ALT TECHNOLOGIES

Global Supplier Quality Manual

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Supplier Quality Manual

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Revision History

Revision	Date	Description of change	Sections
2	October ,2009	Update of Manual	5,6,7,8, 9 and 10
3	November, 2009	Update of chapters	4 and 9.4
4	April, 2010	Add Environment policy and Social Responsibility by Quality policy: appendix I	6
5	February ,2011	Add action list (In case of a" Total score" rating below 60%, the supplier is obligated to make an action plan within one month and send to purchaser of ALT)! Update procedure Behavior riles for visitors ISO 14001	Appendix G – Supplier Performance Overview Appendix I – Behavior rules for visitors ISO 14001
6	April, 2011	New logo of ALT Technologies added	
7	February ,2013	Update of SQM	Updated sections 6, 7,8 and appendix I. Added additional documents at appendix B and C
8	Augustus, 2013	Correlation between responsiveness of supplier with customer requirement.	Updated section 10.4 and 10.5
9	Augustus ,2014	New- Conflict Minerals	Section 8.12 and appendix J is added
10	September, 2014	Rating updated	Updated section 10.5
11	July, 2016	Introduction, Quality and Environmental policy text updated, new section added Cost recovery for nonconforming product	1,6.1,6.2 and 9.6
12	January, 2018	Updated - the list of contact persons in Holland and add the list of contact persons at ALT China, Environmental, Health, Welfare and Safety Policy. updated, IATF	Chapter 5 - (5.1 and 5.3) , Chapter 6 (6.2) , Chapter 7 (7,1) Chapter 8 (all sections) , Chapter 9 (9.1 9,4

		standard added, Chapter 8 text updated, Engineering change request replaced by Supplier Change request, FIFO, Contingency plan, Self-assessment document updated	and 9.7) and appendix F updated and K (Supplier Change request) is added
13	Oktober,2018	Update – the list of contact persons ALT CN updated. ALT Mexico is added to the list. Any changes by supplier shall be submitted to ALT via SCR document with a minimum of 1 year prior to planned implementation. All validation costs of ALT and ALT customer related to change will be covered by the supplier. Non- Conformity Report - Text removed. Packaging text update splices. Contingency plan chapter reviewed and updated. Missing documents (COA) added.	Chapter 5.3, 5.4, 9.1, 9.3, 9.4 ,9.7, and 10.1
14	July , 2019	Update from SQM to Global SQM	Cover page
15	November , 2019	Update SQM	Chapter Updated 5.1, 5.2, 8,2 , 8.11, 8.12, Appendix B, Appendix H(removed) .

1.0 Introduction

Mission-Statement

We aim to develop and deliver value added solutions to the automotive industry, and to customers with similar requirements. These solutions aim to surpass customer needs and expectations.
With our global presence and our total quality management approach we guarantee to meet customer quality and service requirements.
Ensuring an environment that will benefit all stakeholders.

Vision-Statement

Our goal is to be the worldwide market leader in quality and customer satisfaction, we are a learning organization using enhanced continuous improvement techniques.
We believe;

- **That our advanced product development plan offers our customers the best solutions.**
- **That our Total Quality Management approach offers our customers leading quality solutions.**
- **That with global presence and focus (without any distraction) for our chosen markets, we will be the market leader.**
- **That through Lean management, investing in our people and technology we will be a cooperative and long term profitable organization.**

For these reasons ALT has based its Quality Management System Requirements on the worldwide Quality System Requirements 'IATF 16949'.

2.0 Purpose

The purpose of this document is to define and communicate ALT Quality System Requirements for suppliers.

3.0 Scope

This standard describes ALT Requirements for **all** purchased direct materials and components.

4.0 Quality Responsibility

The main objective of the quality process is fault prevention. The supplier has the responsibility to assure that each product is in conformance with the defined technical specifications and is fit for use. **The suppliers are fully responsible for the quality of their products and services.**

5.0 List of contact persons at ALT

5.1 Contact persons at ALT Holland

Function	Department	Tel:
Global Quality Manager	Quality	+31 30 263238 or +31 30 2632367
Quality Supervisor	Quality	+31 (0)631919826
Global Maintenance Manager	Global Maintenance	+31 30 2632339
Global Purchaser	Purchasing	+31 30 2632266
Product Development Manager Europe	Product Development	+31 30 2632373

5.2 Contact persons at ALT Romania

Function	Department	Tel:
Quality Manager	Quality	+40(0)756197424
Logistic Manager	Logistic	+40 (0) 748 127 179
Supplier Quality engineer	Product Development	+40(0) 266 221 793 (internal 512)

5.3 Contact persons at ALT China

Function	Department	Tel:
Quality Manager	Quality	+86 (0)21 5954 8338-223
Production planner	Logistic	+86 (0)21 5954 8338-208
Product Development Manager Asia	Product Development	+86 (0)21 5954 8338 -217

5.4 Contact persons at ALT Mexico

Function	Department	Tel:
Quality Manager	Quality	+526144066582
Logistics and warehouse leader	Logistic	+ 526143946260
Purchasing & Planning Leader	Purchasing	+ 526141421721
Product Development Manager Americas	Product Development	+ 31(0)612690739

6.0 Quality and Environmental, Health, Welfare and Safety Policy

6.1 Quality Policy

Growth: We are committed to consistent and profitable growth in our core business and selected markets. We continuously seek to improve and innovate our products to meet the stringent market demands.

