

Quality requirements for Supraero suppliers

PURPOSE :

This document defines the general requirements applicable by suppliers in order to ensure the quality of products delivered to Supraero. It takes into account the requirements of our customers.

RECORDS OF REVISIONS :

Date	Edition	Reasons for Revision
20/02/2017	7	Modification of paragraphs: 4.1. Documentation control, 4.14. Limited shelf life products.

AUTHORING AND APPROVAL:

Written by		Approved by	
M. DE OLIVEIRA Quality Manager for Aeronautics Products Date : 20/02/17 	M. DE OLIVEIRA Quality Manager for Aeronautics Products Date : 20/02/17 	A. GHIOTTI Purchasing and Sales Manager Date : 20/02/17 	C. VERNATIER Sales and Technical Manager Date : 20/02/17 

I A vertical line in the margin, or **highlighting**, indicates that the corresponding text has been updated since the previous issue of the document.

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1. APPLICABILITY

When a supplier accepts an order stipulating the application of this document, this shall mean that the supplier has accepted this document's contents.

The Supplier has to make sure that his employees know the Supraero requirements as soon as these are involved in its activities.

If the supplier calls on subcontractors or suppliers for the service, then the supplier is responsible for:

- passing on these requirements to his subcontractors or suppliers,
- ensuring that they are applied.

Any deviation in the application of the specified requirements shall be the subject of a joint agreement by Supraero and the supplier.

2. TERMINOLOGY

EEE components: Electrical, Electronic, Electromechanical components. It could be passive, discrete, numerical or analogue components, relay or connectors.

SPC: Statistical Process Control.

SPC is all the methods and the actions allowing to estimate in a statistical way the performances of a process of production, and to decide to adjust it, if necessary, to maintain the characteristics of products stable and conforming to the specifications.

FIT: Failure In Time.

Unit for expressing the expected failure rate of semiconductors and other electronic devices.

3. GENERAL REQUIREMENTS

3.1. Right of visit and access

The suppliers and its own suppliers shall ensure that Supraero, the representatives of these customer and the representatives of government agencies have free access to the facilities and documents used to manufacture the product as well as to any other facilities enabling them to fulfil their assignment.

The supplier shall make available to them all the records that demonstrate the performance of the order in accordance with all the requirements pertaining to it. On request, the supplier will be able to transmit to Supraero his internal quality audits concerned by the contract as well as the associated procedures.

These requirements are also applicable, in cases where the supplier is a retailer or a stockist distributor, to suppliers that manufacture the product.

If manufacturing operations are considered by the supplier to be confidential these shall be indicated to Supraero before their implementation, and shall be subject to a procedure defined jointly by the supplier and Supraero.

3.2. Major changes

The supplier must inform Supraero of any significant changes liable to have an impact on the execution of the order or on the quality of the products.

Any major changes must be notified to Supraero at least six months before the expected date and in order to be sure that complete lead time of final product is secured.

These include :

- a. Manufacturing location change or storage or production unit move,
- b. ERP manufacturing management change ,
- c. Subcontractor or supplier change ,
- d. Change in manufacturing process,
- e. Product change,
- f. Product obsolescence,
- g. Organisation or key positions managers changes,
- h. Transportation mode change.

In the event that the supplier is not the product's designer, the changes **a. to f.** have to be agreed by the designer before implementation.

In any cases, the supplier will communicate on :

- The change : Description, reason, period, parts number impacted,
- The risks identified and the action plan associated.

For cases of obsolescence, see point 4.4.

3.3 Environment

The Supplier commit himself to respect the current legislative and regulatory requirements and to pass on and verify the respect for these regulations and laws with his own suppliers.

He commits himself to be held informed permanently about the regulation REACH and its updates, and to measure all the consequences of the obligations which implies this regulation

The supplier also has to respect the regulations:

- Ñ ROHS (Limitation of the use of certain dangerous substances in the electric and electronic equipments)
- Ñ WEEE (Regulate the end of life of the electric and electronic equipments).

When applicable, products and/or packaging must show the respect of the ROHS regulation.

4. QUALITY SYSTEM

The requirements of the EN/AS/JISQ91XX standards (9100/9120 according to the activity fields) are applicable to suppliers.

For suppliers involved in the design or production of mostly aeronautical and space products, Supraero may request the quality system certification by a certification organization that is recognized internationally.

