

ZA STANDARD

REQUIREMENTS APPLICABLE TO SUPPLIERS

Reference: ZA-Q-1030

Revision: C

Date: 26 July 2013

PURPOSE

This document defines the **requirements** applicable to the ZODIAC AEROSPACE Group suppliers. These requirements are defined for each category of suppliers.

- Engineered Product Manufacturers,
- Sub-contractors,
- Components Off The Shelf Suppliers
- Distributors,
- Repairers,
- Tools Suppliers,
- Service Providers.

Supplementary specific requirements can be included in contracts or purchase orders.

REVISIONS

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B: November 2011

C: May 2013

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WRITING - CHECKING - APPROVAL

Document written by the Zodiac Aerospace Group Quality Suppliers Working Group.

Document checked and approved by the Zodiac Aerospace Supply Chain Committee.

Document checked and approved by the Zodiac Aerospace Corporate Quality.

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APPLICABILITY

This document applies to all aerospace, defense and space products purchased by the ZODIAC AEROSPACE Group entities (individually referred to as "Buyer" defined below).

This document constitutes a **contractual obligation** whenever it is referenced in contracts or purchase orders (as defined below).

By accepting the contract or purchase order, the supplier (as defined below) agrees to comply with all the applicable clauses contained in this document.

Any changes or amendments to, or inapplicability of, any clauses contained in this document are subject to Buyer's approval in writing. If any conflict or inconsistency arises or exists between any clauses contained in this document and the terms and conditions of any Contract or Purchase Order, the Contract and/or Purchase Order terms and conditions shall govern and control.

TERMINOLOGY

Acronyms

COTS

Component off-the-shelf

EASA Form 1

European Aviation Safety Agency - Release certificate

ESD

Electrostatic discharge

ERP

Enterprise Resources Planning

FAA Form 8130-3

Federal Aviation Administration - Release Certificate

FMECA

Failure Mode, Effects and Criticality Analysis

FAI

First Article Inspection

OASIS

On line Aerospace Supplier Information System (www.iaqg.sae.org/oasis)

PRI/NADCAP

Performance Review Institute / National Aerospace and Defense Contractor Accreditation Program.

REACH

Registration, Evaluation and Authorization of Chemicals

<u>ROHS</u>

Restriction on the use of certain Hazardous Substances

Definitions

<u>Buyer</u>

The term Buyer refers to the ZODIAC AEROSPACE Group business unit issuing the contract or purchase order.

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Contract or Purchase order

The contract or purchase order is the legal agreement between the supplier and the Buyer, whatever the format (paper or data processing support) or the designation (order, contract, delivery order) to provide products, materials and/or services.

COTS Suppliers

Supplier of off-the-shelf products for which the Supplier has design responsibility or Supplier of products manufacturing in compliance with standards.

Demonstrated capacity

Proven capacity calculated from actual performance data. Usually expressed as the average number of parts produced multiplied by the standard hours par part.

Distributor

Supplier responsible for the purchase, storage and distribution of non modified products.

End Customer

The term End Customer refers to the ZODIAC AEROSPACE Group entity's Customer placing the contract or purchase order.

Engineered Product Manufacturer

Supplier providing a product according to the Buyer's specifications or technical requirements. The Engineered Part Manufacturer is the owner of the design file.

Environmental impact

Any change to the environment, whether adverse or beneficial, wholly or partly resulting from the environmental aspects of the supplier.

Products

Materials (assemblies, parts, components, etc...), products manufactured by continuous processes (base materials, liquids, sheet metal, wires, etc...), service (design, repair, test, software, non destructive tests, special processes).

Repairer

Supplier performing repair and maintenance (overhaul, inspection, replacement, modification or defect rectification) of an used aircraft component.

Service provider

Supplier providing services relating to product or means used in products manufacturing (hardware design, tests, software design, logistics, calibration ...)

Sub-contractor

Supplier providing a product from the Buyer's definition or manufacturing file.

Sub-tier Supplier

L-2 Supplier providing a product to the Supplier who is the holder of a contract or purchase order placed by the Buyer.

Supplier

Company (engineered product manufacturer, subcontractor, distributor, COTS supplier, repairer, tools supplier, service provider) holder of a ZODIAC AEROSPACE Group company contract or purchase order.

Tools Supplier

Supplier providing and/or designing tools, production means, inspection & test benches used to manufacture, assemble, inspect and test products sold by the Buyer.

Note: These tools are not intended to be integrated in the Buyer's products.

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REFERENCE DOCUMENTS

ISO 9001:

Quality management system - Requirements.

ISO 14001:

Environmental management systems — Requirements with guidance for use.

EN/AS/JISQ/9100:

Quality management system - Requirements for Aviation, Space and Defense organizations.

EN/AS/JISQ/9110:

Quality management system – Requirements for Aviation maintenance organizations.

EN/AS/JISQ/9120:

Quality management system – Requirements for Aviation, Space and Defense Distributors.

EN/AS/JISQ/9103:

Variation management of Key Characteristics.

EN/AS/JISQ/9102:

First Article Inspection.

EIA JESD-625:

Requirements for electrostatic discharge sensitive device.

MIL-Std-1686

Electrostatic discharge control program for protection of electrical and electronic parts, assemblies and equipment.

EN 61340-5-1:

Protection of electronic devices from electrostatic phenomena - General requirements.

IPC/JEDEC J-STD-033:

Joint IPC/JEDEC Standard for handling, packing, shipping and use of moisture/reflow sensitive surface mount devices.

ISPM15 / NIMP15:

Guideline for regulating wood packaging material in international trade.

ZA-Q-1080:

Risk management guideline for suppliers.

ZA-Q-1081:

Industrial flow chart guideline for suppliers.



