



80-SQD-SCP-006  
REV 10 – 15 December 2023

# SUPPLIER MANUAL

## *Direct & Indirect Materials, Goods & Services*

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## Revision Log

The information in this Manual is subject to change without notice, revision levels and history is available for identification of latest version.

| Revision Level | Revision Date | Revised By    | Approved By  | Sections Revised  |
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| 0              | 2004.05.31    |               | Mark Poynton | Initial release   |
| 1              | 2011.12.20    | Michael Quail |              | Restructuring of manual and general updating, throughout.   |
| 2              | 2013.03.12    | Michael Quail |              | Changes to 7.6 Customer Specific Requirements, 8.5 PPAP, 8.7 Process and/or product Changes, 11.8 Customs Documentation, 11.9 (New) Customs trade partnership Against Terrorism (C-TPAT), Partners in Protection (PIP)  |
| 3              | 2014.05.26    | Michael Quail |              | Changes to 7.1 Supplier Selection, 7.4 Supplier Performance Evaluation, 8.2 Program Development, 8.3 Special Characteristics, 8.5 PPAP, 8.6 Containment Requirements, 8.7 Process and/or Product Changes, 8.11 Deviation Request, 12.10 Traceability (NEW) 11.10 MMOG, 12.13 Conflict of Minerals Compliance, 12.14 Record Retention  |
| 4              | 2015.07.28    | Michael Quail |              | Additions of 7.7 Control of Customer Directed Suppliers, 8.13 Run@Rate/Production Sign-Off, 8.14 Pre-Launch Control Plans, 9.3 Tooling/Equipment Design Approval, 9.4 Tool/Equipment Layout, 9.5 Trial Runs, 9.6 Spare Parts, 9.7 Tooling and Equipment Timelines, 10.8 Repair, 10.9 Storage, 10.10 Cleaning, Invoice Requirements, 12.9 Warranty, 12.15 Annual Re-Validation and Re- Certification, 12.16 Obsolescence, 12.17 Service and Replacement Part Requirements, 13.0 Commodity Specific Requirements. 13.1 Plastic Injection Tooling, Gauge and Fixture Technical Standards, 13.2 Regrind and Processing Aides, 13.3 Raw Materials/Resins, 13.4 Steel and other Metals, 13.5 Chemicals/Coatings, 13.6 Fasteners |

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| 5 | 2016.09.30  | Michael Quail                    |                  | Changes to 4.0 - Definitions and Abbreviations, 6.1 - General Requirements, 7.4.1 - Performance Areas Monitored, 7.4.2 - Supplier Escalation Process, 7.6 - Customer Specific Requirements, 7.7 - Control of Customer Directed Suppliers, 8.5 - PPAP, 8.8 - Non-Conforming Product, 8.9 - Corrective Action, 9.1 - ABC Tooling (Molds, Equipment, Gauges and or Other Items), 9.2 - Identification of ABC Owned Tooling, 9.3 - Tooling/Equipment Design Approval, 9.5 - Trial Runs, 10.1 Planning Schedules, 10.10 - Identification Labels, 12.14 - Record Retention, 12.18 - Communication, 12.19 - Sustainability, 12.20 - Feasibility, 13.1 - Plastic Injection Tooling, Gauge and Fixture Technical Standards, 14.0 - Appendices as Listed in the Manual, 15.0 - General and Conclusion. |
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|    |            |  |  |  |
|----|------------|--|--|--|
|    |            |  |  | 8.2 Identification of ABC or Customer Owned Tooling<br>13.0 Documents Listed in Manual |
| 10 | 2023.12.15 |  |  | Changes to:<br>11.14 Record Retention  |

# Contents

|   |           |
|---|-----------|
| <b>Revision Log .....</b>                                   | <b>2</b>  |
| <b>1.0 - Purpose .....</b>                                  | <b>10</b> |
| <b>2.0 - Scope .....</b>                                    | <b>10</b> |
| <b>3.0 - Definitions and Abbreviations.....</b>             | <b>10</b> |
| <b>4.0 - ABC Business Philosophy .....</b>                  | <b>12</b> |
| 4.1 - Code of Conduct.....                                  | 12        |
| 4.2 - Standard Commercial Terms and Conditions .....        | 13        |
| 4.3 - Supplier Diversity: .....                             | 13        |
| <b>5.0 - Quality Management System .....</b>                | <b>14</b> |
| 5.1- General Requirements.....                              | 14        |
| 5.2 - End Customer Expectations.....                        | 15        |
| <b>6.0 - Supply Chain Management .....</b>                  | <b>15</b> |
| 6.1- Supplier's Selection.....                              | 15        |
| 6.2- Approval .....   | 17        |
| 6.3- Supplier Development Program.....                      | 17        |
| 6.4 - Supplier's Performance Evaluation .....               | 18        |
| 6.4.1- Performance Areas Monitored .....                    | 18        |
| 6.4.2- Supplier Escalation Process.....                     | 20        |
| 6.5- Delivery Expectations .....                            | 22        |
| 6.6 - Customer Specific Requirements .....                  | 22        |
| 6.7- Control of Customer Directed Suppliers .....           | 23        |
| <b>7.0 - Product/Process Development Requirements .....</b> | <b>23</b> |
| 7.1 - General .....   | 23        |
| 7.2- Program Development .....                              | 24        |
| 7.3- Special Characteristics .....                          | 25        |
| 7.4- Error Proofing.....                                    | 26        |
| 7.5- APQP/PPAP .....  | 26        |

|  |           |
|--|-----------|
| 7.6- Containment Requirements (GP12/Safe Launch) .....               | 28        |
| 7.7- Process and/or Product Changes .....                            | 28        |
| 7.8- Non-Conforming Product.....                                     | 30        |
| 7.9- Corrective Action .....   | 31        |
| 7.10- Quality Rejection Costs .....                                  | 32        |
| 7.11- Deviation Request (refer also to section 7.7) .....            | 33        |
| 7.12- Controlled Shipping .....                                      | 33        |
| 7.13- Run@Rate/Production Sign-Off .....                             | 34        |
| 7.14- Pre-Launch Control Plans.....                                  | 34        |
| <b>8.0 - Tooling, Equipment and Gauges.....</b>                      | <b>34</b> |
| 8.1- ABC Tooling (Molds, Equipment, Gauges and or Other Items) ..... | 34        |
| 8.2- Identification of ABC or Customer Owned Tooling .....           | 35        |
| 8.3- Tooling/Equipment Design Approval .....                         | 35        |
| 8.4- Tool/Equipment Layout .....                                     | 36        |
| 8.5- Trial Runs .....  | 36        |
| 8.6- Spare Parts.....  | 36        |
| 8.7- Tooling and Equipment Timelines.....                            | 36        |
| <b>9 - Materials Management .....</b>                                | <b>36</b> |
| 9.1- Planning Schedules .....  | 36        |
| 9.2 Quantities and Timing .....                                      | 37        |
| 9.3 - Documentation .....  | 37        |
| 9.4 - Cumulative Material and Forecasting.....                       | 37        |
| 9.5- Packaging Requirement .....                                     | 37        |
| 9.6- Repair .....  | 38        |
| 9.7- Storage .....   | 38        |
| 9.8- Cleaning .....  | 38        |
| 9.9- Notification of Shipments .....                                 | 38        |
| 9.10- Identification Labels .....                                    | 39        |
| <b>10.0 - Logistics.....</b>   | <b>40</b> |
| 10.1- Transportation & Freight: .....                                | 40        |
| 10.2- Expedited Freight.....   | 41        |
| 10.3- Quantities .....   | 41        |
| 10. 4 - Timeliness .....   | 41        |
| 10.5- Special Handling/Hazardous Material .....                      | 41        |

|   |           |
|---|-----------|
| 10.6- Quality/Timeliness Issues.....  | 41        |
| 10.7- Documentation.....  | 42        |
| 10.8- Customs Documentation .....   | 42        |
| 10.9- Customs Trade Partnership Against Terrorism (C-TPAT), Partners in Protection (PIP)..... | 43        |
| 10.10- Materials Management Operations Guidelines (MMOG).....                                 | 43        |
| <b>11.0 - Additional Requirements .....</b>   | <b>44</b> |
| 11.1- Access .....  | 44        |
| 11.2- Capacity Improvements.....  | 44        |
| 11.3- Confidentiality .....   | 44        |
| 11.4- Cost Reduction.....   | 44        |
| 11.5- Customer Directed Parts.....  | 44        |
| 11.6- Labor Disputes .....  | 44        |
| 11.7- Transparency .....  | 45        |
| 11.8- Supplier’s Competitiveness.....   | 45        |
| 11.9- Warranty .....  | 45        |
| 11.10-Traceability .....  | 46        |
| 11.11- Training.....  | 48        |
| 11.12- Contingency Planning .....   | 48        |
| 11.13- Conflict Minerals Compliance .....   | 49        |
| 11.14- Record Retention.....  | 49        |
| 11.15- Annual Re-Validation and Re-Certification .....  | 49        |
| 11.16- Obsolescence.....  | 50        |
| 11.17- Service and Replacement Part Requirements.....   | 50        |
| 11.18- Communication .....  | 50        |
| 11.19- Environmental Impact .....   | 51        |
| 11.20- Feasibility .....  | 51        |
| 11.21- Managing Change:.....  | 52        |
| 11.22- Managing Risk: .....   | 52        |
| 11.23- CONTINUAL IMPROVEMENT:.....  | 53        |
| 11.24- CONSIGNMENT PROGRAM .....  | 53        |
| <b>12.0- Commodity Specific Requirements.....</b>   | <b>55</b> |
| 12.1- Plastic Injection Tooling, Gauge and Fixture Technical Standards.....                   | 55        |
| 12.2- Regrind and Processing Aides .....  | 55        |
| 12.3- Raw Materials/Resins .....  | 55        |

12.4- Steel and other Metals ..... 55

12.5- Chemicals/Coatings ..... 55

12.6- Fasteners ..... 56

13.0 - Documents as Listed in the Manual ..... 56

14.0 - General and Conclusion ..... 57



## **1.0 - Purpose**

The Purpose of this manual is to define for our current and potential new Suppliers ABC's expectations and requirements that are the backbone of a long term mutually beneficial and profitable relationship.

Suppliers to ABC are expected to implement and maintain a robust Quality Management System which promotes defect free products through prevention, monitoring and continual improvement.

All expectations and requirements are intended to assure safe, reliable products from Suppliers, which meet our customers' expectations for quality, service, delivery, and price. We are committed to working with our Suppliers to assist in meeting this intent and to provide for continual improvement, emphasizing defect prevention and waste reduction in the supply chain.

ABC will assess each Suppliers ability to comply with the requirements contained in this manual and based on the perceived risk assessment may include an on-site audit of the facility by ABC Supplier Quality Assurance (SQA) or plant personnel.

ABC requires all suppliers to acknowledge and comply with the requirements contained in this manual.

Further information is also available by contacting ABC's Procurement Department via e-mail at [procurement@abctech.com](mailto:procurement@abctech.com).

Our full Purchase Order Terms and Conditions (80LEG-D-001) can be found under a separate link, as follows on the website [www.abctech.com/Suppliers](http://www.abctech.com/Suppliers).

[All documents as listed in the manual can be accessed at www.abctech.com](http://www.abctech.com)

## **2.0 – Scope**

This manual applies to Suppliers who provide Direct and Indirect materials and services directly to ABC's plants/facilities. It also incorporates guidelines for Suppliers of Tooling and Equipment.

## **3.0 - Definitions and Abbreviations**

ABC: ABC Technologies Inc. and associated Operations.

AAR: Part approval and appearance

AIAG: Automotive Industrial Action Group

APQP: Advanced Product Quality Planning

ASN: Advanced shipping Notification

CAR: Corrective Action Request

CC: Critical Characteristic



CI: Continuous Improvement

COO: Certificate of Origin

DMAIC: Define Measure Analyze Improve Control Process

Direct: Direct materials used in the production of goods for Sale

ESG: Environmental Social Governance

FMEA: Failure Mode and Effect Analysis

Indirect: Indirect goods and Services used to support Production.

IMDS: International Material Data System

KC: Key Characteristic

MSA: Measurement System Analysis

MSDS: Material Safety Data Sheet

PO: Purchase Order

PFMEA: Process Failure Mode and Effect Analysis

PPAP: Product Part Approval Process

PSA: Potential Supplier Assessment

PTC: Pass Through Characteristic

RPN: Risk priority number as developed in the PFMEA

RFQ: Request for Quotation

SC: Significant Characteristic

SPC: Statistical Process Control

SQN: Supplier Quality Notice

Sub-Contractor/supplier: Tier 2 to ABC Technologies Inc. Supplier: Tier 1 to ABC Technologies Inc.

USMCA: United States-Mexico-Canada Agreement

8D: 8 Discipline problem resolution report

## **4.0 - ABC Business Philosophy**

ABC's business philosophy and operational principals are based on a win-win ideology and team approach in all levels of our activities. Safety of our team members and Suppliers is out top priority and this will not be compromised in any business transaction. Our plants have strict guidelines for any contractors/visitors on site. EMS contractor Compliance 80-EHS-F-66, All contractors and vendors working on site are required to register with our third party compliance vendor prior to coming on site.

ABC believes in following the "Principals of Lean Manufacturing" and utilization of "5S – Visual Factory" methods in its operations. Each manufacturing entity strives for excellence in adhering to fundamental process basics in areas of Safety, Environmental, Quality, Human Development, Delivery, and Total Cost. ABC values and welcomes every Supplier who is utilizing similar sound operational practices.

At ABC, we are committed to our goal of providing best in class products for the global market. To achieve this goal, we strive to reduce the number of incidents and defects to our customers to an absolute minimum. We recognize the significant role our Suppliers play in meeting this goal. ABC appreciates Suppliers who can demonstrate their capabilities in meeting our expectations.

