business life. Destruction of records with Indefinite retention period must be authorized by Celestica. In case of takeover, transfer of ownership or joint venture, Suppliers shall maintain responsibility of record archiving, including possible transfer to the owner. In case of bankruptcy, the Supplier shall ensure that archived records are made accessible for customers and Regulatory authorities.

In addition to section 4.7 of Spec-7; Suppliers shall ensure that procedures are in place to manage the labeling process and shall neither provide Misbranded Goods nor use false and / or misleading labels.

Misbranding of Goods includes in particular, but is not limited to:

- Duplication of Serial Numbers, batch codes or lot codes,
- Wrong Identification of Part Numbers & Revision levels,
- Wrong Identification of Tolerance Bands, Bin Numbering, Quality Classifications, etc.,
- Labeling Goods with a single lot code but package contains multiple lot codes, unless otherwise notified.



General Quality Requirements for Purchased Products

Suppliers shall comply with any applicable Unique Device Identification (UDI) requirements as requested by Celestica.

In addition to section 4.8 of Spec-7; For changes related to Goods and/or services supplied for Celestica HealthTech products, the Supplier shall provide ninety (90) days prior written notice to Celestica and shall not make any change without Celestica's prior written consent.

In addition to section 4.8.9 of Spec-7; The Supplier must ensure that Celestica and Celestica's customer are identified as a customer in the Supplier's internal Change Notification processes and procedures.

In addition to section 4.9.1 of Spec-7; The Supplier acknowledges that failure to notify Celestica of non-conforming product could result in Celestica's manufactured product being considered adulterated. Supplier understands that adulterated products may result in further actions by regulatory authorities down to Supplier level.

In addition to section 4.11.1 of Spec 7; The Supplier must be in possession of a **Celestica approved and signed** Waiver prior to dispatching Goods where the Supplier's QMS or a part of it has been challenged by a regulatory authority or notified body, including but not limited observations from FDA Forms 483.

In addition to section 4.12.2 of Spec-7; The Supplier agrees to verify, or support Celestica in verifying, that the Corrective Action proposed has had and will have no adverse impact on the Supplier's Goods or Celestica's manufactured product or their intended uses.

References: Any hyperlink references are outside of the control of Celestica and are listed only to identify the reference source.

(1) FDA General Controls for Medical Devices

<https://wayback.archive-it.org/7993/20191216161458/https://www.fda.gov/node/354410>

(2) Global Harmonization Task Force GHTF/SG3/N18:2010 Now available through the International Medical Device Regulators Forum (IMDRF) after the disbanding of the GHTF in November 2012.

<http://www.imdrf.org/documents/doc-ghtf-sg3.asp>

(3) FDA 21CFRPart820.3 Definitions

<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=820.3>



General Quality Requirements for Purchased Products

Appendix B:

Additional Quality Requirements for Purchased Parts: Aviation, Space and Defense

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- B1.0 Aim of this Appendix
- B2.0 Quality Management System Requirements
- B3.0 Flawless Launch and Advanced Product Quality Planning (APQP)
- B3.1 Production Part Approval Process (PPAP)
- B3.2 First Article Inspection (FAI) Requirements
- B4.0 Change Notification
- B5.0 Counterfeit Parts Prevention
- B6.0 Control of Items with Limited Shelf-Life
- B7.0 Maintenance and Repair Organizations (MRO)
- B8.0 Records/Documented Information Retention
- B9.0 Foreign Object Debris/Foreign Object Elimination (FOD/FOE)

B1.0 Aim of this Appendix

This appendix defines the specific requirement for suppliers to Celestica Aerospace and Defense division. It applies to all Suppliers providing materials, products and related services. The Supplier is expected to flow down these requirements to applicable sub-tier sources.

B2.0 Quality Management System Requirements

The Supplier shall have a comprehensive documented Quality Management System that is in compliance with the relevant international and national standards as applicable to the Supplier organization type and to the products and services provided. Where requested through purchase agreements or purchase orders/contracts, the Supplier shall maintain a QMS certified by an applicable accredited third-party certification body to one or more of the following:

- **Manufacturers Of Build-To-Print And Supplier-Controlled Designs**
AS/EN 9100 or ISO 9001.
ISO 45001 Occupational Health and Safety Management.
ISO 14001 Environmental Management
- **Distributors/Stockists**
AS/EN 9120, AS/EN 9100 or ISO 9001.
- **Commercial-Off-The-Shelf Suppliers (COTS)**
ISO 9001, or equivalent.
- **Maintenance & Repair Organizations (AMO/MRO)** – National Aviation Authority Certification (NAA). Example FAR-145 or equivalent and AS/EN 9100 or AS/EN 9110. Applies to suppliers and sub-suppliers.
- **Special Processes**
Including include Soldering, Cable Wire Harness Assemblies, Welding, Coating, Heat Treatment, Paint, Sheet metal or Composites.
AC7004 - (NADCAP Accreditations and the supplier's inclusion on the applicable customer approval list).
- **Calibration Laboratories**
ISO 9001 and/or ISO/IEC 17025 general requirements for the competence of testing and calibration laboratories.