Margin and Cost: We believe margin and cost improvements are the result of continuous improvements and rapid technologically developments of our products that work for the customer and to keep costs at their current level or lower.

Lean and Quality: We must apply the principle of Lean Management in every process across the company, truly embracing the idea of eliminating what does not add value and designing products, systems and processes for safety and total quality. We should invest in the latest quality accreditation and production processes. We should also continuously focus on supply chain and cost reduction possibilities.

People: We believe in the power of people and that people respond to recognition and trust, opportunities to learn, the possibility to develop personally and professionally, team work and, dedicated and motivated employees. People are the company's most valuable resource. Employees possess immense power of innovation, imagination, skill and a desire to accomplish something of significance. Teamwork enables us to realize our full potential.

Planning: We believe in planning and proper execution at all levels of the company. We favor speedy decisions, actions and programs. We see speed as a winning ingredient in the ever faster moving and changing world.

Customers: We are focused on customers and markets, where we are dedicated to total customer satisfaction and understanding of our customer needs and exceeding their expectations.

Global presence: our customers come in first place that's how our company grows. We promote activities which add value for our customers, which reinforce our commitment to partnership in business. Innovation is essential for progress.

Suppliers: We expect our suppliers to provide us with products of quality, they aim to value our business relationship and satisfy our needs, being their customer. We continue to aim to develop long-term relationships based on mutual respect.

Integrity & Honesty: Honest relationships and trust are essential for long-term business successes. We deal fairly in all our business relations. Open communication, respect for people, ideas, opinions and cultures play a key part in continuing and improving our own integrity and honesty as diversity brings strength.

Social Responsibility: ALT Technologies company policy and ethic is based on respect to minorities, safety, welfare, health of people and environment.
Any kind of discrimination, forced and child labor and corruption is not allowed at ALT Technologies.
ALT Technologies complies with local, national and international legislation and laws in the countries where operations take place.
The management team and department managers are responsible to maintain this policy for all business whether internal or external.

ALT Technologies,

Jean-Luc Verstraeten

Managing Director

6.2 Environmental, Health, Welfare and Safety Policy

Environment, Health, Welfare and Safety Policy statement

ALT Technologies recognizes and accepts its responsibility towards the environment, health, welfare and safety as an integral part of its activities.

This policy statement is applicable for all ALT Technologies plants worldwide.

Through management leadership and employee participation ALT Technologies is committed to:

- The establishment, the implementation and maintaining of the environment management system;
- The implementation of programs to prevent pollution and reduce waste;
- Complying with environmental laws, regulations and other requirements laid out by international and local laws;
- Continuous improvement of environment performances through the establishment of procedures, regular audits, targets and reviews;
- Providing education, training, information and the right tools to ensure that employees can work safely, efficiently and to prevent negative environmental impacts;
- The responsible use of energy sources (water, gas, electricity, etc.);
- An open relationship with the environmental authorities and other public bodies.

AL T Technologies,

Jean-Luc Verstraeten

Managing Director

7.0 Specific Requirements

7.1 General

ALT will work with suppliers to assist them with the goal of achieving compliance to the IATF 16949 Standards. This is required for all suppliers who provide production goods and services to our manufacturing facilities. These requirements supplement are an extension to the purchase order.

All suppliers must demonstrate that they are, at a minimum the last edition of ISO 9001.

7.2 Supporting Documents

Appendix A lists the supporting documents referenced in this Manual along with their sources. It is the responsibility of all ALT suppliers, both current and prospective, to obtain and maintain a current issue of these documents.

7.3 Additional Requirements

The supplier may expect other specific requirements in addition to the requirements of this Manual. If applicable, these requirements will be communicated to the supplier through the Global Purchaser.

8.0 Requirements for Supplier Approval

8.1 ALT Contact

When starting activities with ALT the supplier shall contact Global Purchaser. All requests to become a new supplier for ALT must go through to the appointed ALT team which will approve a new supplier.

8.2 Supplier Questianarry ISO 14001

We encourage are suppliers to have ISO 14001, in case that supplier does not have ISO 14001 certificate supplier must complete (Appendix B) document and forwarded to the Purchaser.

8.3 Quality System Audit

A quality system audit may be required prior to issuance of the initial purchasing agreement. This audit will be conducted by the Quality Team ALT and will verify the existence of a quality system and disciplines necessary to meet ALT's Requirements., IATF 16949, or ISO 9001 and ISO 14001 Standards will be the basis for this audit.

ALT reserves the right to assess current suppliers prior to placement of new business, as a result of a supplier's quality performance, when there is a change in the supplier's facility processes, a change in ownership, a significant change in the nature of the product previously supplied, or as part of ALT's Supplier Quality Development Program.

8.4 Significant or Critical Material Characteristics

Significant and or critical material characteristics are shown in ALT spec which coming from our Product Development Department. It is the supplier's responsibility to incorporate these Characteristics into the Control Plans, PFMEA's and Work Instructions of the products supplied to ALT.