### ***4.1 - Code of Conduct***

ABC publishes a supplier code of conduct that all suppliers are required to follow o that can be found on our website. This ABC Supplier Code of Conduct ("Code") formalizes the key principles under which suppliers to ABC Technologies Inc. and its global subsidiaries ("ABC") are required to operate. In selecting suppliers, ABC works hard to choose reputable business partners who are committed to ethical standards and business practices compatible with those of ABC.

Environmental Social Governance (ESG), also referred to as Corporate Social Responsibility, is the responsibility of an organization to contribute to sustainable development by understanding one's impact on society and environment. ESG is a concept manifested in many forms, depending on the Company, Country or Corporation, demonstrated in different initiatives, policies and activities. Implementing ESG behavior can address many issues such as human rights, corporate governance, health and safety, environmental effects, working conditions and contribution to economic development. Whatever the definition is, the purpose of ESG is to drive change towards sustainability through transparency and ethical behavior.

## **4.2 - Standard Commercial Terms and Conditions**

The following is a subset of our ABC Best practices. Any Deviation to this must be reviewed, approved and confirmed in writing between ABC and our supplier.

### **Payment Terms:**

Unless otherwise confirmed and accepted in writing ABC Technologies' standard payment terms for all suppliers shall be Net 90 from delivery to our plants.

### **Delivery Terms:**

Unless otherwise confirmed and accepted in writing, ABC Technologies' standard delivery terms for all suppliers shall be DDP (Delivered to ABC production sites, all customs tariffs, taxes, insurance and freight paid)

### **Importer of Record:**

Unless otherwise confirmed and accepted in writing and irrespective of material's/product's country of origin, ABC Technologies and its associate companies will not assume the title of "importer of records" for such materials or products contracted to supply.

### **Government Taxes, Cross-Border Trade Tariffs, Levies, VAT Refunds or Export or other Subsidies and grants:**

All cost increases or financial impact due to any government's policy changes as it relates to taxes, cross-border trade tariffs, levies, VAT refunds, export or other subsidies will be supplier's responsibility. ABC and its associate companies will not absorb or assume any such impacts.

### **Foreign Exchange:**

Unless otherwise confirmed and accepted in writing, all supplier quotes and ABC purchase orders to supplies must be in the same currency as the one agreed by ABC and its customer.

### **EDI ASN & Shipping Labels:**

All suppliers must comply with ABC's requirements regarding EDI, ASN (Advance Shipping Notice) and ship label requirements as stipulated in this manual.

## **4.3 – Supplier Diversity:**

As a company that recognizes the importance of Diversity, ABC awards contracts to under-represented suppliers that meet our contractual requirements. In partnering with different groups of suppliers, we hope to level the playing field, increase market competition and boost economic activity for certified businesses.

To demonstrate our commitment, we are partners with the Michigan Minority Supplier Development Council

(MMSDC), the National Minority Supplier Council (NMSDC, the Canadian Aboriginal and Minority Supplier Council (CAMSC) and Woman business Enterprise Canada (WBE).

## **5.0- Quality Management System**

### ***5.1- General Requirements***

A robust Quality Management System is an initial base requirement to become an ABC Supplier, it is our expectation the Supplier adopt continuous improvement practices in their organization this should be in the form of annual continuous improvement plans documented and approved by upper management. These plans should provide details such as specific goals, action plans, implementation dates and identify personnel responsible. The status of the plans should be reviewed with management at regular frequencies. As required, ABC may ask to review these plans and actions.

In keeping with a continuous improvement philosophy, ABC's expect Suppliers to adopt a visual business operating system (BOS), which involves all employees in driving continuous improvement activities throughout the organization. It is expected that this measurement based continuous improvement methodology be utilized to prioritize and focus company resources on the most important aspects of the business such as safety, environmental, quality, cost, delivery and human development.

ABC recognizes that adopting Lean Manufacturing Principles is an inherently more cost-effective method of managing a business. Preference will be given to Suppliers who adopt these principles at a plant level and companywide. These programs should include training of all employees to these principles, holding workshops, improvement events, establishing measurable, evaluating and acting on the results, communicating results to all employees and cascading the expectations to tier 3 Suppliers.

ABC prefers all suppliers for direct materials be certified to IATF 16949 and/ or latest version, ISO 9001:2015 is also accepted, (see also Designated Small Supplier selection as follows). Suppliers are expected to implement, maintain, and improve their certification to this technical specification with the objective of achieving zero defects and continually striving to improve product quality and delivery.

ABC will accept Suppliers registered to ISO9001:2015 and/or latest version, with the ability to meet AIAG (Automotive Industry Action Group) and VDA latest edition manuals of Core Tools (APQP, PPAP, FMEA, MSA, and SPC), ABC specific requirements, and our customers' "Customer Specific Requirements".

Certificates are to be provided to the individual plants placing orders with the individual Suppliers and updated as required to our Material Planners.

Calibration and Testing Service Suppliers must be certified to ISO/IEC 17025 by an accredited third-party certification body or approved in writing by the OEM. This certification is to be submitted to the plant/operation requesting the service.

In the event of changes to the quality management system certification status, ABC procurement department is to be notified within five business days.

## 5.2 - End Customer Expectations

In the automotive industry today, it is necessary for all Suppliers to be familiar with the end customer's quality requirements as it is a requirement of ABC to cascade these requirements down to our supply base. An example of such a requirement is General Motor's) BIQS audit where Suppliers and sub-Suppliers of product to GM are expected to conduct this self-audit. **Three Key GM BIQS Controls Every Organization Should Implement:**

BIQS strategy #1 - Utilize a layered audit process that includes identifying frequency, schedule, findings, and corrective action.

BIQS Strategy #2 – Analyze the risk for all operations using Process-FMEA and Process-FMEA methodology

BIQS Strategy #3 – Implement a fast response, problem solving process with daily monitoring.

ABC expects its Suppliers to be familiar with and implement our end customers' requirements as defined in their "Customer Specific Requirement" publications. This includes but is not limited to annual layout and/or functional testing, adherence to CQI-9 Special Process: Heat Treat System Assessment, CQI-11 Special Process: Plating System Assessment, CQI-12 Special Process: Coating System Assessment, CQI-14 Consumer-Centric Warranty Management, and GM 9999-1:H13 Steel and Heat Treat Certification.

## **6.0 – Supply Chain Management**

### ***6.1- Supplier's Selection***

Potential Suppliers go through a selection process and upon approval are listed in the Approved Supplier's Listing. Sourcing is done from those listed in the Approved Supplier's Listing and remaining in good standing. An evaluation process is conducted to ensure all suppliers continue to meet ABC's expectation for quality, service, delivery, responsiveness, ability to stay current with technology and cost.

**Environmental Compliance Verification:** The Supplier shall be able to demonstrate, upon request, compliance with local, national, and international standards and regulations regarding health, safety, and environmental issues relevant to the Supplier's business. All suppliers will need to register and comply with our ESG compliance initiatives including answering all questions and providing supporting documentation on their ESG policies and procedures as required.

**International Certification Suggestions:** The environment is a priority to ABC and therefore Suppliers are encouraged to be certified to ISO 14001 or working toward their certification. Other ESG related certifications are encouraged, e.g., ISO 50001 – Energy Management or ISO 26000 – Social Responsibility.

It is ABC's expectation that Suppliers implement a visual business operating system (BOS) that involves all employees in driving continuous improvement activities through the organization. It is expected that this measurement based continuous improvement methodology be utilized to prioritize and focus company resources on the most important aspects of the business such as safety, environmental, quality, cost, delivery and human development.

ABC recognizes that adopting Lean Manufacturing Principles is an inherently more cost-effective method



of managing a business. Preference will be given to Suppliers who adopt these principles at a plant level and company- wide. These programs should include training of all employees to these principles, holding workshops (improvement events), establishing measurable, communicating results to all employees, and cascading the expectations to tier 3 suppliers.

A Potential Supplier Assessment (PSA) by ABC Supplier Quality Assurance may be required prior to the approval of a purchasing agreement. The PSA is structured to evaluate the supplier's QMS conformance to IATF 16949, ISO9001:2015, AIAG requirements, and Customer Specific Requirements. The PSA may contain additional requirements, which will be communicated to the supplier prior to the survey.

Non- automotive suppliers may be required to conduct a self-audit as an interim approval at the discretion of ABC Supplier Quality Assurance.

### [Potential Supplier Risk Assessment Audit \(80QPP-F-039\)](#)

The ABC operation buyer will notify the nominated Supplier of a new business award by issuing a Purchase Order for the program once the Supplier evaluation form has been completed. This will include SQN historical performance for both Direct and Indirect suppliers to ABC plant locations in conjunction with the supplier assessment review. In special circumstances, a letter of intent may be issued and can only be issued by ABC Corporate Procurement Department. The Supplier will submit PPAP based on Purchase Order acceptance, other discretionary requirements will be clearly identified as a condition of the Purchase Order.

### **Supplier Development of Specialty Designated Small Suppliers**

When a direct sub-supplier to ABC (ABC) is so small as to not have adequate resources to develop a system according to the current version of IATF 16949 or ISO9001:2015, or supplies non engineered products, certain specified elements may be waived by ABC to the supplier. "Small" here above refers to the size of the organization and may also refer to the volume supplied to the automotive industry. ABC will still assess the sub- supplier's size, dollar value of the business, type of product supplied, quality, manufacturing and delivery systems capability, and the risk to ABC. Sub-Suppliers are still held accountable to meet the needs of the operations and will be monitored through current SQD procedures. These sub-suppliers may also be referred to as "Special Condition" suppliers. The Supplier will have to undergo a full evaluation to be able to secure future long-term contracts. The Supplier can continue to operate as a "small Supplier" provided they submit a detailed plan of system development to adhere to the guidelines of IATF:16949 or ISO9001:2015

In addition, the ABC direct supplier certified to current versions of IATF 16949 or ISO9001:2015 shall have assessment criteria applied consistently to determine the specially designated small sub-suppliers for which this provision may also apply. Suppliers may use the ABC Supplier Risk Assessment as a tool to assess the risk.

At a minimum, the direct supplier should assess the sub-supplier's size, dollar value of the business, type of product supplied, quality system, manufacturing and delivery systems capability, and the risk to ABC. Suppliers

are responsible for ensuring that sub-suppliers develop a quality management system that facilitates defect prevention, monitoring, and improvement. The supplier is responsible to manage production risk through sourcing to financially stable sub-suppliers and monitoring sub-supplier financial stability (Reference IATF Clause 7.4, 1.2).

## **6.2- Approval**

To be awarded business from ABC a potential new Supplier is required to enter a competitive bidding process with a lowest Total cost approach. When it becomes evident that business will be awarded to the potential new Supplier, a more in- d e p t h analysis is done of the potential Supplier's ability to meet ABC's requirements for quality, service, delivery, responsiveness, technology and cost. An onsite audit may be conducted to confirm the potential Supplier's capability and capacity to meet the requirements. The onsite Audit will include a cross functional team from corporate levels and the local plant level.

Potential Suppliers will be requested to complete a Supplier Information form and a Supplier's Profile form. Once completed the forms are to be submitted along with copies of quality system certification to:

The appropriate buyers e-mail at the operation and a copy to [procurement@abctech.com](mailto:procurement@abctech.com)

### [Supplier Profile Form \(80SQD-F-006E-C3\)](#)

This form will require to be updated whenever any of the content changes, such as changes of key personnel. In addition, the potential Supplier shall provide in writing a separate list with the names, responsibilities, address, phone numbers and email for those occupying the position of President/Senior Executive, Top Sales Executive, Account Manager, Quality Manager and a primary Program Manager.

At the discretion of the Buyer, a pre-award/technical review meeting for new or current Suppliers offering new products or services may be conducted prior to the commencement of supply, based on risk assessment or potential issues, if identified. Technical, quality, manufacturing, engineering, purchasing, delivery, capacity and business issues shall be reviewed during this meeting to provide:

- A. The Supplier, with a thorough understanding of ABC requirements and expectations.
- B. ABC to achieve a thorough understanding of the Supplier 's capabilities, program risks and limitations.
- C. Unless approved and agreed in writing ABC standard payment terms will be N60 from delivery of direct and indirect material/service at respective ABC Operation.

## **6.3- Supplier Development Program**

ABC will prioritize Supplier development based on the performance results, associated risks, and criticality of the product, components, indirect materials and associated equipment purchases.

The Supplier development plan can consist of the request for corrective action, scheduled progress report meetings, audits by ABC plant or Corporate SQA and on-site support of quality systems. Review of monthly KPI on supplier repeating incidents based on performances, a Web-ex training on a 6-month basis between suppliers and ABC Procurement Team to provide full awareness and continual improvement.

Supplier development plans may include support in quality systems, Lean Mfg., six-sigma, team-oriented



problems solving, etc.

ABC has high expectations of all Suppliers and will seek to work with Suppliers that demonstrate a strong commitment to quality improvement, continuous improvement and cost savings.

#### **6.4 - Supplier's Performance Evaluation**

ABC Plants will monitor, collect and submit Supplier Performance Monthly, for Direct and Indirect materials to the MyABC SQN Intranet System where applicable and accessible, with a LIVE day to day transactions identifying 4 key categories of supplier's PPM's, Delivery, Documentation, and Warranty Issues.

For indirect Suppliers performance evaluation will be based on assessment of Customer satisfaction, quality, service, delivery, and performance. The supplier will receive e-mail for each SQN issued. Each category of performance has been identified as a key success factor for ABC. The collection and monitoring of these metrics will provide key KPI's for Supplier Development and training across the supply chain will have a significant social, environmental and financial impact.