B3.0 Flawless Launch and Advanced Product Quality Planning (APQP)

The planning stage of launching a new program and the components to be used are critical to the long-term success of Celestica and its Suppliers. (Refer to AS9145 for guidance)



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During the process design and development phase, Suppliers are expected to develop, as a minimum, process flow diagrams that includes all operations in sequential order from receipt of materials through storage and shipment of finished product, for all applicable manufacturing processes. Along with development of Process Failure Mode and Effect Analysis (PFMEA) and associated Automatic Test Procedures (ATP), Detail Inspection Plan (DIP), Control Plan. Where Key Characteristics (KC) are identified by drawings, specifications or process design documents, these must be identified on control plan and process documents and where necessary have special controls applied. A Process Capability study must be completed for all variable Key Characteristics with minimum goal of >1.67 Ppk. and >1.33 Cpk. Measurement System Analysis (MSA) is required for equipment and gauging used to verify KC's.

During the development and validation phases of the launch, the Supplier will resolve production and manufacturing issues prior to production launch. When required, Manufacturing Readiness Assessments will be conducted prior to or during the Flawless Launch process to track and resolve risk.

B3.1 Production Part Approval Process (PPAP)

When required by the purchase order, a Production Part Approve Process (PPAP) package, at the required level, must be compiled and submitted along with the First Article Inspection Report (FAIR). Refer to AS9145 for guidance. The Supplier shall verify that all requirements are met prior to the submission of the PPAP.

NOTE: Once the process that produces a part has been validated and approved on the PPAP Approval Form, the Supplier shall not change any element of that process without prior written approval by the Celestica SQE/Buyer.

B3.2 First Article Inspection (FAI) Requirements

The Supplier receiving a request for FAI via Celestica Purchase Order is responsible for completing a First Article Inspection Report (FAIR) per AS9102 for all applicable characteristics. It applies to each layer in the parent child BOM and for each cavity or tool serial number for products whose dimensions are controlled by the tool. When required by Celestica PO, the Supplier shall use the designated cloud based FAIR tool to submit FAIRs electronically and comply with any additional instructions and checklists therein. All samples submitted will be from production representative process.

The Supplier is responsible to, in addition to AS9100 requirements for special processes, make sure all sub-suppliers, carrying out special processes, have the necessary certifications and are included on applicable OEM/Customer approved lists.

FAIRs are to be notified to Celestica designated Field Quality Engineer 15 days in advance of submittal to enable planning approval resources. Legacy FAIR's from OEM customer or partial FAIR's may be accepted by Celestica Supply Chain, under certain conditions.

B4.0 Change Notification

Reference to section 4.8.1 in main body of document is made save that Supplier shall not make any of the changes described in section 4.8.1 without Celestica prior written consent. Supplier will compensate Celestica for any costs incurred in qualifying a new manufacturing location and/or the product made at the new manufacturing location.

B5.0 Counterfeit Parts Prevention

Celestica is committed to preventing suspect and confirmed counterfeit Electrical, Electronic and Electromechanical (EEE) and Materiel commodities from entering Celestica supply chain. The Supplier shall be in compliance with SAE AS9100 Operational Risk Management and have the following controls in place:



General Quality Requirements for Purchased Products

- Deploy a process to assess and communicate risks, monitor (Through GIDEP or other means) and detect potential counterfeit parts.
- Procure material from original or authorized sources and maximize availability of authenticated material and maintain product traceability.
- Notify Celestica of any risks where material may not be available from approved sources.
- Verify conformity of product and certifications.
- Prevent escape of suspect or confirmed CP items.
- Report suspect counterfeit and confirmed counterfeit items to Celestica, other potential users and to Government investigative authorities as required by contract or by law.
- Flow down of these requirements to applicable suppliers/contractors and their sub-tier suppliers/contractors who are performing work on our behalf.