Suppliers shall also demonstrate their will to be involved in the sustainable development approaches by defining an industrial risk prevention system based on environmental protection and social welfare standards, such as ISO 14001 and OHSAS 18001.

4.1. Documentation control

The Supplier shall obtain all documents required **at the latest revision** (definition information and standards) **unless otherwise stated in the purchase order** that are not provided by Supraero.

He has to make arrangements against the use of out-of-date documents.

The supplier also has to make sure of the management of documents and data by his own suppliers. Moreover he makes a commitment to acknowledge receipt of documents and of data sent by Supraero and to inform of any error or incoherence noticed in the orders and other documents supplied.

4.2. Planning

The supplier makes the commitment to inform Supraero of any statutory limitation applicable to the ordered products (ex products liable to export control,...)

The data of planning have to take into account the internal scrap rates.

The supplier must inform Supraero in writing as soon as he is aware of any delay in delivery and identify the cause of the problem and the new delivery date. In case of recurring logistic defects, an 8D analysis can be requested by Supraero.

4.3. Configuration management

Any evolution in the manufacturing process and/or control must be registered to ensure the traceability and the management of configuration of the product.

Any change of the product which can have an impact on the definition of the final product shall be immediately notified by written to Supraero in compliance with paragraph 3.2 «Major changes». The supplier also shall specify the impacts on characteristics, performances, reliability, use and assembly.

4.4. Obsolescence

In case of obsolescence, the supplier shall submit to Supraero an obsolescence notification specifying :

- the part number concerned,
- the obsolescence causes,
- the equivalence or alternative solution proposed,
- the application date,
- the final product last order date.
- the risks identified and action plans associated,
- the new product validation schedule,
- the new product delivery time,
- the new product delivery programme.

The supplier shall provide the old product data sheet, the new product data sheet, and the comparative table between the old and new product.

4.5. Supplier subcontractors

When procurement of raw materials and/or subcontracting is the supplier's responsibility, it shall ensure that materials and/or services purchased are compliant, and shall require its own supplier to provide a declaration of conformity (see point 4.13) and test reports. These documents are transmitted to Supraero if requested on the order.

The built-to-print Supplier shall use the approved sources of raw materials. (The list of approved sources of raw materials are transmitted by request).

4.6. Controls

The fact that Supraero doesn't demand a test certificate or report will not in any way relieve the supplier of its responsibility to provide a service that is entirely compliant with requirements, and will not in any way restrict the tests/inspections that it should perform in order to ensure such compliance.

4.7. First article inspection

Whenever required on the order, the supplier should undertake a first article inspection and provide a complete report to Supraero before shipment.

The FAI requirement is described on Supraero Purchase order by an annexe.

On specific request and before starting the manufacturing cycle, the supplier shall transmit to Supraero the industrial schema which indicate for each manufacturing step :

- sources and subcontractors names (qualifications, ..),
- manufacturing conditions (specifications, standards,...).

4.8. Special processes

Supraero can require to the supplier the special processes list and a copy of his external or internal qualifications.

When an industrial process implies use of special processes, these ones must be qualified by the supplier before use and the qualification file could be provided at any time to Supraero.

The built-to-print Supplier shall use special processes and non-destructive test subcontractors that are PRI-Nadcap certified and/or approved by Supraero. (The list of approved subcontractors is transmitted upon request).

4.9. Identification and traceability

The supplier should be able to identify components and products in stock during all their working life. He must take necessary steps to prevent any damage during storage (protection against corrosion, impact and material mix-ups).

The supplier must :

- trace all products manufactured from the same batch of raw material or from the same production batch, as well as the destination (delivery, rejection) of all products of a special batch,
- trace each component of a sub assembly and upper assembly,
- locate the manufacturing process documentation.

When a shipment include several production lots, they must be clearly identified on the shipper note and / or on the supplier's declaration of conformity and packed per batches.

4.10. Products reliability

Information regarding manufacturing line shall be available at supplier's facilities in supplier format which could be delivered to Supraero :

- identification,
- manufacturing location,
- technology,
- product ranges concerned,
- production rates (continuous or discontinuous),
- manufacturing and screening flowchart including the key parameters monitored by SPC,
- quality assurance tests,
- supply Chain Flowchart.

Concerning the EEE components suppliers, the following information shall be transmitted to Supraero only upon request:

The reliability evaluation plan:

- list of test conducted on the components to evidence malfunctions,
- frequency,
- calculation method,
- partial FIT rates,
- calculation of activation mechanisms,
- FIT global rate calculation method.

