Delphi Technologies Aftermarket Customer Specific Requirements

For Use with ISO 9001:2015
and IATF16949:2016

Revision 9

Effective 01 Feb 2018

Introduction

In addition to being an introduction to Delphi Technologies Aftermarket requirements for all direct material suppliers this document is also structured as a companion document to ISO 9001:2015 and IATF 16949:2016. Some sections within this document are numbered to correspond with the paragraphs to ISO 9000/IATF 16949. The requirements of the normative reference documents listed below are also applicable. In addition, certain other Delphi requirements for Suppliers are also set forth below.

Exceptions to any of these requirements must be approved in writing by the appropriate Delphi functional area contact. Contact your Delphi buyer with any questions regarding this document.

1. Scope

This document applies only to external direct material suppliers to Delphi Technologies Aftermarket.

The English language version of this document shall be the official version. Any translations of this document are for reference only.

Copies of this document are available at: www.delphi.com/suppliers.

2. Normative Reference Documents

The following reference documents are vital to the development of a quality system that meets Delphi's standards. Therefore, the Supplier shall follow the requirements of the following documents:

Production Part Approval Process, PPAP
Statistical Process Control, SPC
Potential Failure Mode and Effects Analysis, FMEA
Advanced Product Quality Planning and Control Plan, APQP
IATF Guidance to ISO/TS16949: AIAG Edition.
APQP Measurement Systems Analysis, MSA
AIAG CQI-8: Layered Process Audit Guideline
AIAG CQI-9 Special Process: Heat Treat System Assessment
AIAG CQI-11 Special Process: Plating System Assessment
AIAG CQI-12 Special Process: Coating System Assessment
AIAG CQI-14: Consumer-Centric Warranty Management
AIAG CQI-15 Special Process: Welding System Assessment
AIAG CQI-16: ISO/TS 16949 Guidance Manual
AIAG CQI-17 Special Process: Soldering System Assessment
AIAG CQI-18: Effective Error Proofing
AIAG CQI-19: Sub-Tier Supplier Management Guideline
AIAG CQI-20: Effective Problem Solving Practitioner Guide

AIAG CQI-21: Effective Problem Solving Leader Guide
AIAG CQI-22: The Cost of Poor Quality Guide
AIAG CQI-23 Special Process: Molding System Assessment
IATF Guidance to ISO/TS16949: AIAG Edition.
Automotive Certification Scheme for ISO/TS 16949, Rules for Achieving IATF Recognition.
Technical Specification ISO/TS 16949
Delphi Global Technical Requirement - GTR

The latest edition of the reference documents listed above applies unless otherwise specified by Delphi. Copies of all reference documents except those specific to Delphi are available from the AIAG at the following link: www.aiag.org. Copies of ISO documents are also available from the American National Standards Institute (ANSI) at http://www.iatfglobaloversight.org/publications.aspx.

3. Terms and Definitions:

AIAG – Automotive Industry Action Group

Family Parts - Groups of parts processed on the same production line, using the same control plan, PFMEA and process equipment. The parts differ only in end item value. PPAP for the "family" is approved by using the extreme values of the "family" specification to define the "family" boundary.

ASN - (Advanced Shipment Notification) **-** An Electronic Data Interchange (EDI) transaction that provides the receiving company with specific detailed information about the shipment in advance of delivery.

FTQ - (First Time Quality) - A measure of the number of pieces rejected in a manufacturing process versus the total number of pieces attempted. FTQ can be measured at any step in the manufacturing process where parts are rejected. FTQ is reported in parts per million (PPM) defective.

OTIF - On-Time-In-Full which relates to Delphi Technologies Aftermarket delivery expectations

PRR - A Delphi Problem Case (PRR) is issued to suppliers to formally report a Quality Issue.

Site - A specific supplier physical location under one address, such as a manufacturing plant, that can be assigned or has a DUNS or User Block number.

SQD - (Supplier Quality & Development Engineer) - Group of engineers within Delphi responsible for managing current production quality issues and continuous improvement with Supplier.

Sub-supplier - Providers of production materials, production or service parts, assemblies, heat-treating, welding, painting, plating or other finishing services directly to any Delphi Supplier.