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	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
1. (GENERAL							
1.1	The Supplier shall inform the Buyer of any significant change concerning: Company name Mergers and acquisitions Company organization and management Factories Manufacturing processes * Industrial means * (tools, inspection and production equipment) Sharing between internal and external manufacturing* Major sub-contractors*. Certifications and approvals	X	X	X	X	×	X	×
	Note 1: In case of work transfer (from one Supplier facility to another, from the Supplier to subtier supplier, from one major supplier sub-tier to another supplier sub-tier) the Supplier shall notify the Buyer at least 3 months before the beginning of the transfer (see also clause 9.1 related to work transfer plan). (*): not applicable to Distributors and COTS.							
1.2	Buyer representatives, whether or not accompanied by End Customer representatives, shall have the right to carry out quality audits or inspections at the Supplier's premises (and if necessary at sub-contractors supplier premises) in order to check: Supplier conformity to requirements specified in this document Conditions under which the contract or purchase order is being fulfilled Product conformity to specified requirements Conformity of processes to specified requirements Implementation of any corrective action required.	X	X	X	X	X	X	X
1.3	The Supplier shall inform the Buyer, before contract or purchase order acceptance, of the facilities, manufacturing processes and/or data considered confidential for which the Supplier requires no admittance of Buyer's representatives and/or End Customer's representatives.	X	Х	Х		Х	Х	Х
1.4	Depending on the nature of the products or services ordered, Official Authorities may inspect any or all of the operations required to fulfill the contract or purchase order. Depending on what is to be supplied, these Official Authorities include but are not limited to those listed below: Civil Aviation Authority or organization acting on its behalf, for civil aviation activities. Department of Defense Authorities for military activities The supplier (and any of his subcontractors) shall provide the representatives of any Official Authorities free access to his premises and shall make available to them any document related to the contract or purchase order as well as any other facilities required in order to enable them to carry out their inspection.	X	X	X	X	X	X	X
1.5	The Supplier shall provide at least once a year to the Buyer its capability list					X		



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
2. (QUALITY MANAGEMENT SYSTEM							
2.1	The Supplier shall implement, document and maintain a Quality Management System in accordance with applicable requirements of 9100 series standards or ISO 9001 standard and additional requirements specified in this document.		X	X	X	X		
	The Quality Management System shall be appropriate to the products they designs, manufactures, repairs or sells and shall cover all activities concerned by Buyer contracts or purchase orders.							
2.2	9100 series certified suppliers shall grant access to ZODIAC AEROSPACE in OASIS Data base to certification audit reports.	X	Х	X	X	X		
3. [DOCUMENTATION CONTROL							
3.1	 The Supplier shall implement an appropriate process in order to: Ensure that the Supplier has all documents necessary for contract or purchase order achievement Ensure that document revision status are valid Ensure that applicable documents are available at points of use Ensure that applicable documents are available in the sub-tier supplier's premises, Prevent use of obsolete document or of document including handwritten notes not yet validated. 	X	X	X	X	X	X	X
3.2	Requests for Buyer documents (drawings, specifications, etc.) required for order fulfillment should be addressed to the Buyer Purchasing Department.	Х	Χ	Х	Χ	Χ	Χ	Х
4. (CONTROL OF RECORDS							
4.1	Unless otherwise specified on contract or purchase order, the design and definition file (drawings, part lists, 3D/2D models, specifications, design modifications, qualification documents,) shall be retained for the whole operational life of the product + 6 years.	X						
	Note: It is the Supplier's responsibility to ask the Buyer for such information. Without information concerning end of operational life of product, retaining of these records shall be considered as unlimited.							
4.2	Unless otherwise specified in contract or purchase order, records pertaining to product quality and manufacturing history shall be retained for 10 years (test reports, inspection reports, investigation reports, non conformity reports, release documents, work order, shop order travelers, route card, equipment and process qualification,).	X	X	X	X	X	X	X
	This requirement is still valid even in case of termination of commercial relationships between Supplier and Buyer.							
4.3	Unless otherwise specified in contract or purchase order, documents retained by the Supplier shall be available for review or shall be communicated to the Buyer within 48 hours (2 business days) upon simple request.	X	Х	X	X	X	X	Х
4.4	Storage environment and recording method shall ensure data preservation and legibility during retention period.	Х	X	X	X	X	X	X



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
5. 8	STAFF TRAINING AND COMPETENCIES							
5.1	The supplier shall ensure that all activities regarding contract or purchase order fulfillment are performed by skilled and trained staff including temporary staff and contract staff.	Х	Χ	Х	Χ	Х	Χ	Х
5.2	The supplier shall identify critical skills (requiring special competencies, and/or performed by single station operator) required for contract or purchase order fulfillment and shall maintain associated competencies.	Х	Х	Х	X	Х	X	X
	A cross reference list of critical skills by product or activity shall be implemented and updated.							
5.3	Final test, inspection, and release shall be carried out by operators authorized by the Supplier's Quality Department.	Х	X	Х		Х	X	X
5.4	If special processes are carried out (non destructive tests, welding) operators shall be certified/qualified in accordance with requirements established on drawings, specifications and contract or purchase order.	Х	Х			Х		Х
	These provisions also apply to sub-tier suppliers.							
5.5	The supplier shall demonstrate that repair and maintenance staff have been trained on the applicable maintenance regulation requirements (Human Factors, Safety Management System, part 145, EMAR 145,)					х		
6. \	WORK ENVIRONMENT							
6.1	The supplier shall provide premises and work stations suitable to achieve contract or purchase order realization. Workshop layout and production flow shall be optimized. Storage and waiting areas shall be identified.	Х	Х	Х	Х	Х	X	X
6.2	Where applicable, the Supplier shall implement all necessary arrangements required to control ESD (electrostatic discharge) during manufacturing and handling of electronic components or electronic assemblies.	Х	Х	Х	X	Х	X	Х
	These provisions shall comply with MIL-Std-1686 or EN 61340 standards.							
6.3	The Supplier shall implement all necessary arrangements required to prevent, detect and eliminate foreign object debris during manufacturing, assembly, inspection, storage, maintenance, packaging and shipping.	Х	X	Х	X	Х	X	Х
6.4	The Supplier shall implement actions (e.g.: preventive maintenance) to ensure that designing, manufacturing and inspection equipments are operational throughout contract execution.	Х	Χ	Х	Χ	X	X	Х
	Industrial equipment recovery plans (including IT systems) shall be implemented in order to ensure operation continuity.							1
6.5	The Supplier shall have a documented identification and periodic calibration system of monitoring and measuring devices used to verify product conformance.	Х	Χ	Х	Χ	Х	Χ	Х
	Traceability of calibration with national or international standards shall be maintained.							
	The supplier shall ensure accuracy, reproducibility and repeatability of the equipment used are compatible with the measurements to be performed on the product.							
	Note: Monitoring and measuring devices include, but are not limited to: test hardware, test software, automated test equipment (ATE) and plotters used to produce inspection data. It also includes personally owned and Buyer supplied equipment used to provide evidence of product conformity.							