The targeted reliability level:

Global and/or partial FIT rate above which the manufacturer considers the component nonconforming.

The measured reliability level:

Results of periodic tests and calculations of partial FIT rates done by the manufacturer.

4.11. Product preservation

The supplier will be responsible for conservation of the product until the final destination. The packing and packaging shall therefore be appropriate for the shipment conditions.

The conditioning must not deteriorate the products, it must protect them against contamination and corrosion.

It is prohibited for the following materials to have direct contact with the conditioning products :

- conditioning materials containing fluorine and/or chlorine,
- PVC (When products are in titanium alloys),
- plastic bubble-pack,
- corrugated cardboard,
- plastic netting,
- adhesive tape,

- staples,
- packing materials such as expandable foam rubber, polystyrene chips,
- dessicant bags must not be used when parts are protected with silver or cadmium coating, or contain bronze or brass.

These materials may however be used for the packing of conditioned products.

Concerning EEE components, the packaging shall be compliant with the standard IEC61340-51 applicable to ESD protections (ElectroStatic Discharge).

4.12. Foreign Object Debris prevention

The supplier will implement a dedicated actions against Foreign Object Debris risks, as relevant for his activity.

4.13. Declaration of conformity

The product shall be accompanied by a declaration of conformity containing at least the following information :

- Declaration of conformity reference number,
- The product ordered description, part number and issue (revision),
- Delivered quantity,
- Serial number or batch number/ date code where applicable,
- Shelf life if applicable,
- Buyer purchasing order or contract reference,
- Concession number if applicable,
- Following statement (equivalent statement is acceptable): "We hereby declare, barring exceptions, reservations, or exemptions listed in this statement of conformity, that, after completion of testing and verifications, the repaired or modified supplies listed comply with the contract requirements.",
- The completion date of the document,
- The signature preceded by the name and the position of the authorized person.

In case of electronic signature, the mention "*Document validated by electronic signature*", should appear on the document.

If it concerns a resale, a copy of the declaration of conformity established by the manufacturer. The declaration of conformity must precise the batch number to ensure the traceability.

4.14. Limited shelf life products

Unless otherwise specified in purchase order, the product remaining shelf life shall not be less than **80% of their shelf-life (products subject to expiry date)**.

4.15. Non conforming product control

The supplier shall quickly inform the Supraero Quality Department concerning any default identified during production, assembly or testing, or subsequent to delivery, especially in regards to any defect which could affect safety or usage on previous shipments.

Before delivery, any product with a deviation to the order shall be submitted to a request of approval to the quality department of Supraero. Reception of products will not be accepted unless derogation has been accepted by the Quality Department.

The reception by Supraero of the delivered supplies not decreases at all the responsibility of the Supplier in case of problem noticed after the delivery. If any anomaly is detected on a product after delivery to Supraero's customer, Supraero reserves the right to ask the supplier to handle the anomaly in order to identify the root causes, determine and implement containment, corrective and preventive actions and measure effectiveness of the actions taken.

It is the responsibility of suppliers to ensure that all products declared as unsalvageable cannot :

- Be used for parts or equipment manufacturing.
- Be sold at a later date on the aeronautical parts market.

So, all products declared as unsalvageable shall be :

- Identified visibly and permanently.

Any identification marks present on products shall be deleted.

- Stored in secured/quarantine areas.
- Mutilated prior transfer for destruction / recycling.

The mutilation shall be done in such a way that products are beyond economic salvage or repair, including their potential subassemblies.

When the mutilation is not feasible prior to the transfer for destruction/recycling, the supplier should be able to show evidence of the destruction/recycling of the product.

The Supplier shall take all measures required in order to prevent any purchase of counterfeit or non-approved products and shall immediately inform Supraero of any known risks.

4.16. Records

The supplier shall retain or make retained the records relating to the quality of products for itself and its suppliers. These documents must be archived in a place protected against the fires, weather condition and the theft.

Concerning documents relating to the design or product characterization, acceptance and serialization, as well as the sales documents, records must be conserved during the lifetime of the products. In this case, the Supplier must obtain the Supraero 's formal agreement before destruction.

The recommendations of standard ISO 18911:2000 are applicable for the conservation of radiographic films.

Elements archived by the supplier can be consulted at any time by Supraero. The organization of the records must allow the conserved elements to be obtained within 24 hours.