



Organization Procedure  
Quality requirements applying to AL-aT suppliers

## Air Liquide advanced Technologies

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## CHANGE RECORDS

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## 1 PURPOSE

This document defines the general and minimum requirements which apply to AL-aT (Air Liquide Advanced Technologies) suppliers.

## 2 SCOPE

This document applies to all AL-aT orders.

AL-aT may make additional requirements which are then added to this procedure.

If the compliance with any requirements of this procedure cannot be assured, the supplier must warn in writing the purchaser referenced on the order.

### 3 AL-AT ORGANISATION

**YOUR AL-aT CONTACTS:** The purchaser is the primary interface with the supplier and will direct it to the persons concerned, as per the areas specified below.

CONTACTS	INTERFACE FOR
Purchaser specified in the purchase order	Administrative information Tenders, negotiations Orders, contracts All documentation specified in the order Commercial disputes Acknowledgement of receipt Progress chasing Invoicing
Quality coordinator	Monitoring of the completion of the order (Launch meetings, Inspection plan, Acceptance reports, FAI, etc.) Compliance monitoring Derogation monitoring Document management Audits (Supplier, qualification, process, product evaluation)
Storeroom	Delivery Documentation acceptance
Technical coordinator / Project Manager / Project Engineer	Technical validation

## 4 ACCESS REGULATIONS

### 4.1 Rules for access to the AL-aT site

Safety requirements apply on the AL-aT site.

Therefore, entrance to the site is subject to respecting the following rules.

Personnel concerned	Documents to be provided to the security post	Preliminary information to be provided to the AL-aT contact
French visitor	Identity document*	Advise date of visit, name and nationality 48 hours prior to the visit
Foreign visitor	Identity document*	Advise date of visit, name and nationality 48 hours before visit and submit the foreign access authorisation request (said "Appendix 2") 48 hours prior to the visit.
French contractor	Identity document*	Advise the date of arrival 48 hours beforehand
Foreign contractor	Identity document*	Advise date of visit, name and nationality 48 hours before visit and submit the foreign access authorization request (said "Appendix 2") prior to arrival.
Delivery/transport company	Identity document*	Submit the delivery or collection note

\* identity card or passport; a driving license is not proof of nationality.

#### **DELIVERY TIMES:**

Delivery times are as follows: **9:00 a.m. to 11:30 a.m.** and **2:00 p.m. to 4:00 p.m.**

## 4.2 Rules for access to the supplier's site

The supplier must permit access:

- to AL-aT representatives, AL-aT customers and regulatory authorities,
- to premises on the supplier's site and the whole of the supply chain (level N-x suppliers),
- and to all relevant records.

## 5 TERMINOLOGY

Sigles (ordre alphabétique)	Terme complet
AL-aT	Air Liquide Advanced Technologies
ATR	Acceptance Test Report
CDR	Critical Design Review
FAI	First Article Inspection
FDS	Safety Data Sheet
HSE	Health, Safety, Environment
ITP	Inspection Test Plan
LOFC	List of manufacturing and inspection operations
PDR	Preliminary Design Review
PFCE	Manufacturing, inspection and test plan (see Appendix)
PVRI	Procès Verbal de Réception Individuelle (Individual Acceptance Report)
RCI	Individual inspection register

## 6 SUPPLIER CATEGORIES

Category 1:

Specific equipment (pressure vessels, pipework, integration, assembly on site, specific devices, etc.):

Suppliers taking responsibility for the whole of a product manufacturing process, starting from a specification or definition, detail and/or PID (Process Instrumentation Diagram) drawings supplied by AL-aT. The supplier may be required to complete all or part of the design phase.

Electricity, automation, instrumentation, integration of electrical equipment, electrical assembly on site:

Suppliers providing a product and/or service based on a functional analysis, functional diagram, list of inputs/outputs, list of set points, electrical diagram.

Category 2:

Intellectual and engineering services:

Suppliers who provide AL-aT with skills not available in-house, including the completion of research within the structure of the supplier itself.

Category 3:

Mechanical, machining, precision machining, inspection and assembly services:

Suppliers producing products based on manufacturing drawings, the design having been produced by AL-aT.

Category 4:

Standard materials (Manufacture of raw materials and standard products)

Suppliers of products issued from his catalogue

Category 5:

Purchase/resale of products without transformation (distributor)

Supplier/reseller responsible for the purchase, storage and sale of products without transformation.

## **7 OBLIGATIONS ON THE SUPPLIER**

### **7.1 Contractual Obligations**

The supplier must deliver products and documentation complying with the requirements on the purchase order within the agreed lead time.

The supplier undertakes to inform the AL-aT purchaser as soon as he/she is aware of:

- of the obsolescence or modification of products ordered,
- of any events or anomalies which might affect the contractual aspects negotiated (lead times, compliance of the order, product quality and the quality requirements set out in this document).

If the supplier has any difficulty understanding the order, it must contact the AL-aT purchaser.

No modification (concerning the product, process or procurement, etc.) may be made to the products by the supplier without prior written agreement from AL-aT.

Any modification of the content of the order requires a modification to the order, cancelling and replacing the previous order.

Any deviation by the supplier from this procedure, standards or the requirements specified in the contract, will be corrected by the supplier at its own expense.

Failure by the supplier to meet its obligations may lead to the ordered work being stopped and a suspension of commercial relations, if an action plan is not put in place on a time scale compatible with AL-aT's activities.