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7.	PLANNING OF PRODUCT REALIZATION							
7.1	The supplier shall inform the Buyer as soon as he is aware of them of any incidents or anomalies likely to affect the fulfillment of contract or purchase order (delivery date, product conformity).	X	Х	Х	Х	Х	X	Х
	Note: If requested by the Buyer, the supplier shall present a recovery plan.							
7.2	Planning horizons must be in accordance with product manufacturing lead time (including procurement lead time of components and raw materials) of the product.	Х	Х	Х	Х	Х	X	Х
7.3	Procurement plan and forecast provided by the Buyer shall be used in production planning and where applicable shall be passed to sub-tier suppliers.	Х	Х	Х	Х	Х	Х	Х
7.4	Planning data must take into account internal rejection rate.	Χ	Χ	Х				
7.5	Manufacturing data (internal manufacturing lead time, procurement lead time, internal rejection rate, internal rework rate, turnaround time,) shall be recorded and periodically updated.	X	X	Х		Х		
7.6	The Supplier shall conduct periodic load/capacity analysis on short, medium and long term requirements. The supplier shall define the necessary actions to meet Buyer's requirement and overall requirements (ex: increase equipment capacity, work time increase, work transfer, development of multi-skill competencies).	X	X	X		X		X
	Note 1: Load profile must be done at least by critical processes (including bottlenecks) affecting product lead time. Demonstrated capacity shall be used.							
	Note 2: Potential bottlenecks shall be identified and controlled.							
7.7	The Supplier shall implement a process to ensure production follow up and be able at anytime to inform the Buyer about the contract or purchase order job status.	Х	Х	Х	Х	Х	X	Х
7.8	The Supplier shall implement a methodology to monitor and manage delays and shortages (Line of Balance or similar tools).	Х	Х	Х	Х	Х	Х	Х
7.9	On Buyer's request, the Supplier shall prepare and maintain a flow chart (or equivalent document) describing the industrial process from raw material and components procurement to product delivery (physical flow and data flow).	Х	X			Х		
	This document shall include: Industrial process layout Information flow (Customer demand) Main manufacturing and control stages Identification of major sub-tier suppliers Bottleneck identification Inventory between process steps Demand (quantity per period and lot size). Flow chart shall be completed for each phase by specifying (where applicable): Specific means and tools used Associated documents (drawings, procedures) Critical items (e.g.: identified process risks) Cycle time Lot size Overall Equipment Effectiveness Process performance metrics.							
	Note: see ZA-Q-1081: Industrial flow chart guideline for suppliers.							



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8. R	RISK MANAGEMENT							
8.1	The Supplier shall implement a process intended to identify, periodically analyze and mitigate all risks liable to disrupt the industrial process and contractual obligations related to product quality and on time deliveries.	X	X	Х	Х	X	X	х
	These risks can be linked to: Product (complexity, use) Suppliers (single source, obsolescence, change source) Product manufacturing and inspection Industrial resources (machines, ERP,) Human resources. Note: See ZA-Q-1080: Risk management guideline for suppliers.							
8.2	For each risk identified as critical, the Supplier shall formalize and record actions implemented in order to reduce, mitigate or monitor risks.	Χ	X	Х	X	X	X	Х
	On request, these actions should be reviewed with the Buyer.							
	Note: Critical risk is defined as a risk being able to have a significant effect on quality product and deliveries.							
9. V	VORK TRANSFER							
9.1	In case of transfer of work (from one Supplier facility to another, from the Supplier to sub-tier supplier, from one supplier sub-tier to another supplier sub-tier) an action plan shall be defined and implemented by the Supplier. This plan shall address as a minimum the following activities: Identification of key competencies Risk analysis Transfer plan Validation Delivery continuity Safety inventory.	×	×			×		×
	The transfer plan shall be communicated to Buyer on request.							
	Note: See also clause 1.1 related to Buyer information and clause 17.3 related to the first article inspection.							
10. C	CONTRACT REVIEW							
10.1	Upon receipt of contract or purchase order, the Supplier shall ensure that all information required to fulfill contract or purchase order is made available.	Χ	Х	Х	Х	Х	X	Х
10.2	Review of requirements related to the product must take in consideration all elements of contract or purchase order. Any inability to meet the defined requirement detected during contract or purchase order review shall be reported in writing to Buyer. Contract review objective evidences shall be communicated to the Buyer on request.	X	Х	Х	X	X	X	X
10.3	Contract or purchase order review shall lead to acknowledgement receipt issue sent to the Buyer.	Χ	Х	Х	Х	Х	Х	Х
11. B	BUYER COMMUNICATION							
11.1	The supplier shall appoint points of contact having organizational authorities to resolve any point related to supply chain. Names and positions of these points of contacts shall be communicated to the Buyer. The supplier shall record and communicate within its organization Buyer point of contact	X	X	Х	X	X	X	х
	(procurement, quality).							