- Understand how your SQD Reporting System fits into our ABC strategies.
- Provide quality excellence & information to our Supply base.
- Suppliers understand & ensure sustainability of your plant criteria within ABC Customer Specifications and Requirements

These data are assimilated into the Supplier Quality Development System, which tracks annual performance status. Compliance with all corrective action requested by the receiving ABC plant is mandated. Where the supplier status is below 80%, the supplier shall submit a performance improvement plan and also comply with all corrective action requests from the ABC Corporate Supplier Quality Assurance.

##### **6.4.1- Performance Areas Monitored**

The areas of performance that are monitored are:

**S-IPB (Severity Incidents per Billion):** S-IPB for ABC supply organization is impacted when both of the following conditions exist: • Quality SQN is written with an impact towards the ABC Customer, ABC operation plants and ABC product (component). S-IPB for a supplier manufacturing is calculated monthly using the following formula: 1. Each Quality SQN receives a weight factor based on the documented impact towards the ABC final customer, manufacturing plant and product 2. Total all the weight factors of all the Quality SQN's received in the last 6 months for that location Note: Supplier initiated SQN's and Supplier alerts are not included. 3. Divide by total receipts in the last 6 months for that location 4. Multiply by 1,000,000,000.

##### **1. S-IPD's (Quality):**

- Our overall goal is a "0" S-IPB criteria for our operations. As this is a continuous improvement area, we are targeting <6 S-IPB. Our PPM demerit guidelines are as below as they affect your scorecard.
- Insert S-IPB Guidelines

| NEW SIPB Demerits Guideline |          |               |
|-----------------------------|----------|---------------|
| S-IPB                       | Demerits | Status        |
| 0                           | 0        | 90-100% Green |
| 1<60999                     | 10       | 80-89% Yellow |
| 6100<160999                 | 15       | 0-79% Red     |
| 161000<245999               | 20       |               |
| 246000<330999               | 25       |               |
| 331000<415999               | 30       |               |
| 416000<500999               | 35       |               |
| 501000<S-IPB                | 40       |               |

## 2. Delivery

- The delivery date is tracked based on either of two criteria: a) in house date or B0 Scheduled ship date in accordance with vendor releases. Any shipment that is expedited outside of the regular routing schedule pick up date, will not be considered as shipping on time per scheduled ship date assigned with the system release.

## 3. Documentation

- This covers all areas from PPAP documentation, conflict mineral submissions, NAFTA certificates etc.

## 4. Warranty

- Any warranty items that are attributable to the supplier from field failures, yard holes as directed to us by our OEM's.

The Scorecard has been based on a familiar 100-point scale. Each of these categories has a maximum value for the organization and provides ABC the ability to successfully assign a score across all our divisions. The value rating of each of these categories has been defined as:

- S-IPB's (Quality) = 50
- Delivery = 25
- Documentation = 15
- Warranty = 10

Suppliers are rated under this system in the following color format.

- Green – 90 – 100%
- Yellow – 80 – 89%
- Red – 79 % or less.

Currently reports are sent out electronically at the start of each month. If no issue you are rated at 100%.

The following only relates to ABC do Brazil Ltda.

With some of the ABC Plants, Supplier's performance is evaluated through means of a scorecard issued within 15 days of each quarter end (Jan. 1, April 1, July 1 and Oct.1). Each plant receiving product from a Supplier submits their evaluation quarterly into the electronic ABC system. The scorecard report gives a total based on an evaluation of the performance of the Suppliers in each of the following areas:

- S-IPB
- Corrective Action Reports
- Delivery – on-time
- Line interruptions
- Logistics issues
- Documentation issues
- PPAP

When there are concerns in the above categories' penalty points are applied based on the number of rejected parts or occurrences giving demerit points the total of which is used to calculate the performance score in a percentage form.

Score calculation:  **$100 - [(Total\ Demerits / Total\ Penalty\ Points) \times 100]$**

#### **Supplier's Ratings**

100% - 97% = Preferred  
96% - 90% = Excellent  
89% - 80% = Acceptable  
79% - 0% = Unacceptable

#### ***6.4.2- Supplier Escalation Process***

The ABC Supplier Escalation Process is designed to assist plants in their efforts to reduce chronic supplier quality and delivery issues and drive improvement in overall supplier performance.

The escalation process is only initiated after reasonable efforts have been made at the plant level, to address concerns and drive improvement, but without satisfactory results.

The escalation process ensures that:

- Appropriate levels of management are aware of issues and engaged in the resolution process.
- Adequate resources are assigned to drive resolution of issues and improvement.

PLANT: (R, S) Plant Quality, (R, S) Plant Procurement, (S, I) GM/AGM

#### **Standard Process:**

- Performance monitoring
- Normal non-conformance process
- Supplier rating "Green"

**Escalation Level 1:**

- Division notification to supplier
- Level 1 containment (Option)
- Corrective actions due
- Notify Corporate SQA
- Supplier rating “Yellow”
- Potential Plant New Business Hold
- Supplier rating updated in databases.
- Quality Alert issued to applicable divisions.

GROUP/BU: (R, S) Group QE, (R, S) Corporate SQA, (S) Plant Procurement/quality, (S) Group Commodity/Buyer, (I) Director of Procurement

**Escalation Level 2:**

- ABC notification to supplier
- Level 2 containment (Option)
- Supplier Assessment
- Potential new business hold
- Supplier rating “Yellow/Red”
- Potential Group New Business Hold
- Potential Regional/Global New Business Hold
- Supplier rating updated in databases.
- Potential Supplier visit and audit to be performed.
- Formal development plan implemented.

CORPORATE/GLOBAL: (R) Corporate SQA, (R) Director of Procurement, (S) Plant Procurement/quality, (S) Group QE Lead, (S) Group Commodity/ Buyer, (I) Group Operations V.P.

**Escalation Level 3:**

- Notification to Registrar (Option)
- Top level escalation meeting
- Level 2 Containment (Option/Mandatory)
- New business hold/Resource
- Supplier rating “Red” (Repetitiveness/Ongoing Issues)
- New business hold (regional)
- New business hold (global)
- Supplier rating updated in databases.
- Re-source plan (non-directed business only)
- Customer negotiation (directed only)
- Mandatory Supplier visit and audit to be performed.

**NOTE:**

E1 Exit Criteria: - Corrective actions for all systemic failure modes - Sustained performance improvement –ABC (Operations) approval

E2/E3 Exit Criteria: - Corrective actions for all assessment open issues - Containment defects at/below agreed targets -Minimum 6 months at approved performance levels.

**ROLES:**

(R) – Responsible

(S) ) - Support

(I) - Inform

- ABC leverages the Customer and the Supplier's IATF/ISO Registrar appropriately where suppliers are directed by the Customer.
- The ABC "New Business Hold" and/or "Re-sourcing" decision is only made after a thorough review and a consensus by all receiving ABC Operations.
- Appropriate communication is made to both Supplier and ABC Executive Management

The length of time spent at each step will be affected by the risk level and cost being incurred by ABC, as well as performance in meeting defined exit criteria.

### **6.5- Delivery Expectations**

ABC issues release dates for Direct Materials through the "ABC Planning Schedule" The delivery date is tracked based on either of two criteria: a) in house date or B0 Scheduled ship date in accordance with vendor releases. Any shipment that is expedited outside of the regular routing schedule pick up date, will not be considered as shipping on time per scheduled ship date assigned with the system release.

It is expected that the Suppliers use appropriate lead times to ensure product arrives to schedule.

On time delivery is a key part of meeting our customers' expectations, the product we receive from our supply base also needs to meet these expectations. Supplier's delivery performance is calculated through tracking non-compliance to shipping dates, quantities, expedited freight, and ASN's.

### **6.6 - Customer Specific Requirements**

Specific OEM's Customer Specific Requirements are an integral part of doing business in the automotive industry and are a part of the contract with ABC. It is expected that all suppliers become knowledgeable in and practice all applicable OEM's customer specific requirements.

**Examples are:**

GM BIQS audits

CQI-8 Layered Process Audit Guideline

CQI-9 Special Process: Heat Treat System Assessment – 3<sup>rd</sup> edition



CQI-11 Special Process: Plating System Assessment

CQI-12 Special Process: Coating System Assessment

CQI-14 Consumer-Centric Warranty Management

CQI-15 Special Process: Welding System Assessment

CQI-17 Special Process: Soldering System Assessment

CQI-19 Supplier Management Process

CQI-23 Molding System Assessment

CQI-27 Casting System Assessment

GM 9999-1: H13 Steel and Heat Treat Certification

Records retention and Safety component requirements

### ***6.7- Control of Customer Directed Suppliers***

#### **Customer Directed Suppliers – Customer Responsible**

For any customer directed supplier in which the customer is responsible for the quality, cost, and delivery of the parts, ABC shall not be involved or control of that supplier and part. ABC will advise if any obvious defects that are seen that will hinder the build of any part.

#### **Customer Directed Suppliers – ABC Responsible**

For any customer directed supplier in which ABC is responsible for the quality, cost, and delivery of the parts, that supplier shall follow all ABC requirements as outlined in this Supplier Quality Manual. (Reference to Section 8.8 Non-Conforming Product)

## **7.0 - Product/Process Development Requirements**

### ***7.1 - General***

ABC requires all Suppliers of production, service and prototype parts to follow the guidelines provided in the AIAG Core Tools manuals.

At the launch of any new programs or the changeover of existing parts the Suppliers product and process, development practices are expected to follow the elements as defined in the AIAG APQP (Advanced Product Quality Planning) manual. On any changeover of existing parts, Suppliers are required to do a detailed review of existing parts to fully understand the quality appearance and functionality of the part(s).

When customer directed Suppliers are required to be used, the same level of controls is practiced as would be expected of the regular supply base.

The Supplier shall plan and develop quality systems and manufacturing processes required for product acceptance (PPAP) based on their quote and ABCs program timing. Each Supplier shall develop a quality plan that promotes CI in all activities such as quality, cost, and delivery and where appropriate, design and development. Documentation



providing evidence of adherence to this plan shall be made available to the Buyer/SQA upon request.

**Value-Added Production Processes:**

Refers to activities or operations that improve the product for which a customer is willing to pay, where given the option. See also IATF 16949 or ISO9001-2015 definition of “manufacturing”, “site”, and “remote location”.

**7.2- Program Development**

At the time of any new job award or the changeover of existing parts a pre-award review will be held at ABC’s discretion with the Supplier’s multi-disciplinary APQP team prior to the release of a Purchase Order for materials, products or services related to production, the intent of the meeting will be to ensure the Supplier has a thorough understanding of the requirements and expectations of the job in addition to ABC understanding the Supplier’s capabilities, program risks and limitations.

*Prototype Parts*

The goal is to manufacture prototype parts using a production-based process in order to learn and develop robust part(s) for full production. At a minimum the Supplier must use process planning (flow charts, control plans, inspection plans, and work instructions) to define and implement the prototype build. All special and critical characteristics must be documented on all process control documents.

Prototype parts must meet all drawing requirements prior to shipment. Supplier must have a dimensional plan to layout or CMM parts to show conformance to drawing requirements for each serial numbered part, as required. Quantity of parts inspected will be documented in the specific build plan.

Engineering prototype parts with documentation of specification conformance shall be submitted for engineering validation testing. Documentation shall meet ABC, AIAG, and Customer Specific Requirements.

In all cases, the Suppliers are expected to follow the requirements defined in the end customers “Customer Specific Requirements” publications.

A robust APQP process with strong communication within the Supplier’s organization and with ABC personnel is necessary to ensure all timelines, specifications and costs are met. Suppliers may be required to attend and support APQP meetings at ABC or at the end customer’s facilities.

Documentation as evidence of adherence to the plan and progress of the program shall be made available to ABC personnel upon request.

Suppliers are responsible for sub-Supplier’s program activities and to ensure the relevant documentation is available to support all APQP activities and the PPAP approval process.

Suppliers must have an effective continuous improvement process that reduces the Risk Priority Number (RPN) by operation. An RPN reduction system must be clearly defined with specified values over which action items will be taken.

All production part sample submission shall include all requirements listed in the PPAP manual. Any deviations from these requirements shall only be authorized by ABC Supplier Quality Assurance. The need for an Appearance Approval Report (CFG-1002) and other discretionary requirements will be clearly identified as a condition on the

All PPAP submissions are to be in electronic media.

### **7.3- Special Characteristics**

Product is designated with special characteristics because variation is likely to significantly affect customer satisfaction with product fit, form, or function. These designations are defined by ABC or our customer and listed on the design record. These characteristics shall be identified on all PFMEA's and Control Plans that are developed in accordance with AIAG's, FMEA and APQP manuals. Special characteristics can include product characteristics and process parameters.

Definition of ABC Special Characteristics:

"{SC}" = product characteristic or process parameter with reasonably anticipated variation which affects a product's safety or compliance with regulatory requirements as judged by the ABC internal cross functional APQP team assigned to the project

"[KC]" = product characteristic or process parameter with reasonably anticipated variation which affects a product's fit / function or has need for high visibility as judged by the ABC internal cross functional APQP team assigned to the project.

All {SC} and [KC]'s listed on the design record shall be statistically monitored to prove capability. Process capability must be documented and evaluated. At minimum, the Supplier shall be familiar with and apply SPC as per the AIAG's SPC manual.

Minimum requirement for short-term capability is PPK 1.67 and long-term is CPK 1.33. Items not meeting the above capability criteria shall be 100% inspected until capability is resolved. Test data is to be submitted to the respective ABC plant as required.

In the event of noncompliance with the capability requirements, the supplier is required to perform 100% sorting (visual sorting is not accepted) and/or to implement a mechanical poka-yoke on the corresponding characteristics until the agreed action plan is completed and the capability results fully comply with the requirements. These actions (100% sorting or addition of mechanical poka-yoke) will have to be fully documented in the Control Plan and the process FMEA.