MCA - Manufacturing Capability Assessment is an audit conducted at the supplier premises by the SQD Engineer that provides an audit score and is used to develop corrective action plans (CAP). Prior to the actual audit, “New potential supplier” MCA is typically required.

Immersion improvement During improvement period based on CAP, immersion improvement might be required by Delphi SQD to speed up CAP progress to make sure the key projects can launch on time.

EDI - Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners.

PSO - Product Safety Officer is the requirement of Delphi Technologies Aftermarket for OEM direct material suppliers, such suppliers must identify the post and provide that person’s contact information to Delphi Technologies Aftermarket SQDE.

SOP - Start Of Production

QFS - Quality Focus Supplier

ISO 9001 Clause	The IATF 16949 standard is a supplement to ISO9001, hence, ISO9001 clause numbers are referenced.
4.3	**Quality Management System.** All ISO9001 or IATF16949 or ISO14001 requirements and all of the requirements of this document shall be integrated into the Supplier's quality system. Delphi requires its Suppliers of automotive products and services to have a quality management system certified to ISO9001 (unless otherwise authorized); with the ultimate objective of becoming certified to both ISO 9001 and IATF16949.
4.4	**General Requirements**. Supplier's entire facility shall be registered to the applicable standard. Delphi satisfies the goal of Supplier conformity to ISO 9001:2015 and preferred IATF16949/ISO14001 as follows: a. Registration to ISO9001 or IATF16949 for Quality system applies to Suppliers that manufacture direct product or materials for Delphi. b. Registration to ISO14001 for Environment system applies to Suppliers that manufacture direct product or materials for Delphi. If supplier doesn't have it, supplier can provide a plan before the SOP, to show how they get ISO14001 certificate if agreed upon the implementation of the standard between Delphi and the Supplier. c. Delphi shall be added to the scope at Supplier's initial certification or recertification. d. Only accredited certification bodies shall be used for registration to ISO9001 or IATF16949 or ISO14001. e. Every manufacturing site of a Supplier shall be individually registered either by single site or by corporate scheme. (See IATF Certification Reference or consult the certification body.) f. A clear summary definition of what product value added process shall be included in the registration scope (example: manufacturing, assembly, etc.) along with the address for each manufacturing site.
7.5	**Control of Records.** Production part approvals, tooling records, purchase orders and amendments shall be maintained for the length of time that the part (or family of parts) is active for production and service requirements, plus one (1) calendar year, unless otherwise specified by Delphi for the respective products. This includes any Delphi owned tooling. Production inspection and test records (e.g., control charts, inspection and test results) shall be retained for one (1) calendar year after the year in which they were created. Records of inspection shall be maintained for each inspection or test performed. The actual test result (variable or attributes) shall be recorded. Records for internal quality audits and management review shall be retained for three (3) years. Some programs may require longer retention periods than specified above. Supplier may specify the longer retention period in its procedures or specifications. The above shall not supersede any regulatory requirements.

8.2.1	**Customer communication.** Suppliers registered to ISO 9001 or ISO/TS 16949 shall notify Delphi of Certificates that are revoked or placed on suspension. Supplier shall notify its Delphi SQE if it plans change registrars in a maximum of seven (7) working days after the official receipt of the accrediting body. **Manufacturing Site Change.** Supplier shall not change manufacturing location without prior written approval from Delphi's authorized change management responsible personnel. Any request by Supplier to change manufacturing location shall be submitted through SQE. Any manufacturing site changes require new PPAP. Customer Representative Change. If Supplier's customer representative changes, the Supplier shall send new contact information to SQE/Purchase representative. The official way of customer communications is by enterprise mailbox, to send and receive all type of information.
8.3.4	**Design and Development Review**. When reviewing product design and development stages, the Supplier shall participate in and execute APQP requirements. **Design and Development Verification.** The Supplier shall perform design verification to show conformance to Delphi design validation and qualification requirements. Verification methods shall be recorded with the test results. Go/No Go results should be avoided and, where available, the actual value for variables data shall be recorded. **Product Approval Process**. The Supplier shall comply with the current edition of the AIAG PPAP manual unless otherwise specified by Delphi. Delphi Technologies Aftermarket uses PPAP Level 4 to define specific submission requirements which will be communicated as required. Copies of Supplier PPAPs shall immediately be made available upon request from Delphi.
8.3.6	**Control of design and development changes.** The Supplier shall retain documentation of Delphi approval of all implemented changes for the life of the material. Delphi approval must be sought in advance for any changes to design ,process or location. Supplier shall label shipments of new or revised material per instruction from the Delphi receiving location until notified by Delphi Production Control.
8.4.2	**Statutory and Regulatory Conformity (Material Expectations).** Supplier shall provide samples, testing, environmental and MSDS (Material Safety Data Sheet) information within the timeframe stated by Delphi. MSDS is required for bulk or raw materials, and for any rust preventative, grease, lubricating oil or other chemical material that is on a part or assembly provided to Delphi. **Substances of Concern and Recycled Content.** Supplier shall disclose the composition of all parts supplied or proposed to be supplied. **Incoming Product Quality.** The Supplier shall ensure the quality of the parts it produces, its sub-supplier's quality and delivery performance and subcontracted services, including that sub-suppliers directed by Delphi meet Delphi specifications and requirements. When the Supplier determines incoming inspection of sub-supplier material is necessary, this activity shall be consistent with the risk and quality impact of the Supplier on Delphi's product quality. Such incoming inspections shall include variables data where appropriate and be used as a key indicator for sub-supplier quality management. Where high risk has been identified in the sub-contracted process, the Supplier shall ensure containment is in place to protect Delphi. For attribute data sampling, the acceptance level shall be zero defects.