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12. C	DESIGN PLANNING							
12.1	The Supplier shall prepare a management plan describing the project organization and planning. This document shall be appropriate to the type and complexity of the project and shall meet the design management requirements defined by the Buyer.	Х						X
	This management plan shall be submitted to the Buyer for approval.							
	Note 1: Depending on the type and complexity of the project, the design management requirements can be specified by the Buyer in the following documents: Contract or purchase order Statement of work Technical design specifications.							
	Note 2: Without any specific design management requirements specified by the Buyer, the Supplier's management plan shall meet the requirements defined in its own development and design procedures.							
12.2	During design phases, the Supplier shall identify critical items having significant effect on the product realization (functions, parts, software, characteristics, processes, sub-tier supplier).	Х						Х
	For these critical items, the Supplier shall implement action plans to ensure they are adequately managed.							
12.3	The supplier shall identify burning-in needs and/or running-in and communicate the corresponding plans to the Buyer.							Х
	Note: These plans shall provide information related to the conditions, monitoring and effectiveness of burning-in and/or running operations.							
12.4	The Supplier shall issue the following documents:	Х						Х
	 Acceptance Test Specifications (ATS) specifying tests to be made on the product before delivery as well as relevant acceptance criteria Acceptance Test Procedure (ATP) specifying tests procedure as well as suitable means 							
	Acceptance Test Report (ATR). These documents shall be submitted to the Buyer for approval.							
12.5	The supplier shall implement a process to ensure that all industrialization, manufacturing, procurement, maintainability constraints have been taken into account during product development (concurrent engineering).	X						X
13. E	DESIGN CHANGES							
13.1	Once the Critical Design Review (CDR) stage has been accepted, any change in the design which satisfies at least one of the following criteria shall be managed by the Supplier via a Design Change Request (whether Hardware or Software):	Х						
	 The change impacts safety/integrity characteristics The change restores compliance with requirements (which were not met) The change implies a deviation from the requirements (which were met) The change impacts the line maintenance The change modifies a physical, functional or operational interface The change results from a major technological update. 							
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	 The Design Change Request shall provide the following minimum information: Description and reference number of the product concerned (before and after change) Type of modification Purpose, description and justification of the change Level of application Technical consequences for the product (interchangeability, weight, price, documentation, test facilities, parts list, maintenance, etc) consequences on already delivered products Justifications concerning control and validation of technical change. Design Change Request shall be signed by the supplier appointed managers (Engineering, 							
	Quality and Sales) and shall be submitted to the Buyer for approval before implementation.							
14.1	The Supplier shall be responsible with respect to the Buyer for the product quality irrespective of the sub contracting level. The Supplier shall pass on his sub-tier suppliers the quality requirements defined in this document and contract or purchase order. Note: The Supplier shall justify to the Buyer applicable requirements non implemented on his sub-tier suppliers.	X	X	X	X	X	X	X
14.2	The Buyer may specify mandatory sources of supply, in that case the approved source(s) of supply will be indicated on the contract or purchase order or on the relevant order documents.	X	Х		X	X	X	X
14.3	The Supplier has to set up a process intended to evaluate, select and qualify his sub-tier suppliers, adapted to the identified risks and to the type of product concerned. Information related to sub-tier supplier qualification shall be recorded. The list and status of sub-tier suppliers involved in contract or purchase order execution is communicated to the Buyer on request.	Х	Х	Х		Х	Х	X
14.4	The Supplier shall implement a process for periodical monitoring of his sub-tier suppliers. Monitoring shall be adapted to identified risks and to type of product concerned and including as a minimum: Checking that applicable Buyer requirements are met Measurement of the performance level (quality product and delivery). Note: This requirement is applicable also for mandatory sources specified by the Buyer.	X	Х	Х	X	X		X
14.5	Metallic raw materials procured by the Supplier for fulfillment of the contract or purchase order shall be accompanied by a statement of conformity including specific inspection results (mechanical tests and chemical analysis) and batch number. When receiving metallic raw materials, the Supplier shall ensure that test and inspection results are in accordance with product specifications (standards or requirements specified in the definition file).	X	Х		X	X		
14.6	Electronic components shall only be procured from original manufacturers or from original manufactured franchised retailers. If (exceptionally) electronic components should be procured from retailers who are not franchised by the original manufacturer (short delivery time, obsolescence), the Supplier shall obtain prior written acceptance the Buyer's representative in charge of product definition where components are integrated. Depending on the type and use of component, inspections and specific tests shall be defined in order to ensure components conformity (visual inspection, functional tests, reliability tests). Components procured from retailers who are not franchised by the original manufacturer shall be delivered with a copy of manufacturer certificate of compliance.	X	Х		X	X		