Suppliers are expected to have their key processes under statistical control consistent with the guidelines of the current ISO 9001 Standard and related reference manuals.

8.5 Advanced Product Quality Planning (APQP) or ALT spec

The supplier must demonstrate progress and the current status of all projects through the application of Advanced Quality Planning techniques. This can be achieved by using the Advanced Product Quality Planning or otherwise agreed by ALT (ALT spec).

8.6 Production Part Approval Process (PPAP) or ALT spec

The 'Production Part Approval Process' manual or ALT spec defines the requirements for material and components submissions. To ensure compliance to our customers' requirements the following ALT specific requirements have been established as additional PPAP requirements.

a) Level 3 PPAP / ALT spec form is required for all PPAP submissions unless directed differently by the Product Development Engineer. PPAP's / ALT spec form is to be submitted directly to the Product Development Engineer. See (Appendix C) for an example of a Part Submission Warrant or ALT spec form.
b) A preliminary process capability study (Ppk) is required for all the Significant and Critical Characteristics or other characteristics given by the Product Development Department (Appendix D + E).
c) A Process Failure Mode Effect Analysis (PFMEA) shall be included in the PPAP submission.
d) A 'Declaration of Conformance', a 'Declaration of Restricted Substances' or an 'Approved Waiver for Forbidden Substances' as per ALT standard shall be included in the PPAP submission.
e) It must be possible to trace the results to the materials or components through the part number, quantity and delivery date. The supplier must declare the total quantity of PPAP samples produced and the date(s) of production.
f) A Product Data Sheet must be submitted with the PPAP.

Additional elements may be added to the PPAP process due to ALT's specific customers' demands.

Production deliveries shall not commence until formal authority has been received from the Product Development of Supplier Quality Engineer.

Re-submitted samples following rejection must be accompanied by all relevant documentation as required for original PPAP samples.

8.7 Deviations

There shall be no deviations to ALT specifications without written approval and/ or deviation from the Supplier Quality Engineer.

8.8 Labeling Requirements

On the first production run after PPAP approval the shipment shall be identified with a label or paper attached to the outside of the shipping container on all four sides with the words: TO PURCHASING, FIRST PRODUCTION SHIPMENT.

8.9 Cleanliness Requirements

ALT requires all material to be clean and free of contamination if otherwise is agreed. The supplier is responsible for ensuring that material is delivered to ALT is clean, free of contamination from debris, and packaged in a manner to maintain material cleanliness.

8.10 Environment requirements

ALT has established an Environmental Policy and expects suppliers to take their environmental responsibility in a similar way as described further below. For all activities the supplier shall comply with legal (local, national and global) environmental requirements.

All substances used in production part materials shall be declared in an MDS sheet according to 6.6e above, with each PPAP submission. In addition, the supplier shall be able to show on request documents that verify that the above standard has been adhered to.

For a full environmental commitment, we suggest our suppliers to plan for and implement an Environmental Management System, preferably ISO 14001.

8.11 REACH , RoHs , GADSL Requirement

ALT requires its suppliers to comply with the latest REACH, RoHS and GADSL legislation. In case of (non -) compliance supplier is required to inform ALT in writing.

https://echa.europa.eu/nl/regulations/reach/legislation
https://www.rohsguide.com/
https://www.gadsl.org/

8.12 Conflict Minerals Requirement

ALT requires its suppliers to comply with ALT policy and the latest Conflict Minerals legislation. In case of (non -) compliance supplier is required to inform ALT in writing.

ALTTechnologies policy:
https://alttechnologies.com/global-quality-standards/

Conflict Minerals legislation:
http://www.responsiblemineralsinitiative.org/

9.0 Supplier Support Procedures

9.1 Supplier Change Request

ALT Technologies is committed to achieving the highest standards of quality and is dedicated to continuous improvement in compliance and quality through our business processes and practices with our suppliers.
In conjunction with our practices, suppliers are responsible for manufacturing their products in conformance with all laws and regulations that pertain to their specific operations.
Suppliers are also responsible for assuring that they have qualified personnel with adequate training to control their own manufacturing processes and ensure consistent quality. Such controls extend to your company properly evaluating any change in the materials, equipment or processes to ensure your products conform to original specifications.

A change in materials, equipment or process by any of our supplier may have an unintended impact on the product produced by ALT and subsequently have an unintended impact on a product being produced by our end customer.

Our suppliers are obligated to make a request to ALT Technologies for any change of material, equipment, process, or any specifications and packaging. All such changes shall be submitted to ALT via SCR document with a minimum of 1 year prior to planned implementation. All validation costs of ALT and ALT customer related to change will be covered by the supplier.

Any change, as above, without prior written approval of ALT Technologies will result in the supplier being charged for all costs incurred, at ALT and our customer and the end user (OEM).

All such changes will be submitted to ALT via Supplier Change Request document (Appendix I)

The supplier will be charged for all cost related to the request change.

9.2 Document Control and Records

All documents and records demonstrating product quality conformance and traceability must be stored in safe condition in order to prevent destruction and maintained for 20 years.