## 7.2 Obligations relating to standards and regulations

The supplier must comply with the requirements imposed by the application of a building code (ASME, CODAP, etc.) at all stages of the process (sizing, procurement, special inspection or acceptance processes).

The supplier must be able to demonstrate at any moment that it has complied with the current standards, regulations and codes applicable to the sectors concerned (aerospace and defence, gases and cryogenics, new energies).

## 7.3 Performance Guarantee

The performance of the product purchased must meet the requirements described in the order and the associated specifications.

## 7.4 Minimum inspections requirements for products delivered to AL-aT

### 7.4.1 Sampling requirements for batches delivered

A batch is considered as a quantity of parts with the same definition, manufactured and delivered at one time.

Refer to the table below to select the required sampling rate. Statistical sampling applies, unless otherwise specified

Sampling table:

Size of the batch to be inspected = N	Sample to be inspected = n	Batch accepted if NC	Batch refused if ...NC
1	1	0	1
2	2	0	1
3	3	0	1
4	4	0	1
5	5	0	1
6 to 25	5	0	1
26 to 50	8	0	1
51 to 90	13	0	1
91 to 150	20	1	2
151 to 280	32	2	3
281 to 500	50	3	4
501 to 1200	80	5	6
1201 to 3200	125	7	8
3201 to 10000	200	10	11

### 7.4.2 Dimensional control requirements (to dimensions on drawings)

The level of dimensional inspection is specific and defined for each dimension on product drawings. There are three different levels. Inspection levels are stated on drawings.

- Inspection level 1:

No distinctive notation against the dimension.

No inspection report is required for this level. However, the dimensions must be checked by the supplier. If the dimensions are outside tolerance and cannot be corrected, an anomaly report is opened. This anomaly report is sent to AL-aT for information and/or approval.

- Inspection level 2:

The dimension is followed by a bubble containing the following:

- A sequence number identifying the dimension.
- The letters NR, indicating "not reported".

For this level, inspection is done by the supplier's inspection department. Non-conformities will result in the issue of an anomaly report. This anomaly report is sent to AL-aT for information and/or approval.

Unless specified otherwise, statistical inspection applies to this level.

- Inspection level 3:

The dimension is followed by a statistical number identifying the dimension and allowing it to be identified on the inspection report.

For this level, inspection is done by the supplier's inspection department. The results for dimensions with this type of bubble are entered on an inspection report. Non-conformities will result in the issue of an anomaly sheet. This anomaly sheet is sent to AL-aT for information and/or approval.

Unless specified otherwise, statistical inspection applies to this level.

### 7.4.3 Documentation requirements

The minimum requirements to be applied to the work and translated in terms of documentation upon delivery are listed below :

#### 7.4.3.1 Documentation required in all cases

- certificate of compliance with the order (NF L 00 15C)

#### 7.4.3.2 Examples of documentation required, if indicated on the purchase order (including specifications)

- certificate of raw material compliance (NF EN 10204)
- Inspection plans, records of parts inspected (dimensional inspection, dye penetration testing, leak tightness, etc.)
- dimensional inspection report on NR bubble dimensions on the drawing, in accordance with current sampling procedure
- Operation and maintenance manuals
- CE declaration,
- setting and/or calibration certificates,
- ....

These documents must accompany the supply, be completely acceptable for use and identifiable as applying to the order and the AL-aT article reference (article and/or TAG).

## 8 IDENTIFICATION OF APPLICABLE REQUIREMENTS

The supplier will identify, possibly with advice from the AL-aT purchaser, the sub-contracting type covering its work, so that it knows which category and which requirement it must apply.

Applicable requirements by supplier category are described in the grid below:

Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5		APPLICABLE REQUIREMENTS
Yes	Yes	Yes	Yes	Yes	9.1	<b>SUPPLIER ORGANISATION TO RESPOND TO THE ORDER</b>
Yes	Yes	Yes	Yes	Yes	9.2	<b>QUALITY SYSTEM</b>
Yes	Yes	Yes	Yes	Yes	9.3	<b>CONTRACT REVIEW</b>
Yes	Yes	Yes	Yes	Yes	9.3.1	Contract review and acknowledgement of receipt
Yes	Yes	Yes	Yes	Yes	9.3.2	Reformulation in the case of ambiguity
Yes	Yes	No	No	No	9.4	<b>MANAGEMENT OF DESIGN</b>
Yes	Yes	No	No	No	9.4.1	Design management
Yes	Yes	No	No	No	9.4.2	Definition file
Yes	Yes	No	No	No	9.4.3	Justification file
Yes	Yes	No	No	No	9.4.4	Management of Change
Yes	Yes	Yes	Yes	Yes	9.5	<b>MANAGEMENT OF DOCUMENTS AND DATA</b>
Yes	Yes	Yes	Yes	Yes	9.5.1	Identification
Yes	Yes	Yes	Yes	Yes	9.5.2	Approval
Yes	Yes	Yes	Yes	Yes	9.5.3	Modification
Yes	Yes	Yes	Yes	Yes	9.5.4	Configuration management (Specific aerospace and defence requirement)
Yes	Yes	Yes	Yes	Yes	9.6	<b>PURCHASING</b>
Yes	Yes	Yes	No	No	9.6.1	Transfer of requirements on purchase orders from supplier to its suppliers
Yes	Yes	Yes	Yes	Yes	9.6.2	Supplier evaluation
Yes	Yes	Yes	Yes	Yes	9.6.3	Purchasing specification for the product purchased by the supplier
Yes	Yes	Yes	Yes	Yes	9.6.4	Verification of the product purchased
Yes	Yes	Yes	No	No	9.7	<b>CONTROL OF A PRODUCT SUPPLIED BY AL-aT</b>
Yes	Yes	Yes	No	No	9.7.1	Receiving a product supplied by the customer
Yes	Yes	Yes	No	No	9.7.2	Identification
Yes	Yes	Yes	No	No	9.7.3	Storing a product supplied by the customer
Yes	Yes	Yes	Yes	Yes	9.8	<b>IDENTIFICATION AND TRACEABILITY</b>
Yes	Yes	Yes	Yes	Yes	9.8.1	Identification