8.5.1	**FMEAs.** FMEAs shall be prepared using the AIAG Potential Failure Mode and Effects Analysis reference manual unless otherwise approved by Delphi Supplier Quality. FMEAs may be written for families of parts where batch processes and common tooling are used. Families shall be clearly defined and have a full part number listing of the ftq. Family designations must be approved by Delphi Engineering and Supplier Quality. Upon request by Delphi, the Supplier shall provide a copy of the family FMEA documents for review. If the document is considered proprietary, the Supplier may provide the applicable section, or provide qualified technical support and bring the FMEA to the Delphi requestor for review without retention of copies. A letter stating the proprietary nature of the FMEA shall be included in the Production Part Approval submission package. **NOTES*:** When developing PFMEA's for production parts or material supplied to Delphi, the Delphi rating tables for 'Severity', 'Occurrence' and 'Detection' shall be used in place of the rating tables referenced in AIAG FMEA Current Edition, unless otherwise approved by Supplier Quality, based on the specific part or program circumstances. Delphi's approval of Supplier's PPAP shall serve as the approval for the rating method utilized. Potential failure modes with a severity of seven or greater shall be continually improved to reduce the occurrence to a one or reduce the detection to a five or lower. **Control Plans.** The APQP manual, available from AIAG, shall be used as a guide in developing and maintaining control plans. Supplier shall maintain a change history as part of its control plan to document implementation of changes. Supplier shall have control plans for all parts supplied to Delphi. Family control plans may be used for parts with common processes. Supplier shall clearly define the family on the control plan so that applicability is defined. The control plan shall include, as a minimum, the elements specified in ISO/IATF 16949. Supplier's design and process controls shall focus on prevention rather than detection and correction. Special attention shall be placed on the identification of input control characteristics rather than post processing inspection and containment. Repaired, reworked or out-of-process product shall be re-inspected to all control plan requirements and documented procedures.
8.5.2	**Identification and Traceability Labels**. Supplier shall package and label products in accordance with Delphi's requirements.

8.5.3	**Tool Inventory/Disposal**. The Supplier shall furnish a tool inventory of all Delphi-owned tools (active and inactive) in the Supplier's possession. The tool inventory shall be submitted to the Delphi buyer annually by January 31st. The inventory shall contain the following information for each Delphi-owned tool: Tool part number(s) (typed in numerical order) Current tool revision Description Date parts last ordered Total cost of tool Quantity of parts produced from tool Remaining tool life Previous part number if tool has been changed to produce a new part number Delphi Design Engineer name Delphi shall determine the disposition of all Delphi-owned tooling and such disposition shall be communicated to the Supplier in writing by Delphi and include a Return Material Authorization. If requested by Delphi, Supplier shall mark tooling Property of Delphi, or Property of Delphi's customer, as applicable.
8.7.1	**Control of Nonconforming Product.** The Supplier shall have an internal containment procedure that integrates the requirements of the Delphi Supplier Containment Procedure. Delphi will specify if / when Controlled Shipping is required and any costs associated with third party inspection will be paid by the Supplier.
9.1.1	**Identification of Statistical Tools.** Supplier shall use the latest AIAG Statistical Process Control (SPC) manual for manufacturing process controls and the latest AIAG MSA for measurement system equipment management.