#### *Control of Significant and Critical Characteristics*

In general, those suppliers who produce a component, a subsystem, or a complete system are responsible for the delivered quality of the product and for creating and retaining the required documentation. Suppliers are obliged to follow Customer Specific Requirements Procedures where identified by ABC Customers. In absence the default system should be defined by IATF, AIAG QS900 SPC MANUAL, or VDA 4.

ABC suppliers are expected to establish the appropriate Process Controls for all Significant / Critical characteristic(s) identified during the APQP process and document these controls in the Control Plan.

In all cases whether ABC is the design authority or Supplier is the design authority, Significant and Critical Characteristics will be identified on the part drawing, in test specifications, and other applicable design records.





In all cases, the Suppliers Design Records will identify these characteristics. If the Design Records are proprietary, protected information, then the Suppliers Control Plan shall identify the Characteristics, Control Method, Gages used, and Frequency of Sampling.

ABC in conjunction with our Customers may require specific symbols to be used for these designations. The default identification scheme is defined in Table 1:








|   |  |
|---|--|
|  | Designates critical characteristic to be monitored per Control Plan.   |
|  | Designates critical characteristic to be monitored per Control Plan using attribute-gauging methods.                 |
|  | Designates critical characteristic to be monitored per Control Plan using variable measurement or gauging method.    |
|  | Designates significant characteristic to be monitored per Control Plan.  |
|  | Designates significant characteristic to be monitored per Control Plan using attribute-gauging methods.              |
|  | Designates significant characteristic to be monitored per Control Plan using variable measurement or gauging method. |
|  | Designates characteristic to be checked at initial / subsequent customer part submission.                            |

Table 1: default identification scheme

### 7.4- Error Proofing

During the APQP process, the Supplier shall implement all necessary error proofing into the manufacturing process to eliminate or reduce the manufacture of defective product. The error proofing methods and devices shall be recorded in the PFMEA and Control Plans.

Error proofing devices shall be verified with the use of “rabbits” at least once a shift and records kept ensuring the device is continuing to function effectively.

### 7.5– APQP/PPAP

Suppliers are expected to use all appropriate tools in the product and process planning phase including, but not limited to: ☐ Program Management Team ☐ Sufficient resources assigned. ☐ Develop timing and progress charts ☐ Able to communicate effectively ☐ Follow the AIAG format for advanced quality planning and control plans.

ABC Technologies Corporate Procurement, Program or Project Management and Supplier Quality will then sign off on the sourcing in agreement of the new supplier being utilized.

### PPAP

All PPAP's are submitted in accordance with AIAG's PPAP (4<sup>th</sup> edition and/or latest version) manual and the individual customers' Customer Specific Requirements. Supplier shall submit Level 3 PPAP documentation at a minimum unless otherwise agreed upon in writing from ABC Supplier Quality Assurance. Data must be submitted



to IMDS database by the Supplier prior to PPAP. All PPAP's are to be submitted electronically.



Suppliers are expected to maintain a record of all PPAP documentation submitted including approved PPAP parts.

[PPAP Review Checklist \(80QPP-F-044\)](#)

The supplier must develop a Safe Launch plan. It must be approved by ABC Supplier Quality. ABC Supplier Quality may require the continuation and/or modification of Safe launch if defects escape the supplier while Safe Launch is in operation.

PPAP and Quality records to be kept by supplier for product life plus one year, the minimum run size for a PPAP is 300 pieces unless otherwise agreed in writing by ABC Manufacturing Plants. Six sample parts are required for each PPAP submission. These parts shall be suitably identified and sent to the appropriate Quality Manager.

### **7.6- Containment Requirements (GP12/Safe Launch)**

ABC requires all Suppliers of production parts to utilize a containment program for all pre-production, ramp-up, system fill and for any product manufactures after a shutdown of 5 or more consecutive days. Containment will be kept in place until ABC or the customers exit criteria is met. This means that the Suppliers process is capable of sustained production meeting all contractual requirements.

Acceptable containment processes are those that met the same intent as “GP12” or “Safe Launch”. Data collected from the containment process needs to be made available to ABC personnel as required.

Suppliers shipping parts under Safe Launch Plan shall create a separate label, placed on each container, showing “SLP” to indicate these parts.

Note: Exit criteria for the Safe Launch Plan is shipment of zero-defect parts that meet either the defined period or number of pieces. Any defect discovered during the SLP period restarts the event to “0” pieces shipped.

[Supplier Readiness Checklist \(80QPP-F-031\)](#)

[Global Early Production Containment Procedure \(80QPP-D-030\)](#)

### **7.7- Process and/or Product Changes**

Unapproved changes are not acceptable; they put at risk our processes and those of our customers. Any requested changes shall be initiated with a formal change request to ABC Engineering and ABC procurement personnel followed by a PPAP meeting the conditions required for re-submission as detailed in AIAG’s PPAP manual and applicable Customer Specific Requirements.

Any request for changes will be addressed to the respective ABC engineering representative and ABC procurement personnel. Approvals to a request for change must be obtained before implementing the change. A deviation may be obtained from ABC Engineering in the form of a signed Design or Process Concession. Add link to form.

Process Change Control (Reference IATF 16949 clause 8.5.6.1.1) the organization shall follow a documented change



control process including validation of product and process. Documentation shall be updated to reflect any changes to product or process. Note – Look at: Plant processes are validated relative to changes in Design, Man, Machine, Material, Method, Environment and Documents the evidence of related risk analysis. The plant follows a documented change control process. The PFMEA is updated to reflect any change, as required. Look for: Confirm that all plant changes are processed through the plant cross functional process change approval system.

ABC expects its suppliers to verify and document the product dimensional before and after each approved ECR change. They are to communicate any issues or concerns with the design, material, performance, appearance, durability or any other key characteristic based on their expertise, knowledge and lessons learned from similar products.

### [Supplier Engineering Change Request \(80QPP-F-042\)](#)

Required written approvals and PPAP resubmissions are required for:

- Changes to previously approved materials or sub-Supplier's material changes
- Changes or modification of product specifications.
- Changes to process or method of manufacture
- Changes to the inspection process, methods or equipment.
- Change of sub-suppliers.
- Changes to any inputs supplied by your tiers.
- New start-up after a 12-month decommissioning period (?)
- Transfer of manufacturing location.
  
- Rework processes whether in process or offline.

Suppliers must attach a label (to be printed on an 8x11 sheet of paper) on 2 sides of every container/box, when there is a new part number assigned or Engineering Change to the supplier part. This must be done at minimum for the first 3 shipments delivered to ABC plants and can be stopped once approved by ABC's plant.

The Supplier shall be held liable for any cost incurred by the changes made without obtaining a written supplemental Purchase Order or an approved Design or Process Concession. The Suppliers will not be paid for product, tooling, processing equipment, etc. until the change is approved.

The Supplier must notify ABC Procurement if there is a change in program timing and risk to meeting agreed upon tooling completion or PPAP date. Supplier will be required to add additional resources and/or work additional hours (7 days, 24 hours) to ensure date is met.

The Supplier must allow ABC to review product and process development and planning via on-site review and confirmation during development or at any time during part production, if requested. For changes initiated by ABC or our customers, the ABC procurement department will be the point of contact for formal notification to Suppliers of all drawing/design changes via a purchase order amendment.

### [Engineering Change Notice \(80ENG-F-15\)](#)

### [Engineering Change Request \(80-ENG-F-16\)](#)



**Safe Launch Process:** It is the supplier's responsibility to ensure all production processes are launched in such a manner that they will not adversely impact ABC or its customer's production processes to meet timing and quantity. The use of Safe Launch tools such as pre-production product flow diagrams and control plan are a minimum requirement.

Documentation **MUST** reflect the specific information (i.e., part/drawing numbers, part/drawing revisions, supplier code, etc.). A copy of the part drawing or design record (matching the latest revision requested) must be submitted or available for review. This drawing must be ballooned, that is, all dimensions, specifications, notes, etc. must be labeled or numbered in an orderly fashion and correspond to the Dimensional/Material/Performance Results. When the design records are in electronic format, the supplier shall submit this information in place of the normal "paper" drawing. This includes all notes and specification pages.

Supplier must verify compliance to ALL drawing requirements. This includes ALL dimensions, tolerances, notes, material/performance specifications, etc. The correct way to do this is to number (or label) ALL print requirements and then correlate the numbers to the actual data (dimensional or material/performance data) that proves compliance. This must be completed for each unique cavity, tool, machine, production line/process, mold, etc. For new parts or tooling, the supplier shall perform a full dimensional layout on at least one (1) part from each cavity if multiple cavity tooling exists. For changed parts or tooling, the supplier shall perform a dimensional layout on at least one (1) part and/or parts from all cavities of all dimensions affected by changes.

Any authorized engineering changes that have not been recorded in the design record but incorporated in the product, part, or tooling must be included. If specified by ABC, the supplier shall have evidence of engineering approval.

### **7.8- Non-Conforming Product**

When non-conforming product is found in an ABC facility a Supplier Quality Notice (SQN) will be issued to the Supplier. Refer also to Section 7.4.

#### [Supplier Quality Notice \(80QPP-F-034\)](#)

ABC requires the Supplier to notify us as soon as non-conforming product is found and if potential similar conditions may exist with product in transit or already at the ABC manufacturing plant location.

When ABC finds supplied product to be non-conforming, the product will be tagged, segregated and the Supplier will be notified for immediate action to be taken by replacing product with certified material, and/or providing on site sort requirements.

If non-conforming material is received by ABC, the Supplier is required to take immediate containment action in less than 24 hours to isolate ABC from further delivery of defective material. The supplier must provide a detailed problem-solving analysis and 8D within 30 days or as per Customer requirement. When required, the specific OEM format will be used to document the permanent corrective action.

Costs incurred by ABC due to poor product quality, non-conforming product, and delivery not meeting contractual requirements may be charged back to Supplier.

ABC expects all Suppliers to deliver material ready for use without the need for incoming inspection. Suppliers are also required to perform annual validation and layouts to ensure product meets all quality, functional and

appearance guidelines.

The Supplier is required to account for and document the disposition of all non-conforming material, ABC at its sole discretion, may request formal confirmation/photos of the disposal and/or scrapping of non-conforming or obsolete material.

### **7.9- Corrective Action**

When corrective actions are required, they will be addressed in the following manner:

- As required any containment activity (onsite at ABC facility) must be initiated within 8 hours of written communication or receipt of the SQN.
- In addition, a formal response must be received within 24 hrs. Of receiving SQN using Supplier's corrective action 8D formats addressing containment action.
- Full root cause analysis and systemic corrective actions to be submitted within 30 days.
- PFMEA's and Control Plans must be updated to reflect the corrective actions taken.

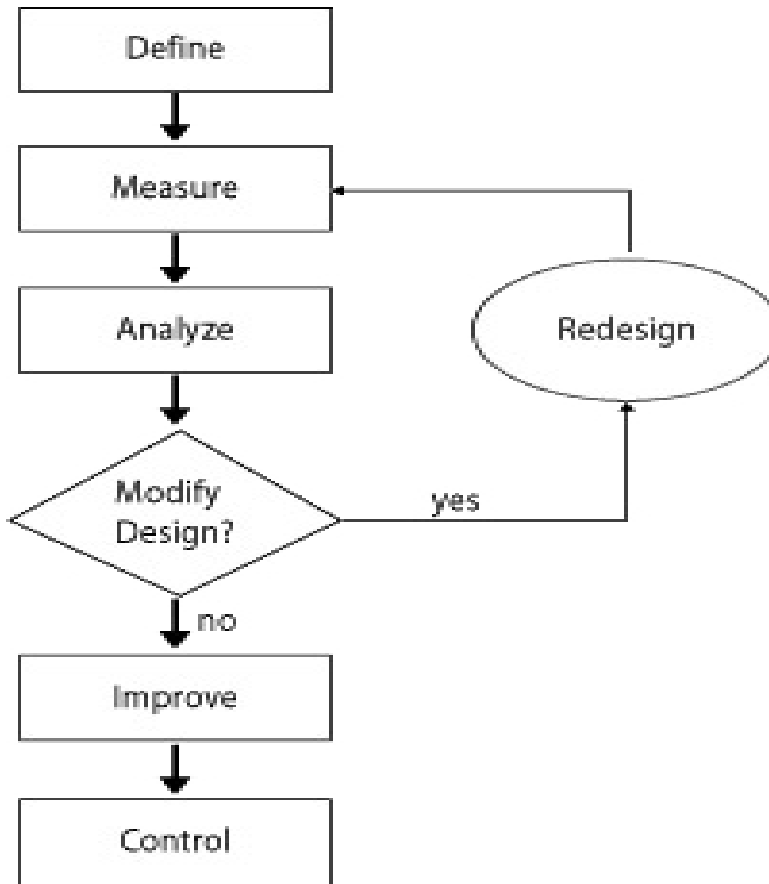
ABC Corporate SQA or ABC plant may follow up with a visit to verify corrective action implementation.

All corrective action submissions are to be in electronic media.

DMAIC is a data-driven quality strategy used to improve processes. It is an integral part of a Six Sigma initiative, but in general can be implemented as a standalone quality improvement procedure or as part of other process improvement initiatives such as lean.

DMAIC is an acronym for the five phases that make up the process:

- Define the problem, improvement activity, opportunity for improvement, the project goals, and customer (internal and external) requirements.
- Measure process performance.
- Analyze the process to determine root causes of variation, poor performance (defects).
- Improve process performance by addressing and eliminating the root causes.
- Control the improved process and future process performance. The DMAIC process easily lends itself to the project approach to quality improvement.