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14.7	Special processes may be subcontracted as follows :		Х			Х		Х
	Either to sub-tier suppliers whose facilities have been approved by the supplier. In which case the Supplier shall prior submit to the Buyer the relevant qualification file (audit file, qualification plan, test reports).							
	Note: Where a PRI-NADCAP qualified facility is used, the technical performance of the process shall be checked with respect to the Buyer applicable requirements.							
	Or to sub-tier suppliers whose facilities have been approved by the Buyer.							
14.8	The supplier shall systematically and immediately inform the Buyer of any obsolescence notification and/or modification notification notified by his sub-tier suppliers concerning any components, raw material, or processes incorporated in Buyer designed product.		х			х		х
14.9	An order acknowledgment shall be systematically required to sub-tier supplier. Any deviations (lead time, Qty) shall be analyzed and transmitted to the internal functions involved.	X	Х	Х	X	Х	X	Х
14.10	A pre-expediting process shall be implemented in order to ensure timely delivery of materials in specified quantity.	X	Х	X	X	Х	X	Х
14.11	The supplier's purchase documents shall provide access to the sub-tier supplier's premises by Buyer representatives, who may or may not be accompanied by his End Customer's representatives and/or authority's representatives (see clauses 1.2 and 1.4).	X	Х	X	X	Х	X	X
14.12	Where a purchased product is released for production use pending completion of all required inspection activities, it shall be identified and recorded to allow recall and replacement if it is subsequently found that the product does not meet requirements.	X	Х			Х		х
14.13	Where the Supplier delegates inspection activities to the sub-tier supplier, the requirement for delegation shall be defined and a register of delegations maintained.	X	Х			Х		Х
15. M	ANUFACTURING AND INSPECTION FILE							
15.1	A flow chart or a manufacturing and inspection routing sheet shall be established for each product.	Χ	Х			Х		х
	This document shall be completed by specifying the following data for each step:							
	Means used at each key phase							
	 Associated documents Surveillance plan (key characteristics, identified risks). 							
15.2	A document (route card) listing each operation carried out must follow the products being manufactured and assembled.	X	Х			Х		Х
	For each operation, the operator shall:							
	 Ensure that previous operations have been correctly carried out Record quantities of accepted and refused products Certify that operations have been carried out as planned, or in case of change, deviations have been documented and approved. 							