9.1.2	**<u>Customer Satisfaction</u>.** Delphi requires Supplier to establish processes and designs to achieve zero defects and green Scorecards indicators. **Scorecards.** Delphi monitors and issue a monthly Supplier scorecard for measuring Supplier Performance in Quality, Delivery and Commercial. Supplier shall review and verify this monthly update and ensure action plans are developed as applicable to achieve green indicators. **Scorecard Usage to Drive Improvement**. If the scorecard has red indicators or quality/shipping scores, the Supplier shall establish aggressive plans to drive improvement to green. If Supplier has a yellow quality or shipping score, supplier shall develop and implement action plans to improve to green. Control shipping is used and based on the conditions of Scorecard indicators and also for non-conformity identified in supplier side, it can protect Delphi and customers and push supplier solve quality issues in time. Normally it include 2 level, called “control shipping level 1” means suppliers do tighten control by themselves, “control shipping level 2” means besides supplier self-tighten control, 3rd party pointed by Delphi double control for products. Currently the pointed 3rd party company is 4Es, and all cost for control shipping level 2 need paid by supplier. If Supplier is in Controlled Ship Level 2, in New Business Hold or has a twelve (12) month average score of red on its quality and/or shipping scorecard, supplier shall expedite appropriate corrective action steps. In addition, supplier shall notify its registrar in writing within 5 working days of being placed on Controlled Shipping Level 1, 2 and/or New Business Hold.
9.2.2	**Internal Audit.** Supplier’s internal auditors shall be qualified as recommended in ISO 19011 Guidelines for quality and/or environmental management systems auditing. In addition, its internal auditors shall be competent in understanding and applying the Process Approach of Auditing (see ISO/IATF 16949) and the AIAG. **Supplier Development of Specially Designated Small Sub-Suppliers of Direct Automotive Product and Materials.** When a sub-supplier to Supplier is so small as to not have adequate resources to develop a system according to ISO/IATF 16949 or ISO 9001, or supplies non-engineered products, certain specified elements may be waived by the Supplier. “Small” here may refer to the volume supplied to the automotive industry or to the sub-supplier’s annual sales volume. Supplier shall consistently apply the assessment criteria below to determine the specially designated sub-suppliers to which this provision may apply. At a minimum, Supplier shall assess the sub-supplier’s size, dollar value of the business, type of product supplied, quality system, manufacturing and delivery systems capability and any risk to Delphi caused by the sub-supplier’s failure to develop a quality system. In addition, Supplier shall ensure that sub-suppliers develop a quality management system that facilitates defect prevention, monitoring and improvement.
9.3	**Management Review.** The Supplier Management shall hold regularly scheduled quality / business operating system performance meetings to review the customer-focused metrics, objectives and performance trends. Quality (Problem Cases) and OTIF delivery metrics shall be included in the Supplier’s management reviews and shall use zero defects (PRRs) and 100% on time as the goals.