### 7.10- Quality Rejection Costs

The following charges may be applied by the respective ABC plant at the time of the occurrence of each quality rejection. Once an RMA is issued supplier must do best due diligence to remove goods. Excess time could also result in an additional \$500 charge.

|                                   |  |
|-----------------------------------|--|
| Administration Charge             | Minimum \$500 and/or as per OEM charge to ABC Plant.   |
| Part Cost                         | Actual Cost  |
| ABC Line Shut Down                | Actual Cost  |
| Customer Line Shut Down           | Actual Cost  |
| Lift Truck Usage                  | Actual Cost  |
| Charges from Our Customer         | Actual Cost  |
| Excess Transportation             | Actual Cost  |
| Travel and Accommodation Expenses | Actual Cost  |
| Labor Costs                       | Actual Cost*\$50.00 per hr. (Includes but not limited to, sorting, rework, containment, scrap and set-up.) |
|                                   | * All above in US dollars  |

**7.11- Deviation Request (refer also to section 7.7)**

If a Supplier wishes to submit a request for deviation, the following conditions will be met:

1. Requests should be submitted to the ABC Supplier Quality Assurance ([SQA@abctech.com](mailto:SQA@abctech.com)) in writing and/or plant Quality Engineer using the Supplier Deviation Request Form #80QPP-F-052.
2. Suppliers must attach a Deviation Label (to be printed on an 8-½ x11 sheet of paper) on 2 sides of every container/box, stating "Part Shipped under Deviation": number of parts shipped and expiration date.
3. Request is to be submitted with supporting documentation such as statistical, process capability data, testing results and/or drawings.
4. Suppliers may not ship product without deviation approval.
5. Any and all costs associated with the deviation are the responsibility of the Suppliers.

[Supplier Deviation Request Form \(80QPP-F-052\)](#)

**7.12- Controlled Shipping**

In the event of continued unacceptable quality or delivery performance, the Supplier will be notified of the necessity to institute controlled shipping on the product. There are two levels of controlled shipping,

Level 1 (CS1) - The Supplier is expected to:

1. Identify the person responsible for the inspection activity.
2. Have an area separate and distinct from the manufacturing operations conduct and additional inspection and certification of all product identified by ABC.
3. Specify the identification of certification to be used on the product and containers.
4. Report the type and quantity of defects found in the CS1 activity using I charts, etc. as required.

Level 2 (CS2) – When ABC experiences a reoccurrence of supply problems and action taken to date by the Supplier are insufficient to stop the flow of poor quality the Supplier will receive a written notification spelling out details of the containment, a confirmation reply form will accompany the letter and a meeting with Supplier, ABC plant, Corporate SQA, ABC Procurement Director and/or ABC Corporate Quality Manager to launch the activity.

1. Identify the person responsible to the activity.
2. Retain an independent third party to monitor, measure, inspect and identify all product identified by ABC.
3. Have an area separate and distinct from the manufacturing operations to conduct the agreed upon containment activity.
4. Specify the identification of certification to be used on the product. Containers are to be labeled with a green tag that reads "Containment Process Complete". Each tag must be initialed and dated by the person identified on the confirmation reply.
5. Report the type and quantity of defects found in the CS2 activity.
6. Maintain CS1 activities in addition to CS2.
7. Exit criteria will be specified in the written notification.

Failure to comply with CS2 activities can result in ABC, at our discretion, setting up CS2 at our facility and charging it back to the Supplier.



Supplier will be removed from controlled shipping when inspection data shows no defects found for a minimum of 30 days for the specified defect or concern. ABC SQA personnel will review the data, issues, verify corrective action and a potential audit may occur.

### **7.13- Run@Rate/Production Sign-Off**

The Run @ Rate verifies the capacity and quality output of serial processes and ensures the supplier can support the required volumes, quality levels as required in the purchase order including fluctuations in schedule typical for the global automotive industry. The supplier shall provide the Run @ Rate results with the initial PPAP submission as specified in the level 3 requirements and in the format agreed upon with ABC.

ABC reserves the right to conduct on-site verification of the Run at Rate at any time during the life cycle of the product.

Any quality concerns identified during the Run @ Rate trials must be properly analyzed and corrective action implemented. The failure modes must be included in the PFMEA and the controls must be verified and recorded in the control plan.

### **7.14- Pre-Launch Control Plans**

Supplier are expected to use pre-launch control plans to increase the level of quality controls applied during Ramp Up and Early Production stages of New Part Launch. A pre-launch Control Plan is defined by increased frequency, levels of inspection and increased controls during the early stages of production. The purpose is to protect ABC Operations from problems until process controls can be refined and start-up problems can be identified and resolved. The level of controls within the Control Plan should be adjusted once the production process has been stabilized and process controls can be assured.

Suppliers may be required to implement a separate inspection activity at process start up that is independent of the inspections and controls required by the Control Plan. The purpose is to verify the affectivity of the Control Plan and determine the capability of the production process. The application of this additional control may be required by the ABC SQA for early production when a supplier's performance indicates that current controls are not adequate to identify and address problems prior to reaching ABC Operations. Shipments of products that have been through additional process controls should display prominent notification on each shipping unit (box, package or skid).

## **8.0- Tooling, Equipment and Gauges**

### **8.1- ABC Tooling (Molds, Equipment, Gauges and or Other Items)**

Suppliers contracted to design and manufacture tooling, equipment and gauges that are funded by ABC or its Customer are required to provide a detailed drawing of proposed tooling, equipment and gauge designs to ABC for approval and sign-off prior to commencing work. Tooling and equipment designs shall adhere to the ABC applicable standards that are referenced on the Purchase Order. If supplier does not have these specifications, please reach out to the corporate Procurement contact. Final tooling, equipment, and gauge detailed drawings must be supplied to ABC in an electronic format such as IGES, Unigraphics, AutoCAD or other agreed upon format.

Following standards should be referred to:

Checking and Gauge Standard (80-QA-D-60)  
Injection Mould Standards (80-ENG-D-20)

ABC Supplier Quality may, at its discretion, require gauge correlation studies, boundary samples, CMMS programs of the gauge certification and part measurement, and detailed measurement process instructions to assure comparable measurement results. CMMS programs to be in either PCDMIS format (preferred or. dmi format.

Supplier gauges must be capable of meeting the Measurement System Analysis (MSA) guideline in accordance with AIAG standards, for Gage Repeatability and Reproducibility (GR&R) and be certified by an accredited body. The GR&R method used to meet the MSA requirement will be identified by ABC. It is the supplier's responsibility to inquire to ABC the MSA method and number of parts/trials/operators used. Gauges are to be certified by an accredited body is typically certifying the fixture/gauge source's CMM. That Accredited body will be TS certified for that part of the 17025 standard and utilize an instrument that is traceable to the NIST B89 standard. Supplier will provide a copy of the certification results (CMM program), as noted in the Check Fixture/Gauge Standard, in PCDMIS format, or in. dmi/dmo format, if not using PCDMIS.

### ***8.2- Identification of ABC or Customer Owned Tooling***

All ABC Tooling that resides at the Supplier's facility requires a signed Bailee clearly establishing ownership; the signed document including Schedule B showing Tool identification pictures shall be forwarded to ABC Procurement Department and Operation prior to release of final payment.

[Bailment Agreement and schedule A \(80QPP-D-022\)](#)

The Supplier is responsible to protect and safeguard from damage all ABC or Customer owned tooling, equipment and gauges. If the property is found to be lost, damaged or otherwise found to be unsuitable for use the Supplier shall immediately report this to ABC buyer.

All tooling and equipment owned by ABC or its Customer shall be permanently marked so that the ownership of each item is visible and can readily be determined.

The Supplier must have documented process and schedules for Predictive and Preventive Maintenance. The maintenance schedule must include all ABC or ABC customers owned equipment and tooling. Supplier is responsible for identifying, purchasing and stocking critical spare parts.

### ***8.3- Tooling/Equipment Design Approval***

Suppliers must provide ABC with basic "concept" designs at the time of quote. More detailed designs must be provided and approved by ABC prior to start of tool or equipment build. In some cases, such as for production tooling that information may be required in the form of math data or CAD. Designs must take into consideration the expected life of the program, the expected service requirements if applicable and must ensure the quality of product produced or qualified with these tools, fixtures, gauges, equipment or other devices throughout the life cycle. These designs may be subject to ABC approval at certain stages of the project.

#### **8.4- Tool/Equipment Layout**

Suppliers must provide evidence the tooling/equipment they are providing or using to provide product meets all specifications and technical requirements for the OEM and or ABC. This will typically require layout/measurement of the tooling/equipment as well as layout of the product produced. The criteria for this must be part of the supplier plan and must be approved by ABC.

#### **8.5- Trial Runs**

Trial runs are common and often required to validate/verify tooling and equipment. ABC will typically define those requirements as part of the RFQ and/or statement of work. In the event ABC does not call out this requirement then the supplier must propose the trial run plan and successfully pass the trials prior to acceptance by ABC. Trial run part dimensional measurements will contain points identified by ABC or the supplier shall generate their own points utilizing the ABC Technologies 'Point Naming Standard' (included with the Statement of Work), and a road map depicting, in detail, where the points are located on the part. These measurements are to be submitted, electronically, in the example formats provided by ABC. Supplier is responsible for requesting example formats.

#### **8.6- Spare Parts**

Suppliers must provide a list of recommended spare parts and in the cases where these parts are not "shelf items" options for how to obtain those parts if needed. Failure to provide this information in a timely manner may result in delaying final payment.

#### **8.7- Tooling and Equipment Timelines**

Supplier to provide a timing plan to Project Managers with appropriate level of gate planning in a structured method, to define and establish the steps necessary to ensure that a product/process satisfies ABC and is meeting the timing requirement as established on Purchase Order issuance. ABC must be made aware of any significant delays in the project immediately, and an action plan must be provided for review.

### **9 - Materials Management**

#### **9.1- Planning Schedules**

Products may be ordered by issuance of a Spot Buy for a specific quantity or through a Blanket Purchase Order supported by Planning Schedules.

[Blanket Purchase Order Additional Terms and Conditions \(80QPP-D-033\)](#)

Suppliers who have been issued an ABC Blanket Purchase Order will receive Weekly Planning Schedules

Suppliers must have EDI capability to do business with ABC. Primary release issuance will be communicated through Electronic Data Interchange (EDI). If the release is not received, it is the Supplier's responsibility to notify their designated ABC Material Representative. Suppliers are also required to submit Advanced Shipping Notices (ASN's) on any shipment to be sent following the approved release schedule. For those Suppliers not EDI- capable an agreement must be reached between your company and ABC's preferred supplier portal at a small expense to the Supplier in order to be compliant. See below agreement for benefits to both firms utilizing EDI.

Any deviation from this section must be approved by Procurement/Logistics in writing.

[EDI Profile \(80QPP-F-037\)](#)

[Electronic Data Interchange Agreement \(QSPF-EDI-WI-002\)](#)

## **9.2 Quantities and Timing**

Deliveries are to be made both in the quantities and at the times specified in ABC's Planning Schedules or as authorized in writing by the designated ABC Material Representative.

All dates specified on the release are arrival dates at our dock or as agreed a pickup schedule primarily related to offshore suppliers.

Time is of the essence. Suppliers who are unable to meet all requirements from ABC for the specified delivery date, quantity, and quality MUST notify ABC's Material representative immediately (no later than 24 hours prior to the designated delivery date). Note that this communication does not alleviate the Supplier of any of the related costs and penalties associated with being past due or shipping defective material. During such delays, ABC may, at its option, buy the goods from other sources and reduce its schedules to Suppliers by such quantities without liability to ABC.

Any excess costs resulting from unauthorized multiple shipments, past due requirements and/or unauthorized truck lines will be debited in full from Supplier's account.

## **9.3 - Documentation**

Products shall not be considered received until ABC receives all required documentation. ABC reserves the right to reject and return such products, at the Supplier's sole expense if documentation is not properly executed.

## **9.4 - Cumulative Material and Forecasting**

ABC's maximum liability or exposure is limited to a 6-week planning horizon (2 Firm, 2 Fab and 2 Raw) cumulative raw material, work-in-process and finished goods. ABC is not responsible for any raw material, work-in-process and/or finished goods in excess of the times stated above unless prior approval has been negotiated. Quantities on the planning schedule beyond the cumulative dates above are for planning purposes only. If additional lead-time is required, the Supplier must obtain prior written approval from ABC Corporate Procurement.

Forecast information will be supplied to Suppliers through rolling 12-week production releases. Forecast information is provided as an indication of the requirements of ABC but is not considered binding except as provided in paragraph above.

In order to support changes in production rates, replace failed or damaged product and emergency requirements, Supplier shall establish procedures and maintain adequate product to support ABC's production requirements for 100% on-time delivery. As a minimum, such procedures shall be capable of supporting a 20% volume increase in production within 24 hours of notification.

## **9.5- Packaging Requirement**

Packaging will be designed to ensure that the integrity of the product is maintained throughout the supply chain.



Returnable containers are the preferred packaging method if total cost is justified. The containers are to be controlled and returned to the Supplier for reuse.

“Returnable” pertains to Supplier owned or ABC owned containers such as plastic or metal bins, racks, pallets, trays, separators, and/or loose components.

Note: Cleanliness and maintenance are a requirement to ensure no part damage in transit.

All returnable containers and internal dunnage must be pre-approved by ABC. Packaging proposals by the Supplier must be submitted to ABC Operations for approval and be signed-off by an ABC Operations prior to implementation.

All products shipped to ABC plants shall be clean and free from contamination. Any cleaning chemical, preservative, or lubricant shall be reviewed and approved for use on ABC parts by ABC Engineering.

It is the Suppliers responsibility to remove all old labels from returnable containers.

[Supplier Packaging Guidelines \(80QPP-D-040\)](#)

[Supplier Packaging Approval Form \(80QPP-F-051\)](#)

### **9.6- Repair**

For returnable containers and packaging to be effective they must be regularly inspected and maintained in good working condition. In most cases the responsibility for inspection and maintenance of returnable containers will belong to the supplier of the product being shipped. Any exceptions must be agreed upon during development (APQP) by ABC. Suppliers must have a formal plan and resources to inspect and repair returnable containers as needed. If a supplier elects to outsource this activity, they are still responsible for the effectiveness of the activity and any/all quality concerns resulting from poor practices.