Yes	Yes	Yes	Yes	No	9.8.2	Product traceability
Yes	No	Yes	Yes	No	9.9	<b>CONTROL OF PRODUCTION PROCESSES</b>
Yes	No	Yes	Yes	No	9.9.1	Manufacturing file
Yes	No	Yes	Yes	No	9.9.2	Production monitoring
Yes	No	Yes	Yes	No	9.9.3	Maintenance of production equipment
Yes	No	Yes	Yes	No	9.9.4	Identification of special processes
Yes	No	Yes	Yes	No	9.9.5	Qualification of processes and personnel
Yes	No	Yes	Yes	Yes	9.10	<b>INSPECTION AND TESTING</b>
Yes	No	Yes	Yes	Yes	9.10.1	Acceptance inspection
Yes	No	Yes	Yes	No	9.10.2	Inspections between operations
Yes	No	Yes	Yes	No	9.10.3	Final checks
Yes	No	Yes	Yes	No	9.11	<b>CONTROL OF MONITORING AND MEASURING EQUIPMENT</b>
Yes	No	Yes	No	No	9.11.1	Identification of monitoring and measuring equipment
Yes	No	Yes	Yes	No	9.11.2	Verification of monitoring and measuring equipment
Yes	No	Yes	Yes	No	9.11.3	Compliance with national and international measurement standards
Yes	No	Yes	Yes	Yes	9.12	<b>CONTROL OF NON-CONFORMITIES</b>
Yes	Yes	Yes	Yes	Yes	9.13	<b>REMEDIAL, CORRECTIVE AND PREVENTIVE ACTIONS</b>
Yes	No	Yes	Yes	Yes	9.14	<b>STORAGE, HANDLING, CONDITIONING, PRESERVATION, DELIVERY</b>
Yes	No	Yes	Yes	Yes	9.14.1	Storage, handling, conditioning, preservation, delivery
Yes	No	Yes	Yes	Yes	9.14.2	Products with expiry dates (glues, seals, chemicals, etc.)
Yes	Yes	Yes	Yes	Yes	9.15	<b>RECORDS RELATING TO QUALITY AND HSE</b>
Yes	Yes	Yes	Yes	Yes	9.15.1	Identification
Yes	Yes	Yes	Yes	Yes	9.15.2	Archiving
Yes	Yes	Yes	Yes	Yes	9.15.3	Records management
Yes	Yes	Yes	Yes	Yes	9.16	<b>HSE</b>
Yes	Yes	Yes	Yes	Yes	9.17	<b>DELIVERY</b>

## 9 APPLICABLE REQUIREMENTS

Categories					
1	2	3	-	-	<p><b>9.1 Supplier organization to respond to the order</b></p> <p>The supplier must:</p> <ul style="list-style-type: none"> <li>▪ define a single contact person for each AL-aT order.</li> <li>▪ advise the list of subcontracted work and the name of its suppliers.</li> </ul> <p>Upon request, the supplier must be able to supply an organisational chart defining who is responsible for which tasks.</p> <p>Any change in the organisation affecting the order (sub-contractor, AL-aT contact, etc.) must be notified to and approved by AL-aT.</p>
1	2	3	4	-	<p><b>9.2 Quality system</b></p> <p>The supplier must issue one or more 'Quality Manual' type documents, approved by its senior management, describing the organization and resources in place, with a view to ensuring that the product meets the stated requirements.</p> <p>This 'Quality Manual' must meet each requirement contained in this document as a minimum.</p>
1	2	3	4	5	<p><b>9.3 Review of contract</b></p>
1	2	3	4	5	<p><b>9.3.1 Contract review and acknowledgement of receipt</b></p> <p>The quotation must be issued by the supplier in accordance with AL-aT requirements, ensuring that the necessary resources (technical, material, human) are available.</p> <p>The order must be reviewed by the supplier to ensure that its conditions can be met, particularly in terms of lead time.</p> <p>The acknowledgement of receipt attached to the order (AL-aT format) must be completed and sent to the purchaser within eight working days, in order to formalise its commitment to the order, and state any discrepancies.</p> <p>Such discrepancies may be formalised in the form of a compliance grid.</p> <p>In case the order needs any modification of its contents, an amendment is sent to the supplier. The supplier must send back the acknowledgement of receipt.</p>
1	2	3	4	5	<p><b>9.3.2 Reformulation in case of ambiguity</b></p> <p>The supplier should contact the AL-aT purchasing department to obtain clarifications, corrections or any additional information required for a thorough understanding of the order.</p>