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16. V	ALIDATION AND CONTROL OF PROCESSES FOR PRODUCTION							
16.1	The Supplier shall identify all special processes used for product manufacturing.	Х	Х	Χ		Χ	Χ	Х
	Note: Special processes are manufacturing processes whose: Resulting output cannot be fully verified by subsequent monitoring or measurements performed on the product Deficiencies become apparent only after the product is in use.							
	Special processes shall be qualified by the Supplier before utilization. Process significant parameters shall be identified, controlled and recorded. These requirements also apply to subcontracted special processes.							
	The special process qualification file shall be consulted by the Buyer on request.							
16.2	The Buyer may request a PRI-NADCAP certification for special processes (including non destructive tests) considered by the Buyer as critical for the product realization.	X	Х			Χ	Χ	Х
	Upon request, the Supplier shall provide to the Buyer all documentation showing evidence of qualification of PRI-NADCAP approved special processes.							
	These requirements also apply to sub-contracted special processes (see clause 14.7).							
16.3	For manufacturing and inspection processes identified as critical, the supplier shall identify and control key process characteristics (see also clause 8.1 related to risk management and clause 12.2 related to critical item when applicable).		Х	X		X		X
	Supplier shall maintain measurable evidence in order to demonstrate key characteristic control.							
	Note 1: Critical process is defined as a process having significant effect on quality product and or delivery.							
	Note 2: Process failure mode and effect analysis (PFMEA) is a recommended tool used to identify key process characteristics.							
	Note 3: see for guideline, IAQG standard 9103 - Variation management of key characteristics.							
16.4	On Buyer's request, the Supplier shall monitor the product and process key characteristics variation by Statistical Process Control. If other variation control methods are used, measurable evidence must demonstrate that the controls are efficient.		Х					
	The Supplier shall set up variation management activities on product and process key characteristics to achieve the capability target value (i.e. Cp, Cpk) and provide evidence.							
	In a continuous improvement approach, the Supplier shall define specific action plans to improve the capability results.							
	When applicable, the Supplier shall flow down this requirement to their key contributing parties.							
17. F	VALIDATION AND CONTROL OF PROCESSES FOR PRODUCTION The Supplier shall identify all special processes used for product manufacturing. Note: Special processes are manufacturing processes whose: Resulting output cannot be fully verified by subsequent monitoring or measuren performed on the product Deficiencies become apparent only after the product is in use. Special processes shall be qualified by the Supplier before utilization. Process signil parameters shall be identified, controlled and recorded. These requirements also apply to contracted special processes. The special processes qualification file shall be consulted by the Buyer on request. The Buyer may request a PRI-NADCAP certification for special processes (including destructive tests) considered by the Buyer as critical for the product realization. Upon request, the Supplier shall provide to the Buyer all documentation showing eviden qualification of PRI-NADCAP approved special processes. These requirements also apply to sub-contracted special processes (see clause 14.7). For manufacturing and inspection processes identified as critical, the supplier shall identify control key process characteristics (see also clause 8.1 related to risk management and cit 12.2 related to critical item when applicable). Supplier shall maintain measurable evidence in order to demonstrate key characteristic control Note 2: Process failure mode and effect analysis (PFMEA) is a recommended tool used to ide key process characteristics. Note 3: see for guideline, IAQG standard 9103 - Variation management of key characteristic variation by Statistical Process Control. If other variation control methods are used, measu evidence must demonstrate that the controls are efficient. The Supplier shall set up variation management activities on product and process characteristics to achieve the capability target value (i.e. Cp, Cpk) and provide evidence. In a continuous improvement approach, the Supplier shall define specific action plans to impute capability results. Wh							
17.1	The first article inspection shall be carried out on a representative item from first production run of a new part in order to verify that production processes, manufacturing and inspection documentation and tooling are capable of producing parts that meet requirements.		Х					
	The product having been inspected shall be identified for delivery.							
	Note 1: The FAI process shall be carried in accordance with IAQG 9102 standard.							
	Note 2: The FAI process does not apply to standard catalogue hardware parts (part or material that complies with an established industry or authority published specification, having all characteristics identified by text description, national/military standard drawing, or catalogue item).							
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	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
17.2	The First article inspection report must include:	Χ	Χ					
	 Reference and issue of industrial file; If applicable, reference to first article inspection report carried out on components or sub 							
	 assemblies Raw material, components and subcontracted operation certificates of conformity or test 							
	reports • Results of all tests carried out (dimensional checks 100 %, non destructive tests, mechanical							
	 and performance tests) References and issue of specific inspection means used (tools, jigs, test benches) List of non-conformities detected and relevant corrective actions implemented. 							
	A copy of the FAI report shall be attached with delivery documentation of first production run delivery of the product.							
	Note: Forms are available for download at: http://www.sae.org/iaqg.							
17.3	 The First Article Inspection process shall be partially or totally repeated in the following events: A lapse in production for 24 months A change in design affecting fit, form or function of the part A change in manufacturing source(s), process(es), tooling, location of manufacture than can potentially affect fit, form or function Specific tools change On Buyer's request. 	X	X					
17.4	The Buyer reserves the right to witness the First Article Inspection at Supplier's premises.	Х	Х					
10	CONTROL OF PRODUCTION PROCESS CHANGE							
		V	V					· ·
18.1	Any modification affecting the manufacturing and inspection dossier shall be documented and recorded in order to fulfill traceability and product configuration management requirements.	۸	X			Х		X
18.2	All changes affecting manufacturing and inspection processes shall be assessed prior to implementation to confirm that the desired effect has been achieved without adverse effect on product quality and reliability.	X	X			X		X
18.3	Any major change affecting the manufacturing process shall be communicated to the Buyer prior to implementation.	X	X			X		X
18.4	No change in product characteristics, in particularly component or raw material change can be implemented on the Buyer designed product without Buyer's written approval.		X			Χ	X	X
18.5	In case of manufacturing or inspection process operations frozen between Supplier and Buyer, no operation change can be implemented without prior to the Buyer's written approval.	X	X			Х		X
19. N	ONITORING AND MEASUREMENT OF PRODUCT							
19.1	The contractual characteristics of the product shall be checked. These verifications shall be documented and performed at the suitable phases of the product manufacturing process.	Х	Χ	Χ		Х	Χ	Х
19.2	When sampling inspection is used to attest the product conformity, the inspection plan shall be appropriate to risks. This inspection plan shall contain as a minimum: Sampling plan (sample size and frequency) List of monitored characteristics	X	Х	X			Х	Х
	 Tools and procedure used to ensure validity of sampling results. Sampling inspection plan is communicated to the Buyer on request. 							
	Note: The sampling plan shall preclude the acceptance of batches whose samples are known as defective.							
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	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
19.3	When specific test equipments are used for the execution of the contract or purchase order, the Supplier shall conduct test equipments validation.	X	Х			х	Х	Х
	Buyer's representatives may participate to the test equipments validation or may take responsibility for test equipments validation.							
19.4	On Buyer request, the Supplier shall prepare and maintain a control plan specific to the product.	Χ	Х			Х		Х
	The Control Plan form shall contain the list of actions (e.g. measurements, controls, tests, inspections, etc.) that are required at each phase of the process including receiving inspection.							
20. T	RACEABILITY							
20.1	 The Supplier shall implement a traceability procedure ensuring that the following information may be retrieved in respect of any given product or batch of products: Status of the applied definition dossier in comparison with the approved definition dossier Status of the applied manufacturing and inspection dossier in comparison with approved manufacturing and inspection dossier Manufacturing history (manufacturing, assembly, testing, operators) For each manufacturing step, quantity of accepted and rejected products Destination (delivery, scrap) of each product or batch of products Non conformities with the applicable definition, manufacturing and inspection dossier Records of all the tests carried out. 	X	×	×		X		
20.2	The traceability process shall permit for a product or sub-assembly (or a batch of products or sub-assemblies) to identify all the relevant components batches or raw material batches.	Χ	Χ	Х		Х		
20.3	The traceability process shall permit for a batch of components or raw materials to identify all the concerned sub-assemblies and products.	Χ	X	Х		Х		
20.4	Traceability information defined above shall be communicated on request to the buyer within 48 hours (2 business days).	X	X	X		Х		
21. II	NVENTORY MANAGEMENT							
21.1	The Supplier inventories management process shall ensure: Inventory accuracy Preservation of traceability rules Conformity of inventoried parts. Note: First in first out process (FIFO) is a recommended practice. During release of stock, the Supplier shall verify that: Product preservation has been maintained Product configuration is valid Product quality warnings have been passed on inventories (if any).	X	X	×	X	X		
22. B	UYER'S PROPERTY							
22.1	The Buyer reserves the right to provide the Supplier with all or part of the supplies required for fulfillment of the contract or purchase order. In such cases, the Supplier shall: Perform incoming visual inspection in order to detect any transport damage Perform incoming quantitative inspection Identify supplies with regard to accompanying documents Provide adapted storage conditions (ESD, humidity) Protect the supplies against any incorrect use Ensure that supplies are covered by Supplier insurance policies.	X	X			X	X	X