### **9.7- Storage**

Returnable containers must be stored in an environment that ensures the protection of the containers, protects against contamination, and damage and ensures the long-term usage of the containers.

### **9.8- Cleaning**

Unless otherwise agreed upon by ABC suppliers are also responsible for keeping returnable containers clean and for removing any old labels, tags or other add on identifiers between uses. Many of the products ABC produces have strict contamination and cleanliness requirements and suppliers must take those into consideration when developing the schedule and method for cleaning containers.

### **9.9- Notification of Shipments**

An Advance Shipping Notification (ASN) must be sent to the ABC materials representative within 59 minutes of shipment leaving the Supplier’s facility.

In the event of a known shortage or late shipment, the Supplier shall immediately contact the ABC’s materials representative to notify them of the situation. The Supplier shall also indicate the anticipated time of delivery of

expedited material.




Suppliers shall immediately notify ABC of any circumstances that it anticipates may cause a delivery delay, quality concern or otherwise impact the Supplier's performance of its contractual obligations. The notification should include information on the estimated period of delay, the reasons and what is being done to rectify the situation. If requested by ABC the Supplier shall, at Suppliers risk and expense use additional effort, including premium freight such as airfreight or other expedited routing to avoid or minimize delay to the maximum extent possible.

### 9.10- Identification Labels

It is an ABC requirement that all inbound shipments be labeled in accordance with AIAG's B10 label (detailed information on this label is available on the AIAG website).

All containers shall have a Production / Service Bar Code Label, affixed to the upper right-hand corner of at least two adjacent sides. If the container is returnable, Suppliers shall ensure that old labels are removed and replaced with new ones.

Note: Label must be legible, 2D scannable label, and unobstructed from banding or other packaging materials. Please review 2D bar code label provided below as an example.

|  |                                  |   |   |
|--|----------------------------------|---|---|
| FROM:<br>SALGA PLASTICS INC.<br>241 ABC BOULEVARD,   |                                  | TO:<br>ABC TECHNOLOGIES<br>C/O GF WAREHOUSE<br>515 STEAM PLANT ROAD   |  |
|  |                                  | DLOC<br><b>M18</b>  |   |
| QUANTITY<br><b>400</b>   | SUPPLIER PART<br><b>GG81076M</b> | CUSTOMER P.O. (K)<br><br><b>123456789</b> |   |
| CUSTOMER PART<br><b>TG70121M</b>   |                                  | DESCRIPTION<br>UL MCM CUPHOLDER DOOR RAIL RH  |   |
| LICENSE PLATE (1J)<br><br><b>UN160931085005556128</b> |                                  | DATE<br><b>30.01.2020</b>   |   |

Note: The Master Skid Label should be used following this format.

|   |  |
|---|--|
| <b>MASTER</b>   |  |
| CUSTOMER PART<br><b>TG40530</b>   |  |
| DESCRIPTION<br>UG MCM RH BPill WB Slider Asy  | VENDOR PART NO.<br>GG82970   |
| QUANTITY<br><b>400</b>  |  |
| SERIAL (6J)<br><br><b>UN160931085005556154</b> |  |

All products received by ABC must contain a serial number that is clearly identified on each label and every container. Suppliers can add date codes etc. within their allotted space.

“Mixed Load” labels shall be on all mixed pallet loads and clearly identified. In the event of a mixed pallet, every effort should be made to ensure that the smaller quantity part is loaded as the top layer of the pallet.

All Suppliers supplying materials to ABC, which are “controlled” under such regulations such as Workplace Hazardous Material Information Systems (W.H.M.I.S.), must be familiar with and comply with all such regulations, for packaging and shipping.

In addition, Supplier must follow all appropriate guidelines and rules relating to the country of receipt.

Material Safety Data Sheets (M.S.D.S.) must accompany all initial shipments and marked to the attention of ABC’s Health and Safety Representative at the ABC operation. The Supplier must provide verification of the composition of the material used and their individual components as well as aspects relating to the environment. Supplier must input the IMDS data into the system prior to delivery of the first samples or PPAP package.

[Supplier Shipping- Parts identification Label Specification \(80QPP-D-038\)](#)

[Sample Label Approval Form \(80QPP-F-041\)](#)

## **10.0- Logistics**

### **10.1- Transportation & Freight:**

Suppliers must use specified transportation methods as indicated on ABC’s purchase order and/or accompanying routing letter.





ABC Procurement and Logistics Department must approve any permanent changes to carrier or delivery frequency in writing or via e-mail notification.

All regular freight, payable by ABC (F.O.B. Seller or agreed Inco terms) must be shipped in accordance with ABC purchase order. Non-compliance to these routing instructions will result in debiting back to the Supplier all applicable extra shipping charges. Suppliers are expected to contact the approved carrier to set up pick-ups, unless otherwise advised.

Any Suppliers shipping goods F.O.B. ABC or F.O.B. shipping point freight allowed are responsible for proper coordination of freight to meet ABC's required arrival dates.

[North American General Routing Instructions \(80QPP-F-028\)](#)

[International General Routing Instructions \(80QPP-F-029\)](#)

### **10.2- Expedited Freight**

All expedited freight (ground or air) payable by ABC must be authorized/approved in writing to the ABC Senior Logistics Analyst or General Manager at the specific plant with plant buyer involvement. All invoices for expedited freight must be accompanied with the written authorization to ensure payment. All excess transportation charges, which have been determined to be the Supplier's responsibility, will result in a charge-back.

### **10.3- Quantities**

Suppliers must ship parts in pack quantities equal to the material releases and may only ship on their assigned shipping date. Any deviation to this must be pre-approved. All pick-ups for consolidated runs must adhere to shipping schedules without exception. Any delay in shipping to schedule must be communicated to ABC immediately to avoid downtime issues. Excess freight incurred because of a missed or later pick-up will result in a charge-back to the Suppliers.

### **10.4 - Timeliness**

It is critical to ABC's operation that shipments leave the Supplier's facility and arrive at ABC on time. Failure to deliver shipments as scheduled may result in charges for ABC production downtime. Suppliers must notify ABC immediately if the selected carrier does not pick-up goods as scheduled.

### **10.5- Special Handling/Hazardous Material**

ABC must be notified prior to shipping any material that requires special handling or bracing or classified as hazardous material.

### **10.6- Quality/Timeliness Issues**

If past due or defective material is deemed the fault of the Supplier, the Supplier shall bear the cost of all excess freight charges required to meet ABC's requirements.

It is Supplier's responsibility to automatically expedite should the Suppliers foresee or incur a past due situation. The Supplier shall also be liable for all costs associated with downtime of ABC and/or downtime costs billed to



ABC by its customer (refer to clause 7.8 for charges).

### **10.7- Documentation**

The following requirements shall be met:

- A packing slip, and bill of lading shall accompany all product received with a copy of the packing slip affixed visibly on shipment. When multiple part numbers are being shipped on one pallet a master Label must be affixed visibly on shipment.
- Except damage caused by a vehicle accident in transit, packing and packaging shall be sufficiently robust to protect products from shipping and handling damage, regardless of FOB point agreed.
- A correct bar-code label shall be attached to each package.
- Proper BOL must be used and completed correctly.

### **10.8- Customs Documentation**

All material shipping across the borders must have “Country of Origin”, “HS Tariff Classification”, unit price, currency of transaction, ABC Technologies, Inc. part numbers and P.O., must be clearly marked on the commercial invoice at time of shipping.

Suppliers are responsible for accurate completion of customs documents and ensuring all documents are given to carrier at time of shipment for proper clearance through ABC’s dedicated broker, and the documents must be e-mailed to the customs Dept. team

[DL.GRPD.Logistics@abctech.com](mailto:DL.GRPD.Logistics@abctech.com) Any delays in Customs and/or penalties for incomplete or inaccurate information will be the responsibility of the Supplier.

All charges resulting from the export and return of defective product shall be the responsibility of the Supplier.

All Suppliers are obligated to annually provide all the appropriate Certificates of Origin (COO) to satisfy origin requirements along with a Manufacturer’s Affidavit, USMCA, and other Free Trade Agreement in place, and must be send via email.

These are to be sent by December 31<sup>st</sup> of the current year for the upcoming year to [DL.GRPD.Logistics@abctech.com](mailto:DL.GRPD.Logistics@abctech.com) and the original signed in blue ink to ABC Technologies, Inc. at 2 Norelco Drive, Toronto, ON M9L2X6. Failure to comply will affect your Supplier Quality Rating.

#### **Free Trade Agreements:**

United States-Mexico-Canada Agreement (USMCA)

<https://www.cbp.gov/sites/default/files/assets/documents/2020-Jun/USMCA%20Implementing%20Instructions%20-%202020%20Jun%2030%20%28Finalv1%29.pdf>

Canada-United States-Mexico Agreement (CUSMA)

<https://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/cusma-aceum/index.aspx?lang=eng>

México, Estados Unidos y Canada (T-MEC)

<https://www.gob.mx/t-mec/acciones-y-programas/textos-finales-del-tratado-entre-mexico-estados-unidos-y-canada-t-mec-202730?state=published>

Other Free Trade Agreements

[http://www.sice.oas.org/agreements\\_e.asp](http://www.sice.oas.org/agreements_e.asp)

#### **Invoice requirements:**

Canada

<https://www.cbsa-asfc.gc.ca/publications/dm-md/d1/d1-4-1-eng.html>

USA

<https://www.cbp.gov/sites/default/files/documents/Importing%20into%20the%20U.S.pdf>

Offshore shippers must inform freight forwarder of all information needed to complete the Importer Security Filing form (ISF-10 obtained by contacting the freight forwarder being used) for US customs at time of shipment. Suppliers will be responsible for any costs or penalties relating to Suppliers failing to provide certification or providing fraudulent certification.

### ***10.9- Customs Trade Partnership Against Terrorism (C-TPAT), Partners in Protection (PIP)***

It is an expectation of ABC that all Suppliers have or work towards achieving C-TPAT and/or PIP certification. As part of this requirement, we ask that all suppliers fill out the attached form, Supplier Facility Security Questionnaire (#80QPP-F-049). If sent by ABC we require return within 14 days of receipt. All forms are to be returned to [abc.ctpat@abctech.com](mailto:abc.ctpat@abctech.com).

[Standard Facility Security Questionnaire \(80-QPP-F-049\)](#)

### ***10.10- Materials Management Operations Guidelines (MMOG)***

The "M-7: Global Materials Management Operations Guideline Logistics Evaluation (MMOG/LE)" guidelines were developed to reduce the time and work required by suppliers and customers to determine materials process compliance. Using the guidelines, suppliers complete a self-assessment and receive "A," "B," or "C" ratings based on their compliance. While deficiency in one or more critical areas automatically earns a "C" rating, the MMOG/LE guide automatically develops an action plan to allow companies to address deficiencies and drive continuous improvement.

Suppliers shall complete the MMOG assessment if requested to do so, by their procuring ABC division.

Suppliers unfamiliar with MMOG shall contact the appropriate ABC division, for assistance.

## **11.0 - Additional Requirements**

### **11.1- Access**

The Supplier shall allow ABC and their customers' representatives all reasonable access to their premises to:

- Conduct audits as may be necessary to confirm that the quality management system is performing as described in their manual.
- Confirm that product and subcontracted product or services conforms to specified requirements.
- Confirm the ability to sustain the declared production capacity.
- Verify the actions taken following a corrective action.

When circumstance allows, the ABC Supplier Quality Engineer will notify the Suppliers in advance of planned visits.

### **11.2- Capacity Improvements**

As part of the Supplier's continuous improvement system ABC expects Suppliers to submit annually evidence of process capability improvements to the attention of the Quality Manager at the respective ABC facility.

### **11.3- Confidentiality**

The Supplier is required to maintain confidentiality of all drawings, specifications, documents, or information provided by ABC in any form or means. All ABC provided documentation to be maintained in a secure environment.

### **11.4- Cost Reduction**

Suppliers to ABC are expected to achieve and submit ongoing annual cost reductions and will be rated on their participation in this program. Cost reduction plans shall be submitted to the ABC buyer at any stage of the RFQ process or in production. The Supplier will be credited with those cost reductions when plans are approved and implemented. We expect that each supplier should be continually looking for cost improvements.

### **11.5- Customer Directed Parts**

All requirements stated in this manual apply equally to Suppliers of customer directed parts.

### **11.6- Labor Disputes**

The Supplier will notify ABC in writing at least six (6) months in advance of the expiration of any current labor contract(s). If requested by ABC the Supplier will have available eight (8) weeks' supply of finished goods at least

30 days prior to the expiration of any such labor contract, in quantities and for storage at any place or places designated by ABC at the Supplier's expense.

The Supplier will also notify ABC immediately of any actual or potential labor disputes or disruptions that will delay or threaten to delay timely delivery.

### **11.7- Transparency**

Full transparency and accuracy is expected to be practiced by all Suppliers and their representatives when providing ABC with information, information could be in the form of documents, quotations, sample parts, quality data, tooling data, processing data, run at rates and audit results.

### **11.8- Supplier's Competitiveness**

Suppliers agree to support ABC in any joint effort with respect to cost reductions required by ABC's customer. Should the Supplier be unable to support ABC's requirement, ABC reserves the right to competitively bid the products and or services to confirm market price and to award an agreement for those goods and services to the successful bidder. Any Supplier notice of any market movement price increase shall be provided 180 days prior to any increase to be implemented.

### **11.9- Warranty**

#### **Warranty Parts return**

ABC Technologies receives only a small sampling of the parts replaced by dealers. Within receiving warranty parts from an OEM customer, ABC Technologies shall make available to the Supplier the warranty parts received, if any, with copies of available documentation (as provided by the OEM customer) for traceability, investigation, and corrective action purposes.