9.3 Non Conformity Report

A Non- Conformity Report may be issued to the supplier when ALT detects non-conforming material. The supplier is required to complete this form detailing the root cause (Fishbone) corrective and preventive action with effective dates (PDCA) see (appendix G).
An initial response, including containment action, must be provided within 24 hours from the date it is received. Corrective actions within 3 working days and preventive action within 7 working days, the report must be completed within 3 weeks. If this is not possible the supplier shall contact the Purchasing / Quality Department requesting additional time.
Suppliers shall use at least the 8D (Eight Discipline) process for problem solving.

9.4 Packaging and Shipping Identification

Products are to be packaged in such a manner as to provide adequate protection against subsequent product degradation. Suppliers are responsible to ship material on FIFO basis.

9.4.1 Packaging (unless otherwise agreed)

- Diameter core: 38 mm or 76 mm special
- Pallets: 80 x 120 cm
- Cores: Horizontally unless otherwise agreed
- Splicing: **no splices allowed** unless otherwise agreed
  If splices are allowed (contact the Purchasing Department) then only butted splices. Splices to be made with splicing tape as agreed in ALT spec on both sides of the film/ fabric. Use splicing tape with a minimum width of 50 mm.
  In case of splices the number of splice to be mentioned on the roll label.
- Length of rolls: minimum 1.000 m1 – unless otherwise agreed

9.4.2 Identification (unless otherwise agreed)

Each pallet and/ or roll shall carry a label indicating:

- Buyers purchase order number and product code
- Suppliers order number and product code/ description
- Amount of labels on roll

9.4.3 Packing list (unless otherwise agreed)

Each shipment must be accompanied by a packing list with the following information:

- Buyers purchase order number and product code
- Suppliers order number and product code/ description
- Total number of collies
- Total number of pallets
- Numbers of rolls
- Length ,width and weight per roll

9.4.4 Certificate of Analysis (unless otherwise agreed)

Each shipment must be accompanied with a specification of the actual values which are defined per material in the ALT specification list. The COA will include all specification agreed in ALT spec including target, minimum and maximum values.
Sample size, methods, norms, and etc. will be defined in ALT spec during development.
This information may be sent either by post, fax or e-mail to the Purchaser and shall be prior to the shipping or on the day of delivery at the latest.

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9.5 Product Status and Traceability

Systems must ensure that all significant and/ or critical characteristics as indicated on ALT specifications are traceable from dispatch to raw material on each homogenous batch of materials or components produced and/ or delivered.

This is also applicable for all process parameters affecting such characteristics and raw material certificates and analyses.

The identification of inspection and test status for products shall be maintained at each stage of production.

9.6 Cost recovery for nonconforming product

The supplier shall absorb any costs associated with nonconforming products as received or processed through a ALT manufacturing plants. These costs shall include, but not limited to; premium freight, scrap, return material, labor (sorting, overtime, testing downtime, etc.)

9.7 Contingency plan

Supplier shall develop a contingency plan to identify and evaluate risks to all manufacturing processes and infrastructure equipment essential to maintain production output and to ensure that customer requirements are met. Supplier shall define contingency plan according to risk and impact to the customer. Supplier shall periodically test the contingency plan for effectiveness (e.g. simulations, as appropriate), and performs contingency plan review (at a minimum annually).

10. Vendor Rating Program

Every Quarter suppliers will receive a letter with their scores.

The evaluation scores are:

On time delivery	35
PPM	35
Demerits	20
Responsiveness/ Relationship	10

10.1 On time delivery

Typical examples of delivery concerns:

- Delivery not on time
- Wrong quantity / product
- Packaging not according to specification
- Deliveries on time but with premium freight
- Missing documents

OTD= (total numbers of deliveries per month – total numbers of concerns per month / total numbers of deliveries per month) x 100= X %

For example:
Total number of concerns per month: 5
Total number of deliveries per month: 100

OTD = (100-5 / 100) x 100= 95%

OTD	Score
100 %	35
99 %	30
98 %	25
97 %	20
96 %	15
95 %	10
94 %	5
≥93 %	0

10.2 Supplier PPM

Supplier PPM is calculated as the number of actual defective parts received from a supplier per one million parts received from the same supplier.

PPM= defective parts / total quantity received * 1000000

For example:
Defective parts / meters: 5
Total quantity received: 100000

PPM= 5 / 100000*1000000= 5

PPM	Score
0--10	35
11--20	30
21--30	25
31--40	20
41-50	15
51--75	10
76-100	5
> 100	0

10.3 Demerits

Supplier demerits are based on the severity of the defective material or delivery concerns. A customer impact is defined as a supplier defect or delivery concern that has reached or affected an ALT customer.

Severity of defect	Criteria	Demerit
Minor	Non-conform material which do not impact ALT production or the customer	1
Critical	Impact on ALT production stopped or occurrences repeated	10
Customer	Customer impacted or critical occurrences repeated	20

10.4 Responsiveness/ Relationship

The supplier provides a good performance in.