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
22.2	The Buyer may provide manufacturing means and/or inspection and test means as required for fulfillment of the contract or purchase order.	Х	X			Х		Х
	The Supplier shall identify and maintain them in good working conditions, shall ensure validity of calibration (if applicable) and shall notify the Buyer in writing of any wear or damage.							
	A list of these means shall be maintained by the Supplier and communicated to the Buyer on request.							
	These means provided to the Supplier for the exclusive execution of the contract or purchase order remain the Buyer's property. They are returned to the Buyer on request.							
22.3	The provision by the Buyer of manufacturing documents and/or means does not alleviate Supplier's responsibility to provide conforming product.	X	X			X		X
22.4	Tools and means ordered by the Buyer and left at Supplier's disposal, are the exclusive property of the Buyer.	Χ	Χ			Х	Χ	X
	The Supplier shall identify these tools and means, property of the Buyer, with at least the following references:							
	 Tool or means part number Buyer product part number Manufacturing date Statement "this tool / this means is X property". 							
	Note: The tool part number and the name of the owner "X" will be defined by the Buyer.							
	These tools and means, including definition dossier (drawings, bill of material,), are returned to the Buyer on request.							
22.5	The acceptance of the tool shall be granted after verification of validation parts compliance (quantity specified in the order).	X	Χ			Х	Χ	X
	An inspection report drawn up by the supplier shall be sent to the Buyer.							
	In the event of non conformity, it is up to the Supplier to modify the tool and produce new validation parts.							
22.6	The supplier shall ensure the storage, verification and maintenance of the Buyer's property tools.	Х	Х			Х	Х	Х
	The storage conditions must be compatible with the nature of the tool and shall guarantee a perfect preservation (preservation against shocks, corrosion, heat, fire).							
	<u>Note</u> : The Supplier shall periodically verify the tools condition in order to ensure product conformity and inform the Buyer in case of wear or damage.							
23. L	IMITED SHELF LIFE PRODUCTS							
23.1	The manufacturing date of products with an expiry date or with limited shelf life shall be marked on packaging and written on the statement of conformity.	X	X	Х	X			
23.2	Unless otherwise specified in contract or purchase order, the service life of delivered limited shelf life products shall not be less than 80% of their maximum service life with effect from the date of delivery.		X	X	X			



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
24.	COMPONENTS AND ELECTRONIC DEVICES DELIVERY							
24.1	For electronic components, at the delivery date, the date-code shall not be older than 2 years.	Х	Х	X	Х			
24.2	For electronics components, the supplier shall ensure the homogeneity of delivery batches, by not exceeding three (3) different dates-codes per order line and only one date-code per packaging unit (carrier tube, trays, tapes).		Х	Х	X			
25. F	PACKAGING AND LABELLING							
25.1	The Supplier shall ensure that all arrangements are taken to preserve products (corrosion protection, scratches protection) during handling and shipping operations until delivery to intended destination.	х	х	Х	Х	Х	Х	Х
25.2	All product delivered must be clean and pollution-free.	Х	Х	Х	Х	Х	Х	Х
25.3	In case of delivery composed of several manufacturing batches, the Supplier shall separate and identify each batch.	Х	Х	Х	Х			
25.4	Where applicable, (components or electronic devices), the Supplier shall make appropriate arrangements against electrostatic discharge in accordance with the EN61340-5-1 or MIL-Std-1686 or EIA JESD-625 standard.		Х	Х	X	Х	Х	Х
	The outer packaging shall be marked with standardized marking showing that the content may be damaged by electrostatic discharge.							
25.5	Where applicable, electronic products sensitive to moisture shall be marked and packaged according to IPC/JEDEC J-STD-033.	Х	Х	Х	Х	Х	Х	X
25.6	Where applicable, products or outer packaging shall be marked with label showing conformity with RoHS regulation.	Х	Х	X	Х	Х	X	X
25.7	Supplier shall facilitate the use of recycled packaging, reusable packaging, and mono material packaging. Supplier shall not use polystyrene and/or polyurethane cushioning material.	Х	Х	Х	Х	Х	Х	х
	Wood packaging shall be in accordance with ISPM 15 standard.							
25.8	The Buyer reserves the right to request that the Supplier to attach bar codes on packages and/or delivery documentation. Data contained in these bar codes shall be defined by the Buyer.	Х	Х	Х	Х	Х	Х	Х
26. C	DELIVERY DOCUMENTATION							
26.1	All products delivered to the Buyer shall be accompanied by the following documents:	Х	Х	Х	Х	Х	Х	Х
	 Statement of conformity including at least the following information: Description, part number and issue (revision) of the product ordered Delivered quantity Serial number or batch number/ date code where applicable Shelf life where applicable Buyer contract or purchase order reference Concession number if applicable Following statement (equivalent statement is acceptable): "We hereby declare, barring exceptions, reservations, or exemptions listed on this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they completely satisfy all specified requirements and applicable standards and regulations". 							
	standards and regulations".		<u> </u>		Ļ			go 18



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
	 Delivery note including at least the following information: Description, part number and issue of product Delivered quantity Buyer contract or purchase order reference and order line number.							
26.2	Delivery documents shall be written in English.	Χ	X	Χ	Χ	Х	Χ	Х
26.3	When delivered product is subjected to non conformity accepted by the Buyer, a copy of the Buyer's approved concession request shall be provided with product.	X	X	X	X	X	X	Х
27. C	CONTROL OF NONCONFORMING PRODUCT							
27.1	 The Supplier shall define and apply a process for managing non conformities identified during manufacturing or after delivery. This process shall define: Nonconforming product identification Quarantine system to avoid mixing between nonconforming and conforming product Responsibilities regarding decision on nonconforming product (re-work, concession request, sorting, rejection) Actions to contain the effect of nonconformity on other processes or products (inventory and work in progress inspection,). Corrective and preventive actions Follow up of actions Buyer information. Note: Only the Supplier having material review board delegation from the Buyer for the management of nonconformities has authority to accept a product in "as is" condition. 		X	X	X	X	X	X
27.2	The supplier shall notify the Buyer, in writing, if a specific procedure shall be applied for any supply return. Without any such directive in writing, the Buyer in-house procedure shall be implemented.	X	X	X	X	X	X	X
27.3	Unless otherwise specified in contract or purchase order, the supplier agrees to notify the Buyer within 48 hours (2 business days) the scheduled new delivery date of nonconforming products returned.	X	X	X	X	X	X	X
27.4	When any such products are redelivered, the Supplier shall refer to the Buyer nonconforming report number on the delivery note.	X	X	X	X	X	X	X
27.5	The supplier agrees to notify the Buyer in writing as soon as possible of any discrepancies identified during the manufacturing, assembly or inspection process and which may affect products delivered before.	X	Х	X	Х	Х	Х	X
27.6	In case of nonconforming product attributable to the Supplier and on Buyer's request, the Supplier shall provide qualified personnel to sort out and perform the required corrective actions in the Buyer's or End Customer's premises. Conditions of such actions shall be determined between the Buyer and the Supplier and when applicable with the End Customer.	X	X	X	X	X	X	X