1	2	-	-	-	<b>9.4 Management of Design</b>
1	2	-	-	-	<p><b>9.4.1 Management of Design</b></p> <p>As part of the AL-aT order, the supplier responsible for the design must carry out the following tasks:</p> <ul style="list-style-type: none"> <li>- identify and list the input data for the design,</li> <li>- identify the output documents for the design,</li> <li>- identify and list the tasks to be done, state the person responsible for the tasks and the time scales involved, and also which tasks are sub-contracted and to which suppliers,</li> <li>- identify critical points,</li> <li>- establish a general schedule for the design tasks and set milestones.</li> </ul> <p>The design work to be done must be based on the product's functional and safety objectives.</p> <p>The design must take into account ease of production, inspection, testing and maintenance of the product.</p> <p>The supplier must plan the necessary design reviews, both internal and with AL-aT, those with AL-aT including at least:</p> <ul style="list-style-type: none"> <li>- A design launch review</li> <li>- the preliminary definition review (PDR),</li> <li>- the final definition review (FDR) or critical definition review (CDR).</li> </ul> <p>All minutes of design reviews must be made available to AL-aT upon request and/or approved by AL-aT.</p> <p><i>Specific aerospace and defense requirements, "Special requirements": upon request, the supplier must state where there is a high risk of certain requirements not being met and the measures being taken to limit that risk.</i></p> <p><b>Management of Configuration</b> should start on completion of the preliminary definition review (PDR) phase and must be fixed at the critical definition review (CDR) – See paragraph 9.5.4.</p>
1	2	-	-	-	<p><b>9.4.2 Definition file</b></p> <p>The supplier must establish a definition file containing the approved drawings, parts lists for drawings, user and maintenance manuals, replacement parts lists, the quality file (certificates, records, etc.) and the designer's specifications (where necessary).</p>

1	2	-	-	-	<p><b>9.4.3 Justification file</b></p> <p>The supplier producing the design must compile a justification file including an overview and design and test documents, justifying the choices and sizing used in defining the product, in order to meet AL-aT requirements.</p> <p><i>Specific aerospace and defence requirements:</i></p> <p><i>Where testing is required, the supplier must:</i></p> <ul style="list-style-type: none"> <li>- <i>State the conditions for carrying it out: identify the products to be tested, the necessary resources, test conditions, parameters to be recorded, acceptance criteria, procedures and the product configuration to be tested.</i></li> <li>- <i>During testing, check the product's configuration and that the acceptance criteria are met.</i></li> </ul>
1	2	-	-	-	<p><b>9.4.4 Management of change</b></p> <p>The supplier must manage design changes.</p> <p>Change management must allow changes in the definition documentation to be traced.</p> <p>Any change in the definition file is subject to prior acceptance by AL-aT.</p>
1	2	3	4	5	<p><b>9.5 Management of Documentation and Data</b></p>
1	2	3	4	5	<p><b>9.5.1 Identification</b></p> <p>The documents and data used must be formally identified by an adequate single reference</p>
1	2	3	4	5	<p><b>9.5.2 Approval</b></p> <p>Documents supplied to AL-aT must be signed</p>
1	2	3	4	5	<p><b>9.5.3 Modification</b></p> <p>If documents and data are modified by the supplier, those changes must be verified internally by the supplier before being passed on to AL-aT.</p> <p>Any modification to a distributed document must result in a change to its identification reference.</p> <p>Any modification to a contractual document must be submitted to AL-aT for acceptance prior to implementation.</p> <p>Invalid and/or expired documents must be withdrawn from all disclosure or usage points.</p>
1	2	-	-	-	<p><b>9.5.4 Management of Configuration (Specific aerospace and defense requirement)</b></p> <p><i>For suppliers delivering products to AL-aT intended for aerospace or defence use, the management of a product's configuration is mandatory.</i></p>

1	2	-	-	-	<p><b>9.5.4.1 Applicable configuration:</b></p> <ul style="list-style-type: none"> <li>All items contributing towards ensuring compliance with the specification of need and the maintenance of equipment.</li> <li>This configuration corresponds to the documents fixed at the end of the detailed definition stage (CDR), therefore the whole of the industrial file, together with any changes approved via the modification management procedure.</li> <li>Configuration item: All equipment, software and products used in the manufacture of the products.</li> </ul>
1	2	-	-	-	<p><b>9.5.4.2 Configuration produced (or applied):</b></p> <p><i>As a general rule, the configuration produced is the applicable configuration.</i></p> <p><i>The configuration produced can sometimes differ from the applicable configuration due to discrepancies identified through:</i></p> <ul style="list-style-type: none"> <li><i>the anomalies approval procedure: the discrepancy recorded is formalised by a derogation submitted to AL-aT,</i></li> <li><i>the modifications control procedure: the discrepancy recorded is formalised by a derogation submitted to AL-aT.</i></li> </ul>
1	2	-	-	-	<p><b>9.5.4.3 the record of configuration of product produced</b></p> <p><i>The record of the configuration of the product produced is demonstrated by the establishment and the supply to AL-aT:</i></p> <ul style="list-style-type: none"> <li><i>a sheet / configuration register.</i></li> </ul> <p><i>The complete record file for the product configuration produced is archived by the supplier and may be consulted by AL-aT upon request.</i></p>
1	2	-	-	-	<p><b>9.5.4.4 Physical configuration audits</b></p> <p><i>This takes the form of the formal examination of the configuration of an item "produced" in order to check that it is consistent with its configuration documents.</i></p> <p><i>This examination is carried out before the product is presented for acceptance.</i></p> <p><i>Depending on the situation, the audit may be conducted by the supplier, by AL-aT or by AL-aT and its customer.</i></p>
1	2	3	4	5	<p><b>9.6 Purchasing</b></p>
1	2	3	-	-	<p><b>9.6.1 Transfer of the requirements in purchase orders from suppliers to their suppliers</b></p> <p>The purchase orders issued by the supplier must pass on the requirements in the AL-aT order (including HSE and reliability requirements).</p>