ABC Technologies together with our OEM customer performs part pre-analysis and defines possible factors, recognition of responsibility and causes for customer complaint during warranty review meetings. This is done by examining the parts, reviewing dealer service comments, records and parts tags attached to each returned part.

#### **Warranty Parts Review, Containments and Problem Solving**

Upon receipt of a warranty claim, suppliers shall respond within the specified limits, utilizing only the array of available responses as set forth below:

- **Category 1: Responsibility of Supplier** (Samples provided by ABC Technologies to Supplier)
- **Category 2: Trouble Not Found TNF** (Samples provided by ABC Technologies to Supplier)
- **Category 3: INOP** (Samples provided by ABC Technologies to Supplier)
- Supplier will undertake to receive and respond to an 8-D problem Action report which is the official communication tool for reporting and resolving problems.

#### **Category 1: responsibility of Supplier**

- Warranty part analysis results and actions shall be documented using a standard 8-D format. This format is also utilized to monitor the effectiveness of corrective actions over time by each component. Implementation of a testing process to verify actual root cause and determine corrective action for dealer claims is required of ABC Technologies by our OEM customers and must therefore be pass thru to our supplier as well.
- The Supplier shall keep all provided parts received as warranty for a period of 6 weeks from issue notification date.

***Category 2: TNF Trouble Not Found***

- If TNF status is declared in the 8-D process, supplier must clearly describe and document with data, how they arrived at this conclusion. In other words, TNF status in the warranty analysis process must follow systematic elimination of potential root cause factors. TNF typically describes a scenario whereby testing indicates the returned parts meet ABC Technologies and/or our customer part and performance requirements as defined in purchase orders, and PPAP agreement.
- Examples included additional levels of testing, development of new test procedures, simulations of customer usage, verification to all applicable specifications, etc.
- In some cases when the defect is proven at the customer, a compromise may have to be reached between Supplier, ABC Technologies, and Customer (shared % responsibility or no cost responsibility).

***Category 3: INOP***

- When the supplier investigation has determined the defect INOP, supplier need to provide all supporting documentation for approval of this category. The supplier shall retain the affected components until the issue is resolved in a positive manner, such that ABC Technologies customers will concur with our supplier's root cause and corrective action analysis, including supporting documentation. (Supplier will not be responsible for the cost of the claim).

***Implementation of Lessons Learned***

- Supplier shall incorporate Lessons Learned from warranty analysis into their processes.
- Suppliers shall produce a process/procedure outlining the use of Lessons in the development of new products.
- The procedure shall include problem resolution, reporting of current issues, and how they are captured for future products development.
- All Lessons Learned shall be part of the 8-D report (Customer and /or ABC Technologies 8D format)
- A Lessons Learned database is recommended for suppliers.

***Warranty Terms and Conditions & Recovery Cost – Chargeback to Suppliers***

- All of the associated warranty claim costs for category #1 failures as noted above will be DEBITED to the responsible Supplier. (If at fault claim will be a 50/50 split between ABC Technologies & Supplier).
- The terms of the supplier warranty granted to ABC Technologies will be not less than the coverage provided by OEM manufactures to their end customers.
- NOTE: Warranty coverage for purposes of determining OEM coverage starts from the date of delivery to the end customer. -
- In the event of any disagreement to the contractual warranty ABC technologies and Suppliers shall negotiated the issue in a fair and positive manner until parties come up with an agreement or resolution.

***11.10-Traceability***

Supplier must ensure identification and traceability of products supplied. The identification may include labeling of packaged products, manufacturing location, manufacturing dates; shift, part identification, and sub- contractor traceability (i.e., heat treat, plating, etc. lot details, and traceability.)

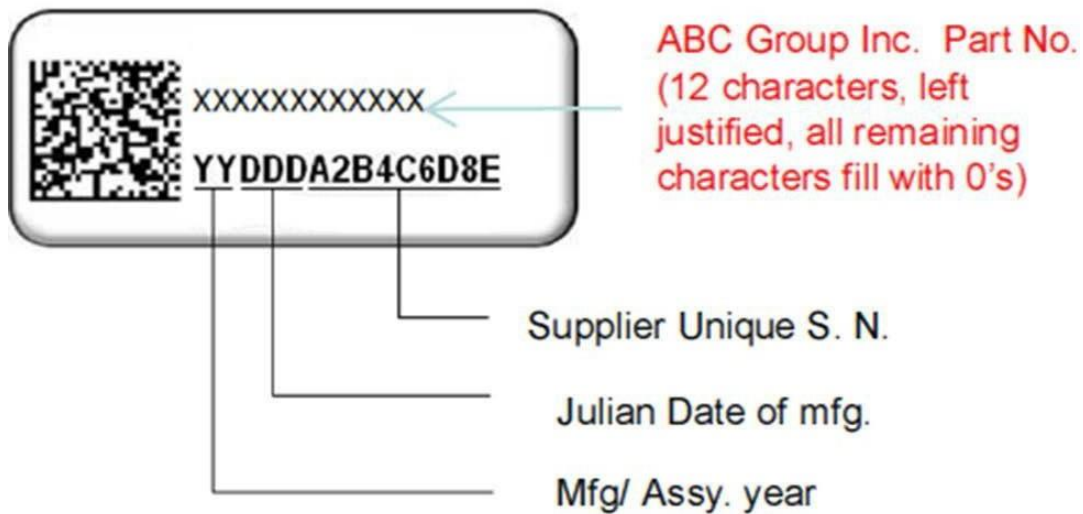
Suppliers shall be able to directly correlate a raw material batch to the final product. Records of such shall be made available upon request.

When Requested, Supplier shall affix a 2D Bar Code Label on all individually purchased, ABC Components, and this label must be approved for use by ABC prior to use.



The Label must be permanently attached to the purchased component and cannot interfere with the operation of this component or the finished assembly.

Bar code content, format, and label requirements for Part Identification, Verification, and Traceability, Key Characteristics Designation System (KCDS), SHALL be encoded in a Data Matrix or optionally Quick Response (QR) Code two-dimensional (2D) symbol (bar code). Included in the information on the 2D bar coded label, but not restricted to, must be ABC's Internal Part Number, Supplier unique serial number, Manufacturing Year, and Julian date,



Standardized 2D Bar code format (QR or Data matrix) across all components and internal assemblies.

**11.11- Training**

Supplier employees must be competent and qualified for their job function. The supplier must ensure this through appropriate internal and external training courses. A training record must be available for all employees producing a product or service for ABC.

**11.12- Contingency Planning**

Allocation of the Resources Supplier needs to ensure that resources are allocated in such a way to ensure a secure supply of products to ABC Technologies. Supplier is obligated to permanently keep, without additional compensation, an appropriate stock on hand exceeding the quantity currently to be delivered. This stock needs to be ensured at any time including periods of maintenance. Supplier needs to inform ABC Technologies and plant purchasing organization about any planned maintenance periods six (6) months in advance in written form.

Relocation of Production Site in order to prevent bottlenecks, Supplier is required to give ABC Technologies at least twelve (12) months advance notice of any production relocation plans and to notify ABC Technologies and plant purchasing of the actions proposed to ensure supplies during relocation in written form.

Emergency Plans suppliers are required to draw up and distribute within their organization an emergency plan for the eventuality of disturbances affecting its logistics and/or production processes and the continuous supply of products to ABC Operations.

Disturbances may include for Example:

- Relocation of tools and machinery
- Damage or delays in shipment
- Non-conformities
- Tool/equipment/machinery breakage
- Disturbances in supplies from subcontractors
- Computer/network problems
- Other events (strike, accidents, flooding, hurricanes, fire, earthquakes, social unrest, etc.)

Supplier is required to develop, define, and implement emergency procedures to ensure smooth supplies to ABC Technologies even in the event of such disturbances. Upon request of ABC technologies Supplier will present the emergency procedures to ABC Technologies. In the event of any of the disturbances listed above, Supplier must promptly notify ABC Technologies to ensure timely, effective liaison and adequate supplies to ABC Operations. Supplier is requested to designate contact persons who shall be always available (i.e. also at weekends and outside normal business hours) to deal with emergencies such as quality problems with the products supplied causing imminent production hold-ups at ABC Operations. Supplier must notify ABC Technologies of the names of these contacts.

Dates and Quantities in Purchasing Documents Purchasing documents, issued by ABC technologies, inform Supplier of ABC Technologies current requirements. Dates and Quantities stated in such documents are binding for Supplier. All dates and quantities stated in ABC Technologies purchasing documents shall be deemed to have been approved by Supplier unless an objection by Supplier is received within three (3) working days after the issue of the purchasing document. Any additional carriage costs (premium freight) and/or additional internal costs incurred by ABC Operations because of delivery problems caused by Supplier will be charged to Supplier and is to be compensated by Supplier. Supplier has an obligation to inform ABC Operations about any shipments with “premium freight”.

### **11.13- Conflict Minerals Compliance**

All ABC suppliers shall report their potential Conflict Minerals as per ABC Specific Requirements and our OEM Customer Specific Requirement Guidelines. ABC’s and our Customers preferred method of reporting is through the iPoint Conflict Minerals Platform, (ABC iPCMP code is 2975). If sent by ABC we require return or inputting within 14 days of receipt. Suppliers in all regions shall be able to verify that the tin, tantalum, tungsten, and gold (3TG) contained within products sold to ABC did not originate within the Democratic Republic of the Congo OR be able to determine the exact smelters locations where the tin, tantalum, tungsten, and gold originated within the Democratic Republic of the Congo. Suppliers are to refer to AIAG for more information and details ([www.aiag.org](http://www.aiag.org)).

[ABC Conflict Minerals Reporting Supplier Guidelines \(80QPP-D-053\)](#)

### **11.14- Record Retention**

Suppliers are expected to maintain applicable record retention periods as specified in ISO/IATF 16949 latest edition standard, or as defined by your procuring division. The length of retention is defined by the OEM Customer Specific Requirement Guidelines and/or all legal or governmental requirements, whichever is longer.

Note: For example, Honda specific requirements are as follows:

1. Process Quality Control Table; 20 years.
2. Pre-production results; 20 years.
3. Validation testing; 20 years.

### **11.15- Annual Re-Validation and Re-Certification**

Unless waived in writing by ABC, the supplier shall inspect and test annually a sample of each active product supplied to assure conformance to all ABC specified requirements (e.g., dimensional layout (all characteristics on the current print), performance testing, and material). Suppliers are expected to maintain the same process and quality levels approved during the original PPAP Submission throughout the life cycle of the product. These inspection requirements shall be included in the supplier’s production control plan. Material testing shall be carried out by a qualified Third-Party Laboratory. Annual validation documentation shall be on file at the supplier and available to ABC within 24 hours upon request. If a nonconformance is found during the annual validation, the supplier shall notify the ABC plant quality department immediately so that appropriate action can be determined and implemented.

Whenever ABC is required to submit PPAP to their customer, supplier with PPAP documentation over one year old may be required to re-PPAP as directed by the ABC receiving site Quality department.



Example of the Level of Evidence ABC might request:

Level 1 – Warrant Only

Level 4 – Warrant and other documents as defined by ABC Level 3 –  
Full Submission

Any cost involved in testing for annual re-validation and re-certification is the responsibility of the Supplier and cannot be charged to ABC.

#### **11.16- Obsolescence**

Suppliers are expected to build and deliver product adhering fully to material releases and scheduling requirements provided by ABC. Any obsolescence resulting from a supplier not adhering to the releases and schedules is the responsibility of the supplier including any associated costs. For obsolescence that occurs due to other measures beyond the control of the supplier; claims and supporting evidence and information must be presented to the ABC plant materials department. ABC will only allow up to 4 weeks for domestic sources and 8 weeks for offshore. All claim material may be audited and must be held in safe storage until the claim is settled. Any claims submitted after 180 days will not be reviewed.

#### **11.17- Service and Replacement Part Requirements**

Except as otherwise expressly agreed in writing, for a period of fifteen (15) years after a vehicle design or specific part concludes production, Seller will supply Buyer's written "service parts" orders for the same Supplies, component parts and materials at the price(s) set forth in the Purchase Order plus any actual cost differential for special packaging. If the Supplies are systems or modules, Seller will sell each component or part at a price that does not, in the aggregate, exceed the system or module price specified in the Purchase Order, less assembly costs, plus any actual cost differential for packaging.

#### **11.18- Communication**

It is critical that the relationship between ABC and our suppliers be premised on open, effective and proactive communication. The occurrence of non-conforming product, unauthorized changes or any related supply chain issues, present a risk to both ABC and to ABC's customer(s), when not communicated and managed effectively. These risks also manifest themselves at the sub-tier suppliers and sub-contractors that comprise the overall supply chain.

1. Any pending or potential issue which the supplier has identified.
2. Any pending product safety or critical characteristics.
3. Any potential manufacturing/quality issues.
4. Any potential supply and/or capacity issues.

5. Information Technology (IT) or supporting system changes that might impact production or shipment of product to ABC.

Suppliers will support all tests, validations, approvals and submissions required as a result of product or process changes, as directed by ABC. Suppliers cannot charge for samples or testing resulting from supplier related or requested changes, unless approved by ABC.

Suppliers must be proactive in their communication with their ABC customers. Failure to notify ABC of potential issues or changes will result in internal elevation, as appropriate, and may result in notification of the issue to

ABC's customers. If necessary, a supplier's IATF/ISO Registrar will be contacted and asked to conduct any necessary investigations or assessments. Continued non-compliance may lead to loss of business.

### **11.19– Environmental Impact**

At ABC we have great opportunities for growth through customer focused innovations that improve the quality of life and our environment, including many that advance sustainable business practices. We provide products and services that help customers reduce their energy use and greenhouse gas emissions, and therefore help minimize the effects of climate change. At the same time, we are working to reduce the energy footprint in our internal operations and manufacturing facilities. It is encouraged for Supplier's to reduce their consumption of energy, water, other natural resources, and emissions of chemical substances.