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
27.7	Nonconforming product attributable to the Supplier and detected by the Buyer (during incoming inspection, assembly, or in service) may be subject to failure investigation in order to determine the non conformity root cause and associated corrective and preventive actions. The methods used to examine nonconforming products shall be agreed jointly by the Buyer and the Supplier and, if relevant, by the Official Authorities. Note: Should the investigation be carried out by the Supplier, the latter shall timely submit a detailed investigation report to the Buyer.		X	X	X	X	X	X
27.8	In the event of manufacturing or inspection process nonconformity, the Supplier shall: • Evaluate whether the process nonconformity has resulted in product nonconformity • Take appropriate action to correct the nonconforming process • Determine if the process nonconformity could have affected other processes or products.	Х	Х			X		X
28. (CONCESSION REQUEST							
28.1	Exceptionally, if a Supplier wishes to deliver a nonconforming product regarded as acceptable, he shall provide the Buyer, prior to delivery, with a concession request describing details of the discrepancy, as well as proposed corrective actions.		Х	X	X	X	X	X
28.2	 If the concession request is approved by the Buyer's Quality Department, the supplier shall: Indicate on the accompanying documents (statement of conformity or inspection report) the reference number of the approved concession request (see clause 26.1) Identify (appropriate labeling) the relevant products Attach a copy of the concession request accepted by the Buyer to the accompanying documents (see clause 26.3). 	X	X	X	X	X	X	X
29. C	ORRECTIVE AND PREVENTIVE ACTIONS							
29.1	Any nonconformity notified by the Buyer (nonconforming products and/or purchase order line delivered in late) shall be subject to root cause analysis. This analysis shall involve the implementation of relevant corrective and preventive actions. On Buyer's request, the Supplier agrees to communicate within the agreed schedule, the results of analysis with the relevant corrective and preventive actions.		X	X	X	X	Х	X
30. I	MEASUREMENT OF QUALITY AND ON TIME DELIVERY PERFORMANCES							
30.1	The supplier shall implement pertinent metrics to assess and measure the quality and logistic performances of the products delivered to the Buyer. These performance metrics (monthly updated) shall include at least: Percentage of products rejected by the Buyer (per number of deliveries and per quantity of delivered products) Percentage of On Time Deliveries compared to due deliveries Average delay in delivering order (in business days). Percentage of on time completed corrective actions returned.		х	Х	Х	Х	X	X



	For each supplier category the applicable requirements are marked with an "X" in the below chart	Eng. Product MFR.	Sub-contractors	COTS Suppliers	Distributors	Repairers	Tool Suppliers	Service Providers
31. C	CONTINUOUS IMPROVEMENT							
31.1	The supplier shall implement a continuous improvement program for process effectiveness and product quality.	Х	Х	Х	Х	Х	Х	Х
	The Supplier shall carry out at least once a year an assessment of anomalies and non-conformities collected on the Buyer's products (quality and lead times), as well as the relevant failure root causes analysis.							
	When applicable, an improvement plan relating to quality, logistics and reactivity aspects shall be established and followed in accordance with the objectives assigned by the Buyer.							
	Performance metrics, quality check up and improvement plans shall be transmitted to the Buyer on request.							
32. I	ENVIRONMENT							
32.1	The supplier agrees to: Inform the Buyer of any supply likely to have a negative environmental impact Meet national and local applicable regulations relating to safety, health and environment.	X	Х	X	X	X	X	Х
32.2	The above requirements are applicable for products manufactured or delivered in the European Union	Χ	Χ	Χ	Χ	Χ	X	Х
	The supplier agrees to:							
	 Meet European (CE) Regulation n° 1907/2006 (REACH) regarding registration, evaluation, authorization and restriction of chemicals by: Ensuring that authorization for use has been granted for chemicals included in appendix XIV 							
	 Informing if a candidate substance is in an item with a concentration above of 0.1% weight by weight. Ensuring registration of substances used Informing, if concerned, if a substance included in appendix XVII (substances with 							
	 restrictive uses) is included in an item Propose, as soon as possible, alternate solution to a substance part of the candidate's substances in order to ensure continuity of deliveries. 							
32.3	Supplier agree to provide Material Safety Data Sheet (MSDS) for chemicals.	Х	Χ	Χ	Χ	Χ	Х	Х
32.4	The Buyer reserves the right to perform safety or environment audits or evaluations relating to ordered products, in the Supplier's premises.	X	X	Χ	X	X	X	Х
32.5	Supplier shall evaluate implementation of Environmental management system in accordance with ISO 14001 or equivalent.	X	Χ	Χ	Χ	Χ	X	Х
32.6	The supplier should limit the hazardous substances (for health and environment) in chemicals. Otherwise, the supplier should offer a medium-term alternative.	X		Х				