1	2	3	-	-	<p><b>9.6.2 Supplier evaluations</b></p> <p>The supplier must evaluate and select its suppliers based on their capacity to satisfy the requirements in the order (including HSE and reliability requirements).</p> <p>The supplier must keep up-to-date records on the quality of the suppliers chosen and the list of suppliers evaluated, the result of the evaluation and its scope.</p>
1	2	3	-	-	<p><b>9.6.3 Purchasing specifications for the product purchased by the supplier</b></p> <p>Specifications must contain at least the description of the product (drawings, diagrams, instructions, functional criteria, etc.), inspection and testing requirements, acceptance criteria for the product and qualification requirements for personnel.</p>
1	2	3	4	-	<p><b>9.6.4 Verification of the product purchased</b></p> <p>Verification activities involve inspecting products upon receipt, obtaining objective proof of the product's compliance and an examination of the documentation required.</p>
1	2	3	-	-	<p><b>9.7 Management of the product provided by AL-aT</b></p>
1	2	3	-	-	<p><b>9.7.1 Receiving a product supplied by AL-aT</b></p> <p>Any product delivered by AL-aT or one of its suppliers or one of its clients must be received by the supplier.</p> <p>Taking this delivery includes the following checks regarding the order:</p> <ul style="list-style-type: none"> <li>▪ qualitative and quantitative checks on the product,</li> <li>▪ the presence of documentation,</li> <li>▪ verification of the overall state and integrity of the product following transport</li> </ul> <p>Once receipt procedures have been completed, a copy of the delivery note must be sent immediately to the AL-aT purchasing department.</p> <p>When damage occurs during the transport of a product supplied by AL-aT, its suppliers or its clients, the consignee imperatively maintains the recourse of AL-aT by:</p> <ul style="list-style-type: none"> <li>▪ leaving merchandise and packing materials in their as-received state for possible inspection by an insurance company,</li> <li>▪ sending a copy of all documents to AL-aT</li> <li>▪ Taking, causing or requiring all measures of preservation or of salvage, according to the situation, in order to protect the insured cargo or to limit their loss or damage</li> <li>▪ Applying for survey to the Claims Agent at the place where the loss or damage has been noted</li> <li>▪ Maintaining all rights and claims against the carriers and/or all other responsible parties in order to be able to subrogate the insurers</li> <li>▪ Advising insurers of the loss and measures taken.</li> </ul>

						<p><b>IN CASE OF APPARENT DAMAGES</b></p> <p>Before taking delivery of the cargo, write precise reservations on the delivery order, including marks, numbers and weights of damaged packages</p> <p>Within 24 hours after delivery, confirm these reservations by registered letter</p> <p>Any failure to meet these conditions will render the supplier liable.</p> <p><b>IN CASE OF DAMAGE DISCOVERED ONLY AFTER DELIVERY</b></p> <p>Cease immediatly the unpacking and invite the Claims Agent</p> <p>Mail without delay (and no later than 3 days after delivery) a registered letter of reservations to the carrier and/or other responsible party, mentioning the observed damages</p> <p><b>IN ALLCASES</b></p> <p>Invite to the survey, if necessary by registered letter, the carrier and/or other responsible party and, should they refuse to be represented, cause a surveyor to be appointed by the court if the losses or damages are important.</p> <p><b>SUSPEND TIME-BARRING OF CLAIMS</b> against the Carrier and/or other responsible party if the complete claim files are not remitted to insurers at the latest one month before the expiry of this time limit.</p> <p>Any failure to meet these conditions will render the supplier liable.</p> <p>Any documents or files provided by AL-aT remain the property of AL-aT and must be properly looked after so that they can be returned if requested.</p>
1	2	3	-	-		<p><b>9.7.2 Identification</b></p> <p>The supplier must clearly identify all products supplied by A-aT or its suppliers or customers.</p>
1	2	3	-	-		<p><b>9.7.3 Storing a product supplied by the customer</b></p> <p>The supplier must take appropriate measures to ensure the traceability, storage and preservation of products supplied by AL-aT, its suppliers and customers.</p> <p>The supplier should inform AL-aT purchasing department in writing of any way, of any deterioration or defect noticed on products supplied by AL-aT before using them.</p>
1	2	3	4	5		<p><b>9.8 Identification and traceability</b></p>
1	2	3	4	5		<p><b>9.8.1 Identification</b></p> <p>The identification and permanent marking of products must comply with the stipulations in the order. This identification must systematically appear on documents relating to the product (inspection reports, certificates of compliance, non-compliance sheets, etc.)</p> <p>It is impossible to mark the material, it should be marked on the packaging.</p>