ABC is committed to understanding the materials that make up our products through IMDS and our Environmental, Health and Safety System. It is suggested that Supplier's gather, validate, and maintain within corporate systems formulation and composition information for new and existing products and materials. This includes the awareness or implementation to reduce and manage all toxic substances and hazardous waste from the point of purchase to legal disposal.

For further information we encourage all our sub-tiers to take the online training provided through AIAG "Supply Chain Corporate Responsibility" or participate in the [UN Global Compact – Sustainable Development Goals.](#)

### **11.20– Feasibility**

Conducting a feasibility review is a good business practice. In order to ensure the manufacturing facility are taking the actual steps required to build the product. ABC requests their Supplier to conduct an internal feasibility review on any new programs awarded or on new launches.

[Feasibility Review Checklist \(80QPP-F-062\)](#)

ABC SQA will as require request this document based on risk review and examine all the issues in the form and assess the business partnership success between ABC and Supplier.

Below are other reasons to conduct a feasibility review.

- Gives focus to the project and outline alternatives.
- Narrows business alternatives
- Identifies new opportunities through the investigative process.
- Identifies reasons not to proceed.
- Enhances the probability of success by addressing and mitigating factors early on that could affect the project.
- Provides quality information for decision making.
- Provides documentation that the business venture was thoroughly investigated.

### **11.21– Managing Change:**

Process Change Control (Reference IATF 16949 clause 8.5.6.1.1) the organization shall follow a documented change control process including validation of product and process. Documentation shall be updated to reflect any changes to product or process. Note – Look at: Plant processes are validated relative to changes in Design, Man, Machine, Equipment, Material, Method, Environment and Documents the evidence of related risk analysis. The plant follows a documented change control process. The PFMEA is updated to reflect any change, as required. Look for: Confirm that all plant changes are processed through the plant cross functional process change approval system.

### **11.22– Managing Risk:**

Design & Development of Products and Services (Reference IATF 16949 clauses 8.3.1 to 8.3.6.1) All operations shall be analyzed for risk using PFMEA and PFMEA methodology including cross functional teams. NOTE – Look at: Operations have been analyzed for risk using PFMEA. PFMEA workshops must be done by cross functional teams, including manufacturing team member input. Risk Priority Number (RPN) values must be consistently applied using Severity, Occurrence and Detection ranking tables. Material handling failure modes are comprehended in the PFMEA (i.e., wrong parts, mixed parts, containment control, etc.). Look for: PFMEAs to be available for all operations within the plant. Confirm PFMEA workshops are done by cross functional teams, including mfg. team member input. Confirm RPN values are consistently applied using Severity, Occurrence and Detection ranking tables. PFMEAs - Risk Reduction & Annual Review (Reference IATF 16949 clauses). The organization shall annually conduct risk reduction reviews by product. NOTE – Look at: Monthly RPN risk reduction reviews by product focused on preventing defects from leaving the workstation are held to drive continuous improvement. Action plans for top issues must include: 1. Recommended actions, 2. Responsibility, 3. Timing. Reverse PFMEA process is in place to identify new potential failure mode in the shop floor Look for: For evidence of monthly cross functional risk reduction reviews focused on preventing defects from leaving the workstation. Confirm action plans for top issues include: 1. Recommended actions, 2. Responsibility, 3. Timing. Plant Management shall be included in top risk reporting and approval of countermeasures. Verify if Reverse PFMEA (On-station reviews) findings are driven back into the Process Flow, PFMEA, Control Plan, and Work Instructions as applicable Best practice cross functional line site review for RPN reductions. Bypass Management (Reference IATF 16949 clause 9.3.1.1 to 9.3.3.1) The organization shall have a process to identify and review manufacturing processes and error proofing devices that can be bypassed. NOTE – Look at: The plant shall identify manufacturing processes and error proofing devices which can be bypassed. Risk Priority Number (RPN) for all approved Bypass processes are evaluated and risks are reviewed. Standard work instructions are available for each Bypass process. Implemented bypasses are reviewed

in daily Leadership Meeting with the goal to reduce or eliminate bypassed operations. Processes/devices in bypass must have a quality focused audit performed. Restart verification is documented for defined period (e.g., 5 units for serial defects / 100% check for intermittent defects).

Look for: Look for the plant list of manufacturing processes and error proofing devices which can be bypassed. Confirm that Risk Priority Number (RPN) for all approved bypass processes are evaluated and that Standardized Work is available for each bypass process. Ensure implemented bypasses are reviewed in Fast Response with the goal to reduce or eliminate bypassed operations. Look for evidence of the bypass checklist being used for processes/devices in bypass.

Suppliers must establish continuous improvement as an integral part of their management systems and business planning process. Continuous improvement activities must be documented and tracked as key performance indicators. Suppliers are expected to establish continuous improvement targets and use all appropriate data to drive continuous improvement and improve customer satisfaction. It is expected that suppliers will use all appropriate tools, such as the PDCA cycle, Six Sigma and other appropriate methodologies to ensure a disciplined and systemic approach to continuous improvement.

#### **11.23– CONTINUAL IMPROVEMENT:**

Suppliers must establish continuous improvement as an integral part of their management systems and business planning process. Continuous improvement activities must be documented and tracked as key performance indicators. Suppliers are expected to establish continuous improvement targets and use all appropriate data to drive continuous improvement and improve customer satisfaction. It is expected that suppliers will use all appropriate tools, such as the PDCA cycle, Six Sigma and other appropriate methodologies to ensure a disciplined and systemic approach to continuous improvement.

#### **11.24– CONSIGNMENT PROGRAM**

**Cycle Counting Responsibility:** The Buyer will be responsible for “accurately counting” Supplier owned inventory within their facilities, on request. “Accurate counting” may include the use of scales, hand counting, and use of ABC supplied container counts if no materials from that specific container have been handled. The results of the count will be documented by part number and forwarded to the respective ABC Purchase Planner. If the supplier performs a non-requested count and identifies an inventory problem as a result of that count, it is the supplier’s responsibility to communicate that problem to the respective ABC contact.

**Inventory Loss Reporting / Responsibility:** Although the consignment inventory is owned by ABC, the supplier has the responsibility to take “due care” in handling and controlling this material. If an inventory loss or gain is identified within the supplier’s system, the loss or gain will be analyzed by the respective ABC Procurement Representative and/or Purchase Planner. Dependent on the results of this analysis, negotiations may follow concerning the responsibility and charge impact of that loss.

**Scrap Reporting/Responsibility** It is the responsibility of the supplier to document all scrap incurred within the supplier facilities and forward this documentation to the respective ABC Purchase Planner. ABC reserves the right to request that this scrap be gathered, documented and returned as necessary. Documentation will include part number, quantity, defect information, and charge responsibility. If the scrap percentage reflects a substantial



increase over the set standard it is the responsibility of the supplier to contact the respective ABC procurement

representative for approval prior to continuing production /assembly.

## **12.0- Commodity Specific Requirements**

### ***12.1- Plastic Injection Tooling, Gauge and Fixture Technical Standards***

ABC has provided suppliers with technical standards to be adhered to for any build and references our expectations relating to topics such as design and build standards for injection molded tooling, Gauges and Fixtures as a minimum. Please also refer to OEM Guidelines. A copy of these standards can be found on our website [www.abctech.com/Suppliers](http://www.abctech.com/Suppliers). Also refer to Section 9.1

### ***12.2- Regrind and Processing Aides***

Suppliers are required to adhere to regrind limits as defined on the drawing or in the appropriate material specification. The percentage of regrind shall be verified by appropriate validation testing and approved during PPAP. The supplier shall have a formal procedure defining the policy/process for controlling regrind used in product supplied to ABC. Documentation shall include any blending, size of material granules if required and will be by lot. Use of lubricants, oils, mold release agents or any other contaminants is prohibited unless approved in writing by ABC or specifically identified on ABC or customer drawings or specifications.

### ***12.3- Raw Materials/Resins***

Suppliers shall verify each batch of incoming raw material for correct material, quality and cleanliness of the material and verification of physical properties. On site testing is the preferred method of verification; however, formal material certifications provided by raw material suppliers may also be utilized. All records of compliance must be maintained in a file and available for review at the request of ABC or our customers. Certificates must include actual test data and results and not blanket statements of compliance. Raw materials must be stored in containers and an environment to ensure the product is protected until use. Suppliers should mark on any containers the expiry date of the material if it has a shelf life.

### ***12.4- Steel and other Metals***

Suppliers shall verify each batch of incoming raw material for correct material, quality and cleanliness of the material and verification of physical properties. On site testing is the preferred method of verification; however, formal material certifications provided by raw material suppliers may also be utilized. All records of compliance must be maintained in a file and available for review at the request of ABC or our customers. Certificates must include actual test data and results and not blanket statements of compliance. Raw materials must be stored in containers and an environment to ensure the product is protected until use.

### ***12.5- Chemicals/Coatings***

Suppliers must provide written evidence that all chemicals/coatings and the processes used to apply them fully meet the requirements and specifications called out on the drawing or material specification. Suppliers are responsible to provide test data and results for any/all applicable standards or specifications as required. It is the supplier's responsibility to ensure any/all chemicals and coatings applied to finished components are properly reported in IMDS and fully comply with these regulations and comply with the Conflict Minerals Guidelines.

## **12.6- Fasteners**

ABC requires fastener manufacturers to comply with the Fastener Quality Act which requires suppliers to document and keep all records on fastener quality. This includes the identification, characteristics, properties, mechanical marks, chemistry, and strength. This information must be available by lot and available for review by ABC and our customers upon request. In addition, it is the responsibility of the supplier to ensure any/all coatings and materials used to manufacture or treat these fasteners comply with governmental and other regulations such as IMDS and comply with the Conflict Minerals Guidelines.

## **13.0 - Documents as Listed in the Manual**

|                 |   |       |
|-----------------|---|-------|
| 80LEG-D-001     | Purchase order terms and Conditions.....                          | p. 10 |
| 80QPP-F-039     | Potential Supplier Risk Assessment Audit .....                    | p. 16 |
| 80SQD-F-006E-C3 | Supplier Profile Form .....                                       | p. 17 |
| 80QPP-F-044     | PPAP Review Checklist .....                                       | p. 27 |
| 80QPP-F-031     | Supplier Readiness Checklist .....                                | p. 27 |
| 80QPP-D-030     | Global Early Production Containment Procedure .....               | p. 27 |
| 80QPP-F-042     | Supplier Engineering Change Request .....                         | p. 28 |
| 80-ENG-F-15     | Engineering Change Notice.....                                    | p. 28 |
| 80-ENG-F-16     | Engineering Change Request .....                                  | p. 28 |
| 80QPP-F-034     | Supplier Quality Notice .....                                     | p. 29 |
| 80QPP-F-052     | Supplier Deviation Request Form .....                             | p. 32 |
| 80-QA-D-60      | Checking and Gauge Standards... ..                                | p. 34 |
| 80-ENG-D-20     | Injection Mold Standards .....                                    | p. 34 |
| 80QPP-D-022     | Bailment Agreement Schedule A.....                                | p. 34 |
| 80QPP-D-033     | Blanket Purchase Order Additional Terms & Conditions.....         | P. 35 |
| 80QPP-F-037     | EDI Profile.....  | p. 36 |
| QSPF-EDI-WI-002 | Electronic Data Interchange Agreement.....                        | p. 36 |
| 80QPP-D-040     | Supplier Packaging Guidelines.....                                | p. 37 |
| 80QPP-F-051     | Supplier Packaging Approval Form.....                             | p. 37 |
| 80QPP-D-038     | Supplier Shipping-Parts Identification label Specifications ..... | p. 39 |
| 80QPP-F-041     | Sample Label Approval Form .....                                  | p. 39 |

|             |   |       |
|-------------|---|-------|
| 80QPP-F-028 | North American General Routing Instructions.....            | p. 40 |
| 80QPP-F-029 | International General Routing Instructions .....            | p. 40 |
| 80QPP-F-049 | Standard Facility Security Questionnaire .....              | p. 42 |
| 80QPP-D-053 | ABC Conflict Minerals Reporting Supplier Requirements ..... | p. 48 |
| 80QPP-F-062 | Feasibility Review Check List.....                          | p. 50 |

## **14.0 - General and Conclusion**

This manual has been put together with the support of critical team members from our Operations and Group Facilities. This Manual’s objective is to clearly state our expectations that will support our operations and provide the level of acceptable quality and cost parameters that our customers require of us on a year over year basis. With committed suppliers, we can meet and exceed these targets. We welcome feedback from the Supplier base for ideas that will create continuous improvements. If there are areas where you see, we could be doing better please be open with your communications. It is only by truly working together can we achieve more.

ABC is known as an innovator and leader within its business units. This has provided continued growth and prosperity for us and our Supplier base. We are committed to continue this tradition and working with dedicated and committed suppliers.

Sincerely,

Pasquale D’Amico

Director, Procurement (Direct)

ABC Technologies Inc.

Endorsed by Craig Davis, Vice President Global Supply Chain



### **14.1 – Document Management**

|                         |   |
|-------------------------|---|
| OWNER (NAME, TITLE)     | <b>PASQUALE D'AMICO - DIRECTOR, PROCUREMENT &amp; SUPPLY CHAIN MANAGEMENT</b> |
| CUSTODIAN (NAME, TITLE) | Alma Sahovic - Senior Buyer, Supply Chain Management                          |
| APPROVER (NAME, TITLE)  | Craig Davis - Vice President, Global Supply Chain • Supply Chain Management   |
| APPROVAL DATE           | 09/22/2023  |
| EFFECTIVE DATE          | 09/22/2023  |
| NEXT REVIEW TARGET DATE | 03/24/2023  |