B6.0 Control of Items with Limited Shelf-Life

The Supplier shall maintain a documented system for using, storing and controlling items with limited shelf or storage life. The system shall include a method of identifying and controlling such items to ensure expired items were not used in products shipped to Celestica and that items shipped met remaining life requirements. Control shall include:

- When shipping shelf-life controlled compounds and storage-life controlled elastomers, the Supplier shall include the following additional information, as applicable on the Certification of Analysis & / or Conformance: -Date of manufacture, Cure date, Shelf-life expiration date, Storage life expiration date, Batch and or lot number, Date of shipment, Manufacturer's name.
- Certificate of Analysis is required for all chemicals and a statement of the current standard used to analyze the ingredients by Quality Control. The certificate shall contain all vital traceability details related to the batch / lot tested. Certificate shall also note the shelf life details and conditions of storage.
- Storage of Aerospace Elastomeric Seals and Seal Assemblies Which Include an Elastomer Element Prior to Hardware Assembly. Supplier shall follow ARP5316 (Aerospace Recommended Practice (ARP)).
- Solder bars, solder wires, solder alloys and flux shall conform and be analyzed as per IPC-J-STD series of standard specifications. a -IPC J-STD-006 Requirements for Electronic Grader Solder Alloys and Fluxed and Non-Fluxed Solid Solders for Electronic Soldering Applications. b -IPC J-STD-004 Requirement for Soldering Fluxes. c-IPC J-STD-005 Requirements for Soldering Pastes.

B7.0 Maintenance and Repair Organizations/ Approved Maintenance Organizations (MRO/AMO)

National Aviation Authority (NAA) Certification (local and/or international regulatory agency) and/or AS9100 or AS9110 compliance are required (where certification is available) for Suppliers, special processing Suppliers and sub-tier suppliers performing maintenance. The Supplier shall also ensure compliance with purchase order and referenced OEM documented information requirements. The Supplier must ensure they are included on applicable OEM/customer Approved Supplier List(s). All safety sensitive functions (product maintenance and/or preventive maintenance) performed against Celestica purchase orders shall be accomplished by personnel covered by an FAA compliant Drug and Alcohol Testing Program if performed within the territory of the United States.

NAA certification and proof of registration for an FAA Drug and Alcohol Testing Program shall be provided upon Celestica's request. MRO's are subject to Celestica periodic audit and/or self-audit.

B8.0 Records/ Documented Information Retention

Records of product/material manufacture, test, inspection (including radiographic film), calibration and acceptance/certification, are considered quality records and shall be retained as follows:



General Quality Requirements for Purchased Products

<u>Records in Support of</u>	<u>Minimum Retention Period</u>
Radiographic Film, Digitized Film or Digital Radiographs	11 years
Non-traceable, non-serialized parts	11 years
Traceable parts as identified on the drawing or purchase order	Indefinitely
Serialized parts as identified on the drawing or purchase order	Indefinitely
Critical parts as identified on the drawing	Indefinitely
Distributor standard off the shelf product	7 years

- Quality records shall be all records as defined within the AS9100 for documented information. Prior to discarding, transferring or destruction of records, the Supplier and sub-tier supplier shall notify Celestica in writing and provide the opportunity to obtain records.
- The above are MINIMUM retention periods, beginning with the date the order was completed. In the case where a specification, contract or purchase order requires a greater retention period, the more stringent requirement will apply. Records having a retention period of "Indefinitely" may be reviewed periodically to determine if they have surpassed their useful legal and business life. Destruction of records with Indefinite retention period must be authorized by Celestica.
- In case of takeover, transfer of ownership or joint venture, Suppliers shall maintain responsibility of record archiving, including possible transfer to the owner.
- In case of bankruptcy, the Supplier shall ensure that archived records are made accessible for customers and Regulatory authorities.

B9.0 Foreign Object Debris/Foreign Object Elimination (FOD/FOE)

Suppliers shall have an effective program to prevent foreign object debris and subsequent FO damage. Suppliers will maintain a FOD free environment during machining, manufacturing, assembly, maintenance, inspection, storage, packaging and shipping. Program should comply with PO requirements or when not specified, the latest revision of National Aerospace Standard NAS 412 or equivalent in country where work is performed.

Definitions

- **Foreign Object (FO) or Foreign Object Debris (FOD)** – A substance, debris or article alien to an aircraft or system, which would potentially cause damage.
- **Foreign Object Damage (FOD)** - Any damage or malfunction attributed to a foreign object that can be expressed in physical or economic terms which may or may not degrade the product's required safety and/or performance characteristics.
- **Foreign Object Elimination (FOE):** a program or process used to assure a FOD-free product/system.



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Appendix C:

Additional Quality Requirements for Purchased Parts: Automotive

Table of Contents:

- C1 Purpose of this Appendix
- C2 Quality Management System
- C3 Design and Development of Products and Services
- C4 Automotive Product-Related Software or Automotive Products with Embedded Software
- C5 Manufacturing Verification
- C6 Error-Proofing
- C7 Change Control
- C8 Layout inspection and functional testing
- C9 Records / Documented Information Retention

C1 Purpose of this Appendix

This appendix defines the specific additional requirements for Suppliers to Celestica's Automotive sub-segment. It applies to all Suppliers providing materials, products and related services. The Supplier shall flow down these requirements to applicable sub-tier sources and require sub-tier suppliers to flow down to their sub-tier.