1	2	3	4	-	<p><b>9.8.2 Product traceability</b></p> <p>The supplier must introduce a per batch traceability procedure which makes it possible to establish:</p> <ul style="list-style-type: none"> <li>▪ the state of the definition file,</li> <li>▪ the state of the manufacture and applicable testing file,</li> <li>▪ the history of realisation (purchasing, manufacture, assembly, control, operators),</li> <li>▪ any non-compliance observed,</li> <li>▪ test record documents,</li> </ul> <p>A requirement for unitary traceability may be requested; in this case, it is stipulated in the order.</p> <p>All the documents required in the AL-aT order must be identified by the supplier in relation to the AL-aT purchase order number and the item reference number.</p>
1	-	3	4	-	<p><b>9.9 Control of production processes</b></p>
1	-	3	4	-	<p><b>9.9.1 Manufacturing file</b></p> <p>A manufacturing file must be compiled. It should state the chronological history of the main realisation operations, in particular those which call upon procedures, tests, trials and external inspection points.</p> <p>This documentation must be submitted for acceptance by AL-aT.</p> <p>AL-aT then states the attendance points requiring its presence.</p> <p>During manufacture, operators date and sign against the tasks carried out on a monitoring document.</p> <p>The manufacturing file will be compiled as per the specification in the order.</p> <p>For a PFCE, the AL-aT model is required and this should be submitted according to the format given in the appendix.</p>
1	-	3	4	-	<p><b>9.9.2 Production control</b></p> <p>The supplier must keep updated a business progress schedule in order to respect the deadlines given on the order.</p> <p>If there is any deviation from these lead times, the supplier must inform the AL-aT purchasing department.</p> <p>AL-aT may ask sight of this schedule from time to time.</p>
1	-	3	4	-	<p><b>9.9.3 Maintenance of production equipment</b></p> <p>Production equipment must be maintained in order to ensure it is reliable and available.</p> <p>Maintenance operations and their frequency must be recorded.</p>


1	-	3	4	-	<p><b>9.9.4 Identification of special processes</b></p> <p>The supplier must identify special processes and inform AL-aT of them.</p> <p>Special processes should be understood as those where the final inspection does not give sufficient guarantee of compliance in use (surface treatment, heat treatment, welding, crimping, soldering, gluing, etc.).</p>
1	-	3	4	-	<p><b>9.9.5 Qualification of processes and personnel</b></p> <p>Special or skilled techniques must be included in fixed ranges.</p> <p>Any change must be subject to acceptance by AL-aT.</p> <p>In any implementation of a so-called special process, the supplier must:</p> <ul style="list-style-type: none"> <li>▪ formalize the process in accordance with the procedures in the definition file,</li> <li>▪ ensure that the operations are conducted by skilled staff.</li> </ul>
1	-	3	4	5	<p><b>9.10 Checks and tests</b></p>
1	-	3	4	5	<p><b>9.10.1 Goods received inspections</b></p> <p>The products received by the supplier must be checked and compared to the order. These checks should be recorded.</p>
1	-	3	4	-	<p><b>9.10.2 Inspection between operations</b></p> <p>Inspection and testing operations must be defined in an inspection plan, e.g. a PFCE, etc. The supplier ensures that all checks planned are carried out.</p>
1	-	3	4	-	<p><b>9.10.3 Final inspection</b></p> <p>Final inspection requirements are taken from this document (see paragraph 7.4) and/or specifications stated on the order.</p> <p>The supplier must be in possession of the necessary calibrated inspection, measurement and testing equipment.</p> <p>It must carry out and record inspections to ensure the product's compliance.</p> <p>For all final inspections subject to acceptance by AL-aT, the supplier must invite AL-aT to attend five working days prior to the acceptance procedure.</p> <p>In-factory acceptance is acknowledged by a PVRI listing the equipment accepted and stating any reservations applying.</p> <p>A blocking restriction prevents the material from being sent.</p>

1	-	3	4	-	<b>9.11 Management of monitoring and measurement equipment</b>
1	-	3	-	-	<b>9.11.1 Identification of monitoring measurement equipment</b>  The supplier must identify the measuring equipment used to declare that the product complies with the requirements specified.
1	-	3	4	-	<b>9.11.2 Verification of inspection and test equipment</b>  The supplier must verify from time to time, and in accordance with internal calibration procedures, the measuring equipments used to demonstrate that the product complies with the requirements specified.
1	-	3	4	-	<b>9.11.3 Compliance with national and international measurement standards</b>  The supplier must verify, or have verified, the measuring apparatus used to declare that the products comply with measuring equipment based on national or international standards.
1	-	3	4	5	<b>9.12 Management of non compliance</b>  The supplier must identify and record any non-conformities (discrepancies with the requirements in the order).  If treatment of the anomaly necessitates a re-working or modification affecting the product's expected compliance, the supplier must inform AL-aT by contacting by email, fax or letter the person in the purchasing department whose name appears on the order within 48 hours of the anomaly being detected.  No action may be undertaken on the parts without prior written consent from AL-aT.  Similarly, in the case where, following the detection of an anomaly, the supplier plans to use the product or sub-assembly in its current state, it must request derogation from AL-aT.  The product may not, under any circumstances be used and/or delivered without AL-aT's prior written agreement.
1	2	3	4	5	<b>9.13 Corrective and preventive actions</b>  The supplier must respond to requests for action issued by AL-aT following: <ul style="list-style-type: none"> <li>▪ a non-compliance which occurs during production,</li> <li>▪ occurrences of non-compliance detected by AL-aT or one of its representatives,</li> <li>▪ discrepancies observed by AL-aT during an audit or visit.</li> </ul> through an action plan which should be monitored jointly by the supplier and AL-aT. The time scales for carrying out actions must be defined in agreement with AL-aT.