- 8 D report on time (containment action within 24 hours, corrective action within 3 workings days and preventive action within 5 workings days)
- reaction to problems
- information quality
- communication
- continuous support
- customer orientation

Level	Criteria	Score
1	8 D report is not complete or not on time or not correct	0
2	Supplier is able to solve the problem or no problem occurred. 8 D report is complete, correct and on time	10

10.5 Rating

An approved supplier is a supplier having achieved a rating score of 80 or more.
Scores below 80 are to be discussed internally and with the supplier.
An action plan shall be made by the supplier to ensure better scores.
For ratings between ≥ 80< 90 a meeting or telephone conference has to be scheduled in order to support the supplier.

Total % achieved	Rating Category
< 80	Unsatisfactory
≥ 80< 90	Satisfactory
≥ 90	Good

Appendix A – Supporting Documents

Supporting Documents

Supporting documents are requirements of IATF 16949 and contain information referenced in this Manual:

- Quality System Requirements (IATF 16949)
- Advanced Product Quality Planning (APQP) and Control Plan Manual
- Production Part Approval Process (PPAP) Manual
- Failure Mode and Effects Analysis (FMEA) Manual
- Measurement Systems Analysis (MSA) Reference Manual
- Statistical Process Control (SPC) Reference Manual

These manuals are available from the Automotive Industry Action Group (AIAG) and can be purchased from:

Automotive Industry Action Group
26200 Lahser Road, Suite 200
Southfield, MI 48033-7100
USA

Internet: http://www.aiag.org

- Environmental Management System ISO 14001

Appendix B – Supplier Questionnaire ISO 14001

ALT technologies bv
St. Laurensdreef 40 NL-3565 AK Utrecht
Postbus 9533 NL-3506 GM Utrecht
Telefoon: +31 (0)30 263 22 00
Fax: +31 (0)30 263 23 49
website www.alttechnologies.com

1. QUESTIONNAIRE			
1.	Have you obtained the certificate ISO 14001? **If YES, we ask you to enclose a copy of it with the reply.** **If NO, please answer the following questions.**		
2.	Have you established an environmental treatment system?		
3.	Has the management defined the environmental policy?		
4.	Have you prepared a procedure in case of pollution?		
5.	Do you regularly take account of the new legal requirements on environmental protection?		
6.	Are your activities in accordance with the environmental legislation?		
7.	Do you check the effects new materials introduced into the production process have on the environment?		
8.	Have you introduced any environmental training courses for your workforce?		
9.	Do you have someone to deal with the environmental protection matters?		

Comments:

Supplier: Respondent: Telephone: E-mail: Date: Signature:	

Appendix C – Part Submission Warrant / ALT spec

Advanced Label Technologies

Part Submission Warrant

P.O. Number:		Part Number:	
P.O. Issued by:		Rev	
Supplier:		Date of Issue:	
Contact:		Part Name:	
Submission level:		**Expected Due Date:**	

Prior to shipment of first production submit PPAP to: _____

Reason for Submission:

☐	Initial Submission	☐	Material/Construction Change
☐	Engineering Change	☐	Sub-Supplier Change
☐	Replacement/ Extra Tooling	☐	Change in Part Processing
☐	Mfg. Location Change	☐	Other

The following information is required on all PPAP submittals:

▶	Submission Warrant
▶	(Qty.)Samples from regular production run of, minimum 300 pcs. Or 1 hour, whichever produces more (unless otherwise specified in comments)
▶	Dimensional results on print
▶	Laboratory and/ or test results (including Product Data Sheet & Certificate of Analysis)
▶	Process Flow Diagram

The following information is required:

Required		Date Rec'd.
☐	Process Performance Data for all Key Characteristics	
☐	Gage R&R Studies	
☐	Process FMEA	
☐	MSDS (Material Safety Data Sheet)	
☐	Authorized Engineering Change documents	
☐	Design Engineering Approval	
☐	Design Records (math data, part drawing, specifications)	
☐	Process Control Plan	

Comments: _____

Declaration Supplier

I hereby affirm that the samples represented by this warrant are representative of our parts, have been made to the applicable PPAP Requirements.

Supplier Authorized Signature

Customer Authorized Signature

Date:

ALT Spec form

Supplier-reference:							
ALT-reference:							
Revision Level:							

Base material

	measure	target value	upper level	lower level	norm/standard	COA Y/N	Remarks
Facestock	HDPE						
Basic weight	g/m2						
Basic weight	g/m2						
Thickness	um						
Thickness	um						
Colour	White						
T-range	C						
Substances							
Additives	%						
flameretarder	%	0					

Mechanical properties

UTS MD/CD	MPa						
UTL MD/CD	kN/m						
Elongation MD/CD	%						
Tear Strenght MD/CD	N						
Initial Tear MD/CD	N						
Emission							
Stiffness	N						
Surface tension (both	dyn						
Shrinkage (MD/CD)							
1. Standard conditions	%						
2. Heat ageing	%						
3. Cold ageing	%						
4. Condensation water climate ageing	%						
Reqhmission of mater	Every 2 years						

ALT Technologies approval must be obtained before any change in material, constructions or processing can be made

Material needs to be free of scratches, dust, dirt, oil or any other surface contaminations; free of wrinkles; not damaged or delaminated.