C2 Quality Management System

The Supplier shall have a comprehensive documented Quality Management System that complies with the relevant international and national standards as applicable to the Supplier organization type and to the products and services provided. Where requested through purchase agreements or purchase orders/contracts, the Supplier shall maintain a QMS certified by an applicable accredited third-party certification body to one or more of the following:

- Manufacturers Of Build-To-Print And Supplier-Controlled Designs
IATF16949 or ISO 9001. ISO9001 certified Suppliers should have available plan for IATF16949 certification, if requested
- Commercial-Off-The-Shelf Suppliers (COTS) / Distributors
IATF16949 or ISO 9001
- Externally Provided Products, Processes and Services
IATF16949 or ISO9001
- External Calibration Laboratories
ISO/IEC 17025 or national equivalent on general requirements for the competence of testing and calibration laboratories

C3 Design and Development of Products and Services

When required by Celestica, the Supplier shall ensure that design and development planning through Advance Product Quality Planning (APQP) is done using a multidisciplinary approach and Production Part Approve Process (PPAP) package, at the required level. Refer to Automotive Industry Action Group (AIAG) documents for guidance.

In the event of any product recalls, product audits, field returns and repairs, complaints, scrap and rework to eliminate causes of potential non-conformities, the Supplier shall conduct risk analysis (as a minimum Lessons Learned and Failure Mode and Effect Analysis (FMEA)).

For product safety-related products and manufacturing processes, the Supplier shall have and comply with a defined and documented management process.

When customer pass-through characteristics (PTC) are identified, the Supplier shall integrate them in the Process Failure Mode and Effect Analysis (PFMEA) and Control Plan with error proofing methods and robust controls in place and the Supplier shall flow down the requirement to their sub-suppliers.



General Quality Requirements for Purchased Products

C4 Automotive Product-Related Software or Automotive Products with Embedded Software

The Supplier shall implement and maintain a software quality assurance process for automotive product-related and/or automotive products with embedded software.

C5 Manufacturing Verification

The Supplier shall define and implement the necessary actions to ensure product compliance with requirements after every set-up, planned or unplanned production shutdown schedule. Refer to IATF16949 Items 8.5.1.3 and 8.5.1.4 for details.

C6 Error-Proofing

The Supplier shall implement and document appropriate error-proofing methodologies in its processes. Details shall be documented in the product risk analysis (e.g. Process FMEA) and test frequencies shall be documented in the Control Plan. Error-proofing devices shall be calibrated, if necessary and error-proofing device failures shall have an appropriate reaction plan.

C7 Change Control

Reference to section 4.8 in the main body of document is made that the Supplier shall not make any of the changes described in section 4.8.1. without prior notification to Celestica and approval.

C8 Layout inspection and functional testing

The supplier shall perform layout inspection and functional verification to applicable materials and performance standards as specified in the Control Chart. Results shall be available for Celestica review, if requested. "Control Chart" is a graph used to study how a process changes over time.

Note: Layout inspection is the complete measurement of all product dimensions shown on the design record(s). The frequency of inspection is determined by Celestica.

C9 Records / Documented Information Retention

The Supplier shall implement and document a record retention policy. Product and process design records, PPAP, tooling records (including maintenance and ownership), purchase orders (if applicable) or contracts and amendments shall be retained for the length of time that the product is active for production and service requirements, plus one calendar year, unless otherwise specified by Celestica.

**General Quality Requirements for Purchased Products*****7. Exclusions and Amendments***

Where the Supplier accepts with Requested Exclusions or Amendments, these exclusions and amendments must be listed below. Other than exclusions and amendments and completing the required information in this section 7, any other changes to the provisions of this document are deemed to be invalid.

Celestica agreement to exceptions will be dealt with on a case by case basis and acceptance of Supplier's exclusions and/or amendments requires the signature of a Celestica manager or above with authority to agree to changes. Exclusions and amendments to Spec 7 or an applicable Appendix shall be effective only after signature by Celestica and Supplier.

Supplier Name:	
Supplier Site:	
Site Address:	
Supplier Acceptance of Spec 7 as modified by the following Exclusions and Amendments. Accepted & signed by Supplier's authorized representative:	
Job Title:	
Direct Contact Tel:	
Direct Contact email:	
Date:	

Celestica agreement (applicable manager or above) to Supplier changes listed below signed by:	
Position:	
Date:	



General Quality Requirements for Purchased Products

Supplier's Requested Exclusions and Amendments are as follows:

Section:	Clause:	Supplier Comments on requested exclusion or amendment <i>(add extra sheets as necessary)</i>

End of Document