1	-	3	4	5	<b>9.14 Storage, handling, conditioning, preservation, delivery</b>
					<b>9.14.1 Storage, handling, conditioning, preservation, delivery</b>  The supplier must ensure that the product is protected during handling, storage and conditioning operations up until delivery.  As a minimum, it must take the following measures: <ul style="list-style-type: none"> <li>▪ Packaging: Products must be packed individually or per batch according to their nature or the order requirements to protect them against impacts, scratching, marking, corrosion, etc.</li> <li>▪ Protection /Aspect: Fragile parts must always be protected.</li> <li>▪ Cleanliness: Products must be delivered clean in accordance with accepted practice (particularly free of foreign bodies). The acceptance criterion is visual inspection, except for particular specifications.</li> <li>▪ Safety:             <ul style="list-style-type: none"> <li>-Where equipment is delivered inert, pressurised or oxygen degreased: the delivery will be accompanied by a user manual.</li> <li>- Hazardous products: Labelling specifying the hazard relating to the product must be applied in a clearly visible position on the product and its packing and be delivered accompanied by a data sheet.</li> </ul> </li> </ul>
1	-	3	4	5	<b>9.14.2 Products with expiry dates (glue, joints, chemical products, etc.)</b>  The supplier must: <ul style="list-style-type: none"> <li>▪ identify and isolate products which are past the expiry dates.</li> <li>▪ Store products with expiry dates in suitable locations in accordance with the manufacturer's instructions (temperature, etc.) and in accordance with HSE requirements.</li> <li>▪ Check the product's validity date before it is used or delivered.</li> </ul> The supplier should, under no circumstances, use or deliver an expired product.
1	2	3	4	5	<b>9.15 Quality records</b>
					<b>9.15.1 Identification</b>  Records relating to quality, demonstrating compliance with AL-aT's requirements, e.g. certificate of compliance, test report, etc., must be identified and retained.
					<b>9.15.2 Archiving</b>  The record of the inspection or test of required equipment and also the manufacturing files, must be available to AL-aT at any point in the production cycle and for a period of ten years thereafter unless

					<p>otherwise specified (notably for aerospace and defense where the retention period is 30 years).</p> <p>The computer files or software resulting from an activity or enabling the production of an item purchased by AL-aT should be backed up on different premises from where they are normally used for a period of ten years, except in the case of special requirements.</p>
1	2	3	4	5	<p><b>9.15.3 Records management</b></p> <p><i>For suppliers in the aerospace and defence sectors, a procedure must define the method used to ensure that records issued or retained are managed (test reports, inspection reports, certificates of compliance, the qualification of welding procedures, qualification of welders, etc.). This procedure must notably state the methods of storage, identification, protection, accessibility, duration of conservation, availability for the customer and deletion of records.</i></p>
1	2	3	4	5	<p><b>9.16 Health Safety and Environment (HSE)</b></p> <p>Sub-contractors must implement an HSE policy, guaranteeing at least:</p> <ul style="list-style-type: none"> <li>▪ statistical monitoring of personnel accidents which take place carrying out the activity (number of accidents per production hours) with a view to analysing the causes and implementing risk reduction actions, to limit the occurrence of accidents and thus make the activity safer and more reliable.</li> <li>▪ working conditions (cleanliness, tidiness) sufficient to meet the requirements necessary to obtain the required quality for the order.</li> <li>▪ monitoring the qualifications of personnel specific to HSE and operations indirectly linked to producing the product ordered (forklift truck and crane operators, etc.).</li> <li>▪ the traceability of training and information provided to the personnel, related to the risks concerning the unit or the site or the environment of the service</li> <li>▪ a continued improvement process</li> </ul>
1	2	3	4	5	<p><b>9.17 Delivery</b></p> <p>The supplier must deliver the product in accordance with the order. Documentation is an integral part of the order, in the same way as the product is. The final receipt of the order may only be confirmed (and payment released) when the product and associated documentation is accepted.</p> <p>The supporting documents requested in the order (inspection report, materials certificate, etc.) are to be sent with the equipment to the AL-aT stores in hard copy and/or electronic form.</p> <p>Additionally, for deliveries outside AL-aT, a digital copy of the delivery note and associated documents should be sent to the AL-aT purchasing department.</p> <p>Regulatory certificates (e.g. CE certificate) are also attached to the equipment delivered.</p> <p>For deliveries of products with a limited storage period, the expiry date must be clearly indicated on the delivery note.</p>

**10 APPENDIX : PFCE MODEL**

	DOCUMENT N° : <b>D4054 LOFC 01 (0)</b>	Réf : FR-R2-07-03-00 Révision : 00 Date de création : 14/11/2013 Page : 1/5
<b>HELIUM REFREGERATION</b>		

LOFC- Liste des Opérations de Fabrication et de Contrôle / ITP: *Inspection and Test Plan*


**HELIUM REFREGERATION**

Client - *Customer* :  
 (ALAT) N° du Projet - (ALAT) Job N° :  
 N° de fabrication- *Manufacturing N°* :