Logistic specifications

Splices				
Inner core				
Winding				
Length of rolls				
Packaging				
Pallet				
Production				

Approved by ALT Technologies:

				Signature		
Name		Position:	PD-Engineer			
Name		Position:	QA-Manager			
Name		Position:	Operations Manager			
Name		Position:	Purchasing			
Approved by Supplier:						
Name		Position:				
Name		Position:				
Name		Position:				

Revision Level:	Reasons for Change
Rev 001	
Rev. 000	

Appendix D - Preliminary Process Capability

Before starting the manufacturing process, suppliers will conduct all the preliminary capability studies required on the significant characteristics identified in the control plan.

These short term studies are conducted to obtain early information on the performance of a new process and are based on as many measurements as possible, 50 at least, and once the stability of the process is shown with a significant subgroup of measurements. The values obtained indicate the preliminary process potential Pp, and the preliminary process capability (Ppk) to differentiate them from ongoing results of process Cp and Cpk although the numerical calculations are the same.

Minimum acceptable values for these preliminary studies will be achieved when the interval of the mean plus/ minus five standard deviations will be less than the specified tolerance.

Minimum acceptable values for these preliminary studies will be achieved when the interval of the mean plus/ minus five standard deviations will be less than the specified tolerance. This means that a minimum value of capability index of 1.67 has been achieved. This Ppk must be submitted to be approved. By exception Ppk values between 1.33 and 1.67 could be approved when the supplier reports corrective actions to improve this preliminary index.

$Ppk \geq 1.67$…….	Accept.
$1.33 \leq Ppk < 1.67$…….	Improvement Required. Variation causes need to be identified and corrective action planned for implementation.
$Ppk \geq 1.33$…….	Reject. Not acceptable. Immediate action required.

Appendix E – Statistical Process Control (SPC)

Use of SPC is required as a key aspect of defect prevention, and as a way of monitoring the continuous process capability improvement, giving the information to evaluate following indices:

- Process Capability (Cp)
- Process Capability Index (Cpk)

SPC Requirements are that Cp and Cpk values must be greater than 1.33. In any case the supplier has to establish a continuous improvement programme to improve as far as possible these indices.

The ongoing process capability required is as follows:

$Cpk \geq 1.67$……. For critical/ vital parts

$Cpk \geq 1.33$……. Product O.K.

$1 \leq Cpk < 1.33$:

a) Process in control. Accept Product.
Improvement plan required to reduce process variation.

b) Process out of control with some values out of specification or control limits.
100% INSPECTION. Identified and correct cause.

$Cpk < 1$…… Product not O.K. 100% INSPECTION and immediate corrective action plan required.

Appendix F –Supplier Change Request document

Supplier Change Request document

NOTE: This form can be send to the Global Purchaser of ALT Technologies

1. GENERAL INFORMATION:

Company: _____ Product Supplied: _____

Address: _____ Date: _____

_____ Phone: _____

_____ Fax: _____

2. Target Date for Full Scale Implementation: _____

3. Will Sample Be Available? ☐ Yes ☐ No If Yes, Date sample available _____

4. CHANGE DESCRIPTION: (Attach more info as required)

Current:	
Proposed:	

5. TECHNICAL INFO – Describe relevant technical information. (Attach more info as required)

6. SUMMARY CHECKLIST: Impact to supplier

☐ Yes	☐ No	Equipment change Impact? (if yes, technical info must describe equipment validation plan)
☐ Yes	☐ No	Process change Impact? (if yes, technical info must describe process validation plan)
☐ Yes	☐ No	Labeling or Artwork Impact? (if yes, describe labeling/artwork impact)
☐ Yes	☐ No	Packaging or Shipping Impact? (if yes, describe packaging/shipping impact)
☐ Yes	☐ No	Regulatory Impact? (if yes, describe regulatory impact)
☐ Yes	☐ No	Change and impact on product Quality? (e.g., chemical composition, specifications, impurity profile, shelf life, etc.)? (If yes, technical info must describe any quality impact)
☐ Yes	☐ No	Other Changes (production site, etc.)?

External Supplier Signature: _____ Title: _____ Date: _____

Printed Name _____

ALT Technologies Response/Additional Requirements:

☐ Yes	☐ No	Acceptable to ALT Technologies based on information provided
☐ Yes	☐ No	ALT Technologies Quality Assurance Audit Required?
☐ Yes	☐ No	Additional Requirements? If yes, see requirements specified below.