10.2	**Corrective Action.** Problem Case (PRR) Response: Supplier shall monitor and respond to all PRR issued by Delphi. Supplier shall complete a 5-Why Analysis as a means of ascertaining and verifying root cause analysis. Delphi shall communicate any cost recovery to Supplier with a Problem Case and through a cost recovery notice. Supplier shall respond to the cost recovery notices within seven (7) working days. Problem Case (PRR) Process: Step 1: Problem Identification. Delphi Technologies Aftermarket provides a detailed description of the problem and its impact. Step 2: Supplier's Initial Response & Containment. Actions required ensure the customer is protected from receiving further non conformances. Response required within 1 business day. Step 3: Delphi Accepts or Rejects Initial Response. Reply required within 1 business day. Step 4: Supplier Determines the Root Cause(s) Detailed investigation of what caused the problem. Delphi prescribes 5 why as the tool to determine root cause. Step 5: Supplier Develops Corrective Action/Solution. Actions taken to eliminate the root cause. Step 6: Supplier Implements and Verifies the Corrective Action. Detail of dates and plans for implementation and verification that the corrective action is effective. Supplier final response required within 15 calendar days. Supplier may submit an extension request. Step 7: Delphi Accepts or Rejects Final Response Reply required, including extension request, within 2 business days. Step 8 Supplier provides verification evidence data, charts or other documents as requested. Step 9: Delphi evaluates verification evidence and accepts or rejects response based on the evidence. Step 10: Delphi Closes the Problem Case (PRR)
	Other Delphi Technologies Aftermarket Requirements:
	End of Life Vehicle Directive. Declaration of Compliance with ELV Directive (2000/53/EC),REACH (EC) No 1907/2006 and Carriage of Dangerous Goods
	Conflict Minerals. Suppliers must be compliant with the EICC's and GeSI's tools and processes that support the management of Conflict Minerals Reporting, the EICC Code of Conduct and GeSI's responsibility audits.
	Block Exemption. Supplier commitment to Commission Regulation (EC) No. 1400/2002 compliance for the parts provided to Delphi Technologies Aftermarket.

	Ethics. All Delphi employees must conduct their business activities with suppliers exhibiting the highest ethical standards. Such conduct enables Delphi Technologies Aftermarket to have mutually beneficial relationships with its suppliers. If a Delphi employee solicits a gift or favour from your company, the request is to be tactfully declined. The solicitation of gifts from suppliers by Delphi Technologies Aftermarket Employees is strictly prohibited. In the event a Delphi Technologies Aftermarket employee does solicit a gift from your company, the Delphi Ethics Line should be notified. The phone numbers for the ethics line are provided on the following link: Ethics Line & Gift and Gratuity Policy.
	EDI. Supplier agrees to implement, as required, EDI communication for transmittal of schedules and ASNs. All goods and services should have a Purchase Order document associated with them. Work must not commence without proper authorization from Delphi Global Supply Management in the form of a Purchase Order.
	Proactive containment on first delivery. The Supplier shall have an early containment procedure for any new product launched. Delphi will specify if / when third party inspection on first delivery is required and any costs associated with third party inspection will be paid by the Supplier.
	PSO. The OEM direct material suppliers of Delphi Technologies Aftermarket must have the post, supplier also need provide the person's contact information to Delphi Technologies Aftermarket SQDE. The PSO reports directly to management, ensures the quality of information (clearly specifying the characteristics of the defect, its definition, the probability of failure, etc.) and the confidentiality of communication. The PSO must have ability to suspend components for the current series
	QFS. The supplier continually have poor quality performance (2 continual Quarterly score card are "RED"), Delphi Technologies Aftermarket will defined them as "Quality Focus Supplier". SQDE will use onsite audit/training/resident etc. methods to help supplier improvement in 6months, to exit QFS route. All the cost during such period, include travel/meal/hotel/labour cost ($25/hour) will charge to supplier.
	Warranty. For any warranty & return issues, Delphi Technologies Aftermarket warranty handling process shall be followed, ask responsible SQD for any query or assistance in your region.
	PPAP. Approved PPAP must be obtained prior to any delivery, Delphi Technologies Aftermarket keeps the right to disposal for any violation.

Change Log	***Date:***
Update DPSS for Delphi Technologies Aftermarket	01/23/2018
Insert clause 9.1.1	01/23/2018
Section 4.4 for “preferred” IATF16949:2016	01/23/2018
Change all clauses number to reference ISO9001:2015	01/23/2018
Updated on Standards, cover page	09/27/2017
Section 2. Normative Reference Documents, new requirements added	09/27/2017
Section 3. Terms and Definitions, added ASN	09/27/2017
Section 4.1, update “preferred” ISO14001, item b updating the plan option for ISO 14001 certification for suppliers do not have.	09/27/2017
Section 4.2.2 update according Corporate CSR	09/27/2017
Section 4.2.4 deleted “(Refer to Section 8.2.4.1)”	09/27/2017
Section 7.2.3 added entire section according corporate CSR	09/27/2017
Section 8.2.1 update clarification about Scorecards, CS1, CS2 and notification	09/27/2017
Section “Other Requirements”, Added information about Warranty and PPAP	09/27/2017