<b>Approuvé par / Approved by</b> <i>PROJECT Manager</i>	<b>Assurance Qualité / Quality Assurance</b>
Nom :	Nom :
Date :	Date :
Visa :	Visa :
<b>Vérfié par / Verified by :</b> <i>PRODUCTION Manager</i>	
Nom :	<b>Diffusion :</b> Costumer
Date :	ALAT Internal
Visa :	





		<b>LOFC - Liste des Opérations de Fabrication et de Contrôle</b> <b>ITP Inspection and Test Plan</b>						Réf : FR-R2-07-03-00 Révision : 00 Date de création : 14/11/2013 Page : 4/5			
		HELIUM REFREGERATION			LOFC N° D4054 LOFC 01 (0)						
Désignation	HELIUM REFREGERATION	Projet :	0		N° de fabrication:				CODE ARTICLE : Ref. :	C1243E100A	
STEP N°	Operation Description	APPLICABLE SPEC./PROCEDURE/CODE (including release number)	rev	Fabrication et contrôle Manufacturing and Inspection Results							Observations
				Date		FAB / contrôle AL-AT		AQ/RQF	T.P.I.A		
				début - <i>beginning</i>	fin - <i>end</i>	Initials	Visa	Visa	Visa	Visa	
1	Levée des préalables <i>Prerequisite Actions</i>										
1,1	Plan <i>Blueprint</i>	to be defined						R		R	
1,2	Cahier de soudage <i>Welding book</i>	to be defined						R		R	
1,3	exigence en CND sur les soudures de tuyauteries <i>welding and piping NDT requierment</i>	DTA-GS-015 EN 13480	2					R		R	
1,4	Spécification générale d'étanchéité <i>General leak test specification</i>	DTA-DS-007	0					R		R	
1,6	Spécification générale de propreté et protection des équipements <i>Equipment cleanliness and protection general specification</i>	DTA-DS-008	5					R		R	
1,7	Procédure d'isolation <i>Insulation procedure</i>	DTA-EP-001	0					R		R	
1,8	Qualification opérateur Test Etanchéité <i>Qualification of Leak test operator</i>	COFREND II						R		R	
1,9	Qualification opérateur Radiographie <i>Qualification of Radiographic operator</i>	COFREND II						R		R	
1,10	Qualification soudeur <i>Welder qualification</i>	EN 287-1						R		R	

2 Fabrication et Contrôles Fabrication and Controls												
	<i>Rappeler les consignes sécurité du post de travail</i>											
2,1	Vérification certificat matière <i>Verification of material certificate</i>									H		
2,2	Préfabrication des isométries <i>Isometrics pre assembly</i>							H				
2,3	Montage et pointage des isométries <i>isometrics assembly</i>							H				
2,3,1	soudage des isométries <i>isometrics welding</i>							H				
2,3,2	Contrôle visuel -100%- <i>Visual inspection -100%-</i>	DTA-GS-015	2					H				
2,3,5	Contrôle radiographie - 10%- <i>Radiographic inspection -10%-</i>	DTA-GS-015	2					H				
2,3,6	Isolation des isométries <i>Isometrics insulation</i>	DTA-EP-001	0					H				
2,4	Préparation de l'échangeur <i>Exchanger preparation</i>							H				
	Montage du cryo machine <i>Cryo machine assembly</i>							H				
2,4,1	Montage et soudage des isométries de raccordement <i>Piping connection welding</i>							H				
	Intégration du réchauffeur <i>Heater integration</i>							H				
	Montage des vannes <i>Valves assembly</i>							H				
2,4,3	Contrôle visuel -100%- <i>Visual inspection -100%-</i>	DTA-GS-015	2					H				
2,4,5	Contrôle radiographie - 10%- <i>Radiographic inspection -10%-</i>	DTA-GS-015	2					H				
2,5,2	Contrôle de conformité PID des internes <i>Internal PID conformity checking</i>								H		H	
	Montage des accessoires externes <i>External accessories assembly</i>							H				
	Soudage des accessoires sur l'enveloppe externe <i>External accessories welding</i>							H				
	Identification composants <i>Component identification</i>							H				

	Contrôle dimensionnel <i>Dimensional check</i>						H			
2,6,2	Contrôle de conformité PID <i>PID conformity checking</i>							H		
2,6,3	Contrôle visuel -100%- <i>Visual inspection -100%-</i>	DTA-GS-015	2				H			
2,6,5	Contrôle radiographie -10%- <i>Radiographic inspection -10%-</i>	DTA-GS-015	2				H			
2,6,6	Propreté <i>Cleanliness</i>	DTA-DS-008	5				H			
2,7	test pression <i>pressure test</i>						H	H		
2,7,1	Test détanchéité <i>Leak test</i>						H	H		
2,7,2	Certification CE <i>CE Certification</i>							H	H	
2,7,3	Pression <i>Pressure</i>							H	H	
2,7,4	Machine <i>Machine</i>							H	H	
2,7,6	ATEX (2 GROUP II C T3) <i>Atex (2 GROUP II C T3)</i>							H	H	
2,7,7	Vérification des pièces détachées <i>Spare part checking</i>						H			
2,8	Dossier constructeur <i>Manufacturer Data Report</i>							H	H	
2,8,1	Manuel utilisateur <i>Installation, Operation and Maintenance manual</i>							H	H	
2,8,2	Réception finale <i>Final reception</i>						H	H	H	
2,8,3	Emballage <i>Packing</i>						H			

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