Additional Requirements: (if "Yes" above) (Attach more info as required)

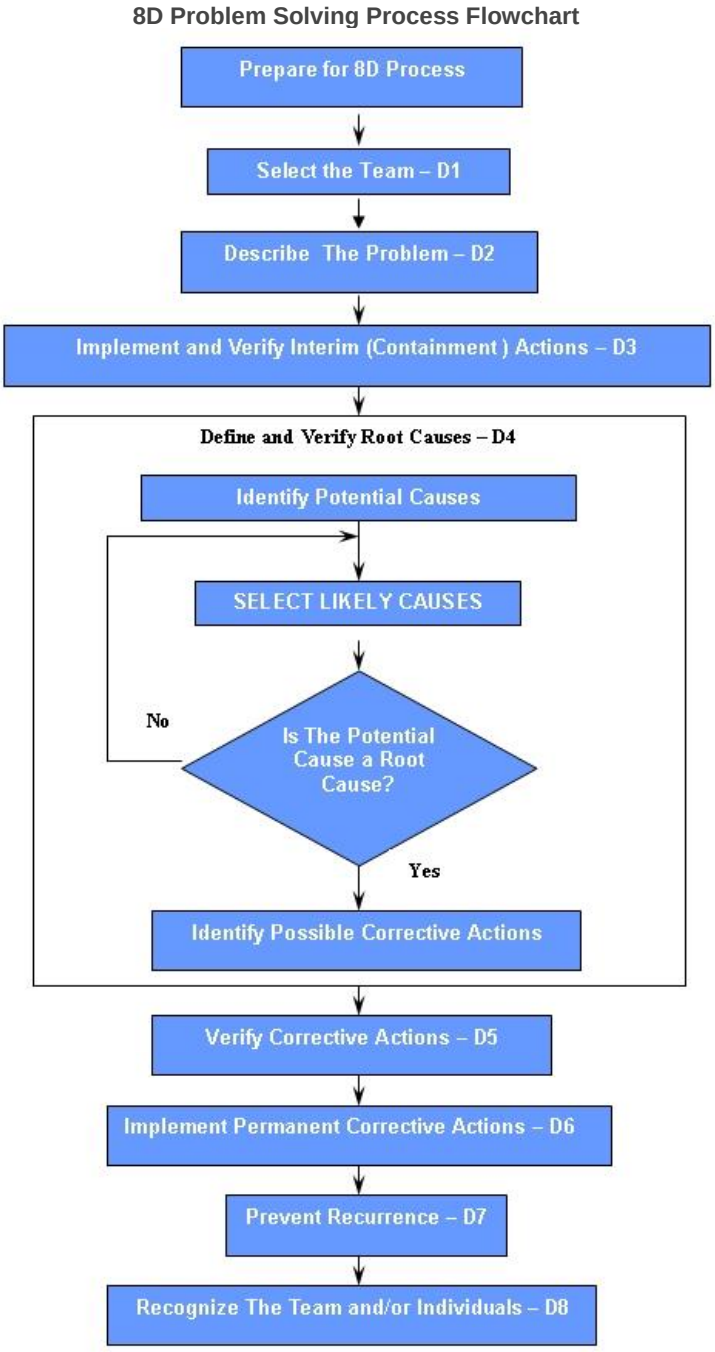
ALT Technologies Approval Signature Managing Director: _____ Date: _____

ALT Technologies Approval Signature Global Development Manager: _____ Date: _____

ALT Technologies Approval Signature Global Quality Manager: _____ Date: _____

ALT Technologies Approval Signature Global Purchaser : _____ Date: _____

Appendix G – Supplier 8 D report



1. Use Team Approach
Establish a small group of people with the knowledge, time, authority and skill to solve the problem and implement corrective actions. The group must select a team leader.

2. Describe the Problem
Describe the problem in measurable terms. Specify the internal or external customer problem by describing it in specific terms.

3. Implement and Verify Short-Term Corrective Actions
Define and implement those intermediate actions that will protect the customer from the problem until permanent corrective action is implemented. Verify with data the effectiveness of these actions.

4. Define and Verify Root Causes
Identify all potential causes which could explain why the problem occurred. Test each potential cause against the problem description and data. Identify alternative corrective actions to eliminate root cause.

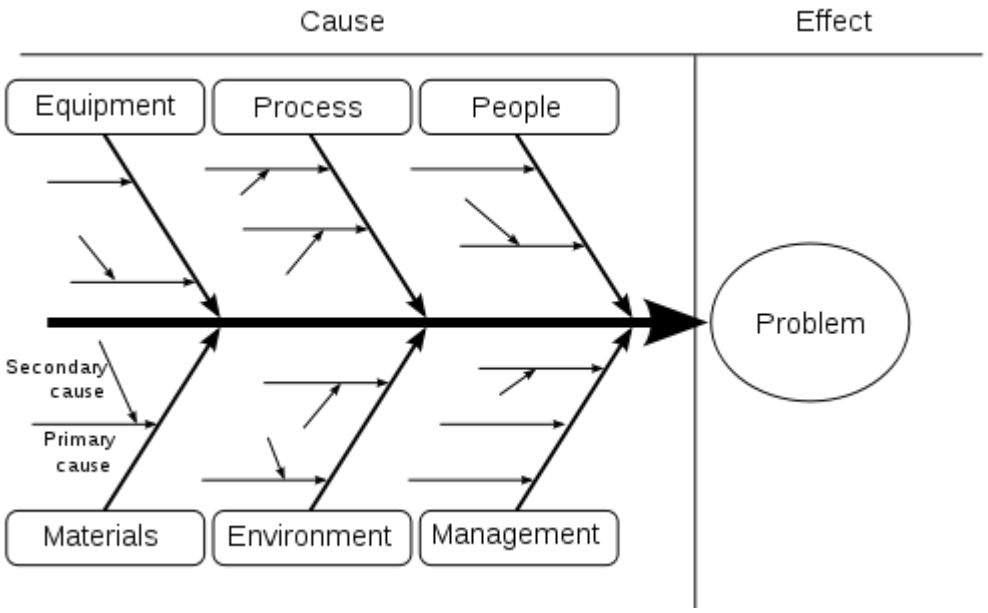
5. Verify Corrective Actions
Confirm that the selected corrective actions will resolve the problem for the customer and will not cause undesirable side effects. Define other actions, if necessary, based on potential severity of problem.

6. Implement Permanent Corrective Actions
Define and implement the permanent corrective actions needed. Choose on-going controls to insure the root cause is eliminated. Once in production, monitor the long-term effects and implement additional controls as necessary.

7. Prevent Recurrence
Modify specifications, update training, review work flow, improve practices and procedures to prevent recurrence of this and all similar problems.

8. Congratulate Your Team
Recognize the collective efforts of your team. Publicize your achievement. Share your knowledge and learning.

Root cause analyze Ishikawa diagram:



Ishikawa diagrams (also called **fishbone diagrams** or **cause-and-effect diagrams**) are diagrams that show the causes of a certain event. Common uses of the Ishikawa diagram are product design and quality defect prevention, to identify potential factors causing an overall effect. Each cause or reason for imperfection is a source of variation. Causes are usually grouped into major categories to identify these sources of variation. The categories typically include:

People: Anyone involved with the process

Methods: How the process is performed and the specific requirements for doing it, such as policies, procedures, rules, regulations and laws

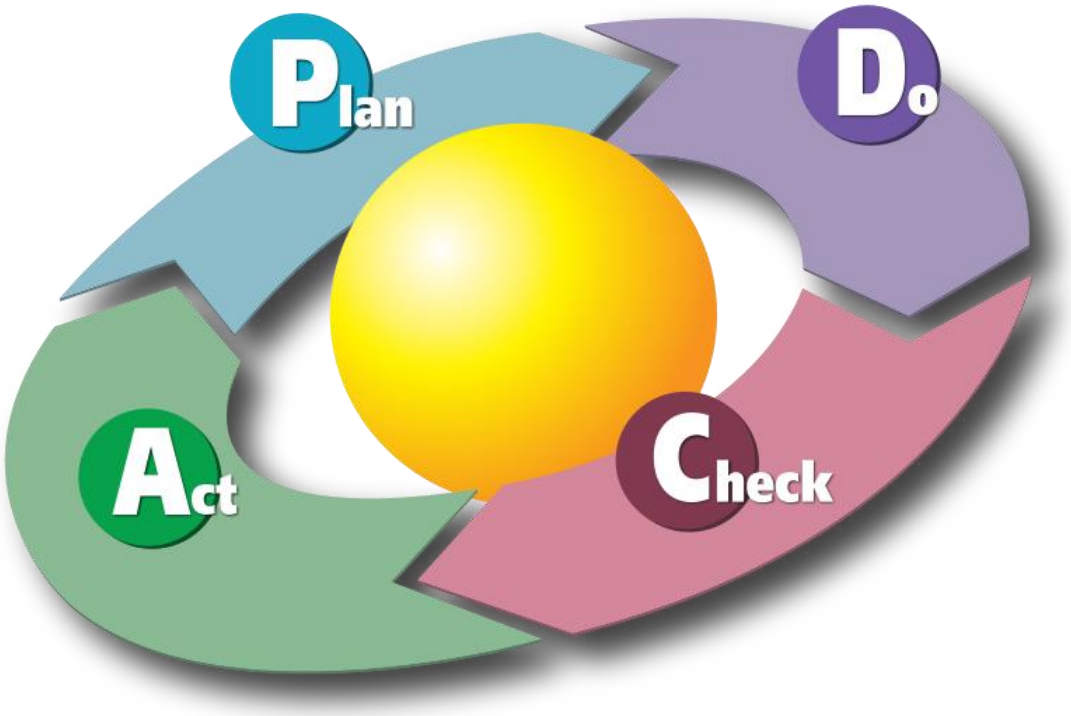
Machines: Any equipment, computers, tools etc. required to accomplish the job

Materials: Raw materials, parts, pens, paper, etc. used to produce the final product

Measurements: Data generated from the process that are used to evaluate its quality

Environment: The conditions, such as location, time, temperature, and culture in which the process operates

PDCA



PLAN

Establish the objectives and processes necessary to deliver results in accordance with the expected output. By making the expected output the focus, it differs from other techniques in that the completeness and accuracy of the specification is also part of the improvement.

DO

Implement the new processes. Often on a small scale if possible.

CHECK

Measure the new processes and compare the results against the expected results to ascertain any differences.

ACT

Analyze the differences to determine their cause. Each will be part of either one or more of the P-D-C-A steps. Determine where to apply changes that will include improvement. When a pass through these four steps does not result in the need to improve, refine the scope to which PDCA is applied until there is a plan that involves improvement.

Supplier agrees to comply with the above mentioned Global Supplier Quality Manual of ALT Technologies

External Supplier Signature:_____

Title:_____

Date: _____

Printed Name _____

Company Stamp: