1.0 INTENDMENT

Aim of this manual is to inform all product and service suppliers of regarding minimum requirements of DLGPLAST and also, quality management system requirements.

DLGPLAST SUPPLIER QUALITY MANUAL (DLGPLAST) is prepared based on IATF 16949 Quality System Requirements developed by International Automotive Task Force (IATF).

The purpose of IATF 16949 is to develop a quality management system providing continueous improvement at supplier chain based on customer special requirements and risque based idea, error – proofing, providing product safety, reduction of contamination quantity and change in supply chain.

2.0 CONTENT

This manual determines requirements regarding supplier selection, new product start-up and modification processes, product quality requirements, IATF and DLGPLAST requirements, environmental liabilities and monitoring suppliers. At those stages, responsibilities are defined those are incumbent on DLGPLAST and suppliers.

3.0 PURCHASING REQUIREMENTS

3.1 New Supplier Evaluation

In order to be approved as the supplier of DLGPLAST, the supplier should have a plan to fulfill IATF 16949 requirements. Besides that, the nominee minimum should have a certification of ISO 9001 taken from an accredited organisation. IATF 16949 and ISO 14001 certificates are assets and companies those have IATF 16949 and ISO 14001 certification are preffered with priority.

A pre – evaluation is done by purchasing department for nominee and in case of conformity, a process and system evaluation is done by Supplier Quality Engineers (STA),or QM with P04 Fr01 Supplier Information and Selection form

According to the result of evaluation;

- If general average is 3 points and over 3 points, it can be co – operable. The supplier is included in Approved Supplier List.
- If general average is 3<GA<2, it can be co – operable in case improvement actions are fulfilled. Afterwards, the supplier is included in Approved Supplier List.
- If general average is below 2 points, decision is that it is an unworkable supplier.

If prospective supplier is abroad; support is taken from GA STA. According to new supplier assessment done by GA STA, a decision is given following the evaluation of Buyer and STA.

The result of evaluation is distributed to all as a report.

STA.SZ.0001 General Purchasing Contract is signed with suppliers to be included in approved supplier list. This contract defines mutual rights and liabilities of DLGPLAST and supplier and constitutes the legal basis. Contract is withholded as original copy by both sides.
In the projects of the OEM companies demanding VDA 6.3 (Volkswagen, Daimler, BMW, Audit, etc.), supplier potential analysis audits will be made as defined below.
** VDA 6.3 Potential Supplier Audit; At the stage of approval of suppliers to be worked on new projects, it is applied.*
Result Evaluation;
Red: Question requirements could not be met.
Yellow: Question requirements are partially met. (no product risk)
Green: Question requirements are met

1) If there are 12 or more YELLOW or 1 RED result in all results, the Supplier is included in the Banned group, the contract cannot be made.
2) If a maximum of 12 YELLOWS (NO RED), the Supplier enters the Conditionally Approved group, and contracts can be made under defined conditions.
3) If a maximum of 6 YELLOWS (NO RED), the Supplier enters the Approved group, and contracts can be made.

3.2 Delivery

Suppliers should constitute a reliable delivery system to provide delivery 100% in time and required quantity. Responsibilities sourced by delivery problems are belonged to the supplier. The supplier responsible from delivery of order in time, is responsible all expenditures made for meeting the demand of DLGPLAST in case of outdated deliveries.

3.3 Incoming Quality Control

For all products supplied, dimensional measurement reports, material test reports, raw – material test reports should be sent to DLGPLAST Incoming Quality Engineer via e-mail or VSRM for each related delivery.

3.4 Tools

All tools, apparatus, assembly units, control fixtures, test and inspection equipments, utilized for products delivered to DLGPLAST, should be labeled/marked including all required information of their owners. The responsibility of maintainance and renewal if required are belonged to the supplier. It is **forbidden** for suppliers to use those tools for any other companies or for manufacturing of any product without taking any permission from DLGPLAST and its Customer.

3.5 Packaging

DLGPLAST and its supplier should have an agreement on a packaging method conforming trasportation requirements and features of product. Unless otherwise stated, DLGPLAST purchasing order number, product identification and engineering level, quantity, supplier name, lot traceability number, production date, expire date for lifed items and label including related barcode should be available on all packages. All different products should be delivered packaging separately and should not be mixed with other products.

3.6 Contingency Plan

Suppliers should perform risque analysis for potential situations preventing their components to be delivered to DLGPLAST and should create a contingency plan accordingly. In this plan, all risques affecting supply of products should be evaluated and countermeasures and alternatives to possible risques should be determined. Supplier should inform related people in DLGPLAST in case an emergency case occurs, affecting supply of product(s) negatively.

3.7 Subsuppliers

Without any written approval of DLGPLAST, it is **forbidden** to transfer whole or a part of production responsibility of a product to sub-suppliers. In case such a situation is detected, co – operation with related supplier is reviewed and if required, contract is partially or completely abrogated. All nonconformities sourced by this case and damages possible to be occured are charged to the supplier.

3.8 Traceability

Supplier should provide all conditions regarding product's cad data, technical drawing and tracebility defined in related specification. For products those can not be marked should be labeled on their packages to provide traceability.

3.9 Confidentiality

All suppliers procuring sub-components/raw – materials and services are liable with respecting to confidentiality conditions of DLGPLAST and Its Customers.

3.10 Purchase Contract

All suppliers procuring sub-components/raw – materials and services are liable with respecting to general purchasing conditions.

4.0 ENVIRONMENT REQUIREMENTS

DLGPLAST has a production compatible with ISO 14001 Enviroment Management System requirements. It is also liable to obey customer special requirements and actual legal statute as a requirement of this system. Likewise, all suppliers procuring sub-components/raw – materials and services are liable with acting in this context.

Suppliers should obey related legal and local regulation of countries where they have production and products to be marketed. DLGPLAST encourages its suppliers to have ISO 14001 Environment Management Certificate.

For all chemical raw – materials, Material Safety Data Sheets (MSDS) should be distributed to DLGPLAST Purchasing Responsible at the beginning of projects. If the content of the product is changed, actual/revised MSDS should be delivered with the component.

4.1 REACH

REACH is a European Union Regulations forecasting the registration, evaluation, permission and restriction of chemicals. It become valid on 01.06.2007, it includes a series of EU regulations and rules and gather them into a single system.

Suppliers should assure their products delivered to DLGPLAST, according to REACH conditions. DLGPLAST asks their suppliers to constitute their supply chain and to fulfill the obligation of to give them information included in REACH. REACH is valid for all branches including Automotive Industry (AI). As the automotive industry, vehicle producers, all their suppliers and sub-suppliers have roles and responsibilities included in REACH. “REACH Manual For Automotive Industry” is developed by automotive industry representatives all over the World for explaining the responsibilities regarding REACH.

Please see links below to access the manual and information regarding REACH

- http://www.acea.be/publications/archives/category/reference-documents
- www.ec.europa.eu,
- http://reach.immib.org.tr/tr-tr/REACH-Tuzugu

4.2 End-of-Life Vehicles (ELVs) / International Material Data System (IMDS) Reporting

End Of Life Vehicle Directive 2000/53/EC and EU applications aims to prevent contamination sourced by scrapped vehicles, and to generalize gathering, recycling and reusing sub-components of those vehicles in order to protect environment. Whilst ELV Directive determines clear targets regarding reusage, re-cycling and recovery of vehicles and their sub-components, also encourges producers to produce recyclable vehicles.

Except some particular conditions published on Directive Appendix II, usage of lead, mercury, cadmium and sexivalent chrome is forbidden. This is a mandatory requirement for vehicle manufacturers at goverments which has membership to EU, North America and Japanese vehicle manufacturers.

In addition to ELV Directive, EU Directive, it is mandatory to respect EU Directives restricting some flame retardant materials such as polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PDBEs), other legal requirements such as 2002/95/EC (RoHS) / 2002/96/EC ve 2003/11/EC. According to those directives, PPBs and PDBEs should not be included in products and materials delivered to DLGPLAST.

All suppliers are obliged to respect legal requirements for all parts and materials delivered to DLGPLAST as mentioned above.

As a part of production part approval process, supplier should report all chemical materials including products and raw materials delivered to DLGPLAST by utilizing IMDS. IMDS submission should be accomplished before DLGPLAST approves the product/sub-component.

For IMDS reporting, web site www.mdsystem.com is used. IMDS reporting should include DLGPLAST part number, part identification, revision date. MDS prepared is sent through the system to **DLGPLAST Panel Sanayi ve Tic. A.S. ID: 188057**.

4.3 OEM Environment Requirements

Suppliers of DLGPLAST are expected to respect forbidded/restricted material specifications belonged to OEM which they provide sub-component and service.

OEM forbidden / restricted material specifications:

- Ford Otosan : RESTRICTED SUBSTANCE MANAGEMENT STANDARD / WSS-M99P9999-A1
- Tofaş : FIAT AUTO CHEMICAL PRODUCTS QUALIFICATION PROCEDURE / 9.01102
- Toyota : CONTROL METHOD FOR SUBSTANCE OF ENVIRONMENTAL CONCERN /TSZ0001G
- Renault : RENAULT AUTOMOBILES STANDARDS / RENAULT V.I. 00 - 10 - 050
- Honda : CHEMICAL SUBSTANCE GUIDELINE
- Karsan : FORBIDDEN CHEMICALS LIST

4.4 Product Safety

Requires a management role defined as product Safety & Conformity Representative (PSCR)
In order to ensure compliance with legal and customer requirements related to Product Safety, suppliers must notify DLG "Product Safety and Compliance Responsible" for all products requiring safety

5.0 NEW PRODUCT START-UP AND ENGINEERING CHANGE MANAGEMENT

5.1 Advanced Product Quality Planning (APQP)

In new product start-up process, regarding product(s) to be procured by suppliers;

- Technical Drawing,
- Cad-Data,
- Customer specifications regarding the product,
- Test requirements the customer requested,
- Significant characteristics information regarding the product,
- In case the customer inform, all applicable legal and regulatory requirements (legal requirements of the country where the vehicle to be produced and sold)
  are shared with suppliers by DLGPLAST project responsibles (engineering, purchasing, STA). Suppliers perform studies to produce parts compatible with requirements indicated above in new product start – up process. Suppliers should distribute all those requirements to all production sites in supply chain affecting those products and assure the implementation of those. Evidences regarding procurement of those requirements should be submitted in PPAP package to DLGPLAST.

5.2 Product Development Plan

Advanced Product Quality Planning (APQP), aims to create a system providing services to customers with shortest time and low cost by determining how to actualise production towards Automotive Industry, which conditions to get into use; materials, machine, human, money and methods required whilst manufacturing.

APQP is a structural method to get, required steps for providing customer satisfaction, defined and actualised. It is a tool facilitating communication between related people for completion of actions to be done in time.

APQP avails issues of that leading sources for customer satisfaction, foreseeing required changes, providing quality product with low cost and in time.

APQP process, regarding new projects for sub-components those require investment (tool, apparatus, assembly line, control fixture, control bench), starts following nomination letter is issued by Purchasing department. APQP plan is created in keeping with project steps mentioned on OEM project plan. APQP plan is prepared utilizing Supplier APQP workbook. This plan is composed of 4 phases; project start – up, product – process definition, PPAP and Product – process approval, and start – up headers. At each phase, for min. one time, project review meetings are done with the participation of all related staff (STA, Project Engineer, Purchasing Responsible, Supplier Contacts) and outcomes of meetings are recorded within APQP Plan.

DLGPLAST uses interdiciplinary team approach for APQP management. Typical interdiciplinary APQP team comprises with the participation of representatives from sales, engineering, production, quality, purchasing, logistics and suppliers.

DLGPLAST requests suppliers to create a interdisciplinary functional team for coordinating their own APQP activities and applying APQP method.

5.3 Sample Submission and Evaluation

Suppliers are responsible for creating a Product Development Plan (PDP) including required utensils, production and quality planning activities to provide quality products and delivery in time to DLGPLAST. The format of supplier's plan is optional. However the plan should be compatible with general project steps of OEMs.

Supplier should creat PDP and submit related DLGPLAST Project Responsible and Supplier Quality Engineer. This plan should minimum include items mentioned below:

- **Main Programme** – It should include delivery time required by DLGPLAST.
- **Tools Preparation Programme** – It should include equipment preparation periods regarding tools, apparatus, control fixtures, assembly units and etc.
- **Supplier Trial and Sample Manufacturing Programme** – It presents supplier production improvement trial studies and sample production time. This production trials should support the trials to be submitted to customers by DLGPLAST.

- **Quality Planning Requirements** – Planlanning is presented with finish dates fitting its purpose. It should include minimum documents indicated below.

  - Process Flow Chart
  - Process FMEA
  - Control Plan
  - Inspection Standards
  - Engineering Change Records

5.4 First Sample Submission

5.4.1 Prototype Submission

Those are samples requested from suppliers responsible for design in order to actualise the design at development studies and new made designs.

During prototype production, supplier must provide requirements for specifications and stardards determined regarding technical drawing and related product. Prototype parts should be reported with 5 samples as below. Besides amount of samples determined as required should be delivered to DLGPLAST. Documents to be submitted with prototypes are mentioned as below:

- Prototype dimensional control report,
- Extensive material analysis report,
- Test reports indicated on standard and specifications,
- Heat treatment or coating report if required,
- If available, derogation and change requests

5.4.2 Production Part Approval Process (PPAP)

5.4.2.1 First Sample Submission

During first sample submission, parts to be made are produced in serial production conditions and supplier production parts are requested for approval process. Expectation regarding first sample submission is that delivering parts 100 % conforming technical drawing and specifications. First sample submissions are performed with 5 parts. Parts stamped by multi-cavity tools and more than one tool should be submitted as 5 parts per each cavity and each tool. Samples are submitted with PPAP or ISIR package varying due to customer requirements.

5.4.2.2 PPAP Submission

PPAP should be submitted as in phase three (PPAP 3). Unless otherwise stated, documents for approval of each new component and required in the content of PPAP are listed as below:

- Part Submission Warranty Letter – PSW
- Sample product

- Final Level Technical Drawing
- Part Measurement Report (Balooned technical drawing included)
- Material – Performance Test Report
- Design FMEA (For suppliers responsible for part design)
- Process Flow Chart
- Process FMEA
- Control Plan
- Machine – Process Capability Study
- Measurement Systems Analysis - MSA
- TDS regarding the Raw Material (Technical Data Sheet)
- Appearance Approval Report (If required)
- Measurement/ Verification Reports regarding Control Equipment
- In case the customer informs, all evidence regarding the product meets all applicable legal and regulatory requirements.
- Capacity document
- IMDS Report
- Packaging Approval Page
- Source Change Table
- Deviation Request (If available)
- Engineering Change Request (If available)

Supplier to be prepare PPAP package base on the content above and uphold one copy within. Unless otherwise stated, whole documentation stated above should be delivered to DLGPLAST as a file.

PPAP files submitted are reviewed in the scope of content and conformity by the related/dedicated Supplier Quality Engineer (STA). Correction is requested from the supplier in case of any nonconformance is detected. After proper PPAP submission approval, Part Submission Warranty Letter (PSW) is signed, and sent a copy to the supplier. After approval of PSW, supplier can give the start to serial production.

For further information regarding PPAP, please see the last edition of AIAG PPAP Reference Manual.

Suppliers involved in OEM projects implementing the VDA quality system agree with the PPA Agreement document for the documents to be submitted in the PPA file according to VDA 2 Section 5 before the PPA presentation. "Cover Sheet PPA Report" is used according to VDA 2 Chapter 6 in the presentation as a commitment to ensure the quality level of suppliers.

Part Submission Warranty Letter – PSW

Part Submission Warranty is an undertaking that suppliers should maintain the situation of parts to be delivered in the same manner with production analyses and data, proper measurement tools and devices approved on PPAP initially submitted, throughout the serial production lifetime of the project.

Signiture on PSW, done by DLGPLAST Supplier Quality Engineer (STA) and Quality Assurance Manager, means that final approval is given to the related part. Supplier to be prepared a PSW package for each new reference part to be delivered to DLGPLAST.

Sample Part

Sample part is the part submission according to the technical drawing and related specifications. Submissions to be done with 5 sample part (measured for full dimensional report if possible). 5 sample part should be sent for each tool and for each cavity.

Final Level Technical Drawing

Technical drawing of part (detail parts included) to be given to the supplier unless otherwise stated. Final level of technical drawing should be taken as reference whilst PPAP package got prepared.

Sample Part Measurement Report

All characteristics to be measured indicated on technical drawing of the part. Full measurement should ve completed before approval of part and reports should be submitted in PPAP package to DLGPLAST.

Material – Performance Test Report

Test reports, determined on standards and specification related to raw material and performance requirements, to be supplied by the supplier. Those tests should be accomplished before PPAP approval and reports should be submitted in PPAP package to DLGPLAST.

Process Flow Chart

Process Flow Chart is the illustration of all required consecutive processes regarding the production and control of a product, semi – product or a part and that is prepared with basic symbols those can be easily understood. Flowchart also helps for development of PFMEA and Control Plan.

Process FMEA

FMEA (Failure Mode and Effects Analysis) should be done as systematic activies including detections of failures occured in process or product and evaluation regarding possible affects of those failures; determination of required error proofing activities regarding prevention of possible failure occurences; required controls and documentation of all those in order to detect failures if they can not be prevented. P-FMEA should ve reviewed and keeped current as it is a live document.

For further information regarding P-FMEA, please see the last edition of AIAG APQP Reference Manual and AIAG FMEA Reference Manual.

Control Plan

Control plan is a black and white explanation of systems used for decreasing down variations in process and product to minimum level. Control plan provides a structural approach to get products manufactured conforming customer requirements. Control Plan is an inseperable part of total quality process and it should be periodically reviewed and keeped current as it is a live document.

Control plan defines required activities at all phases of process. Control plan provides monitoring of processes and control methods regarding control of characteristics to be used during serial production. As continueously

revising and improving of processes is expected, control plan should reflect a strategy answering those changes.

For further information regarding Control Plan, please see the last edition of AIAG APQP Reference Manual.

Machine - Process Capability Study

Machine and Process capability study should be performed with minimum *125* parts for critial characteristics determined on technical drawing.

Process capability and performance should be maintained in just the same way as the first sample approved;

Indicator Value ≥1,67	Process meets DLGPLAST requirements.
1,67 ≥ Indicator Value >1,33	Process can be accepted, but an improvement may be needed. If it is not improved before serial production, changes on control plan are necessary.
1,33 ≥ Indicator Value	It does not comply with process approval criteria.

Situations when those values can not be reached, improvement studies to be got started by initiating 100% control implementation. 100% control should not be permanent/preventive action. Execution should be initiated planning required improvements in process and target values should be catched.

For further information regarding SPC, please see the last edition of AIAG SPC and APQP Reference Manual.

Measurement Systems Analysis - MSA

MSA study should be done for all measurement tools and gauges cited on Control Plan and conformity reports should be available in PPAP package.

MSA evaluation and confotmity criterias as like below.

%GRR	
Under %10	Measurement system acceptable
Between %10 to %30	Possibly acceptable, depending upon use, cost etc.
Over %30	Need serious improvement
ndc must bigger than 5 or equal to 5: ndc≥5	

For further information regarding MSA, please see the last edition of AIAG MSA Reference Manual.

Appearance Approval Report

Supplier should get apperance approval report from DLGPLAST for products indicated as visual product.

Control Equipment/s Measurement/ Verification Report

A measurement report proving conformity of control fixture and gauges should be submitted in PPAP package.

Evidents For Assurance Of All Applicable Legal and Regulatory Requirements Regarding The Product

In case customer declares, all applicable legal and regulatory requirements (legal requiements of the company where the vehicle to be produced and sold) should be delivered horizontally to all production facilities in supplier chain and to be assured that they are implemented. Evidence of those implementations should be submitted in PPAP package.

Capacity Document

Supplier should perform capacity analysis for production processes of related part with using format determined by customer or DLGPLAST format if customer format is not available. Additionally, supplier should submit this capacity verification study as a document in PPAP package.

IMDS Report

IMDS is a global databank gathering information regarding materials used in automotive industry. IMDS is prepared by considering rules and restrictions, national and international standards. Purpose of IMDS is to prevent usage of forbidden materials, and control the usage of restricted materials.

For that aim, DLGPLAST asks its suppliers for IMDS report in PPAP package.

Packaging Approval Page

DLGPLAST requests that packaging and delivery conditions for products should be identified on logistics condition sheets and should be submitted in PPAP package.

Source Change Table

DLGPLAST request that the supplier should provide a table consists of its sub-suppliers of raw – material, auxiliary material, heat treatment and coating if available, and alternatives of all those, in PPAP package submission.

5.5 Engineering Change Management

Suppliers should have a system in order to follow and control engineering and process changes.

5.5.1 Engineering Changes

If engineering changes required on product(s) delivered to DLGPLAST, DLGPLAST Purchasing Department declared those changes to suppliers in black and white, and technical drawings, cad datas, etc related to those changes are shared with suppliers. Supplier should analyze the situation related to changes and tools, apparatus, control fixtures, assembly units, etc affected by those changes and should prepare a schedule plan accordingly. Suppliers should achieve their actions regarding those engineering changes with respect to the schedule plan prepared proper to target dates determined by DLGPLAST. Before installment of those engineering changes, supplier are responsible with updating all their process and quality documents according engineering changes.

After engineering changes, suppliers should revise PPAP files, and submit new sample and PPAP package. Following PSW approval by DLGPLAST, engineering change is approved and deliveries continues over the new level of product.

Engineering change level of all products delivered to DLGPLAST should be inscribed obviously on labels. Besides, they should create and reserve a document indicating history of all engineering changes on each product.

5.5.2 Modifications At Suppliers

Suppliers should get approval from DLGPLAST for situations mentioned below. None of changes mentioned below may be done without approval of DLGPLAST. For each modification done, sample and current PPAP package should be submitted. Following PSW approval by DLGPLAST, modification can be approved.

- Renewal/modification/addition/re – organisation of machine tools/ production utensils and tools,
- Change in process, method or production,
- Transfer of utensils and equipment to another field in site or another company;
- Change in service, material or part supplied from a sub-supplier,
- Reactivation of serial production utensil or equipment after 12 months or more,
- Any change in test or control methods,
- Changes in apperance of a product.

6. MONITORING SUPPLIERS

6.1 Supplier Evaluation

DLGPLAST has created its criteria in order to evaluate suppliers and determine their levels. Supplier evaluation processes are executed on VSRM portal. Suppliers can follow and monitor their performance and levels over this system.

Ototorim has created three types of calculation criteria according to the product supply source.

- **Local Supplier Evaluation Criteria (Standard Template)**

Logistics Performance	**40 Points**
Sub Category	**Point Weight**
Delivery Performance	%70
Performance of Liability to Packaging and Delivery Standards	%10
Providing Material Certificates and Other Documents	%10
Supplier - Sourced Overfreight	%10
Material Quality Performance	**60 Points**
Sub Category	**Point Weight**
8D Performance of Taking Permanent Action (D8 Step In Time)	%20
Performance of Nonrecurring Claims	%20
Performance of Claim Notification (Number of 8Ds)	%20
PPM Performance	%40

- **Foreign Supplier Evaluation Criteria**

Logistics Performance	**40 Points**
Sub Category	**Point Weight**
Delivery Performance - Import	%70
Performance of Liability to Packaging and Delivery Standards	%10
Providing Material Certificates and Other Documents	%10
Supplier - Sourced Overfreight	%10
Material Quality Performance	**60 Points**
Same As Local Suppliers Evaluation Sub Categories	

- **Kanban Suppliers Evaluation Criteria**

Logistics Performance	**40 Points**
Sub Category	**Point Weight**
Delivery Performance	%5
Performance of Liability to Packaging and Delivery Standards	%10
Providing Material Certificates and Other Documents	%10
Supplier - Sourced Overfreight	%10
Kanban sevkiyat performansı	%65
Material Quality Performance	**60 Points**
Same As Local Suppliers Evaluation Sub Categories	

According to the point as the result of those calculation criteria, supplier grade is determined for monthly and three – month periods. Grades of suppliers are listed as below.

Grade	Point	Situation
A Grade	100≥X>85	Expected performance interval. The company that is preferred and convenient to collaborate.
B Grade	85≥X>60	The group of companies that have development potential and expected to be developed.
C Grade	60≥X>0	The group of companies that have untolerable risque. They should improve their performance.

B Grade Suppliers: Their performance is monitored. Improvements requested from supplier in order to have them upgraded to A level.

C Grade Suppliers: An action plan regarding criteria blighting is requested from suppliers detected as C level in the end of a 3 month period. Upgrading of supplier is monitored during next 3 month period. Process audit is applied to suppliers those are not improved in the second 3 month term and supplier development is tracked by following – up actions come out of the audit. After the end of third 3 month term, suppliers those make no progress are escalated to Purchasing Department. Purchasing department should take required precautions for those suppliers. (setting a new project, decrement in order quantites, order cancellation). Support of Quality and Purchasing Dep. in Grupo Antolin is requested for global suppliers.

6.2 Grupo Antolin Supplier Escalation Process

Suppliers those have not enough performance for PPM, total 8D, recurrent 8D, supplier failure causing customer claim and PSW approval in time; are evaluated monthly by Supplier Quality Engineers, 3 most underperformer local and foreign suppliers are escalated to Grupo Antolin.

Grupo Antolin Escalation System composed of 3 levels:

LEVEL 1- Inconvenient Supplier Performance: It is the beginner level for escalation. Action plan is requested from supplier. Supplier that make progress next month is subtracted from escalaton list. Supplier that make no progress may be downgraded to LEVEL 2.

LEVEL 2- Insufficient Supplier Action Plan: Suppliers those make no progress next month are downgraded to Level 3. Suppliers catched the target by making progress are upgraded to Level 1.

LEVEL 3- Critical Supplier: Grupo Antolin Purchasing department organise meetings with supplier manager in order to solve problems. If progress is not satisfactory, bussiness hold procedure is applied to the supplier.

6.3 Defective Products

6.3.1 Defective Product Detected At Incoming Quality Control

In case nonconforming product(s) are detected during incoming quality control processes, all products belonged to that batch get blocked. After blockage, rejection or contiditional acceptance is decided. Conditional acceptance is given according to the quantity or particular period of time. This decision is given after a meeting with the supplier. If rejection decision is given, pick-up of returned goods and delivery of conforming level of

product are requested. Blocked products can be decided to be sorted by DLGPLAST staff according to emergency condition and considering stocks in supplier. For sorting process, approval of supplier is required in black and white. In this process, supplier should control stocks belonged to nonconforming product and should provide conformance.

8D is opened to a supplier whilst same defect detected at successive two deliveries.

6.3.2 Supplier – Sourced Defective Product Detected In DLGPLAST Production Line

Notifications sent to suppliers regarding nonconforming products sourced by them and detected in DLGPLAST line. If required, towards the failure, a sorting in DLGPLAST and supplier stocks is organised with the supplier. In case defected sub – components are assembled as semi – product or product, all stocks regarding DLGPLAST products and semi – products containing suspected sub - components are sorted by DLGPLAST staff and sorting labour cost is charged to suppliers. All rejected sub – components are returned to suppliers. Semi – products and products including defected sub – components are examined by supplier contacts, scrapped within DLGPLAST, and the cost is charged to suppliers. The quantity detected in production line is reflected to supplier's PPM. Warehouse stock sorting regarding failure occured out of the production line and defected products detected at the result of this sorting are not reflected to supplier's PPM.

If quantity of defect is not singular, 8D claim is opened to the supplier. If the type of defect is functional and this defect affects functionality, operating, safety and statutory characteristics, 8D claim is opened without considering the quantity of defected products. Also recurrent failures occured in process are issued to 8D claims.

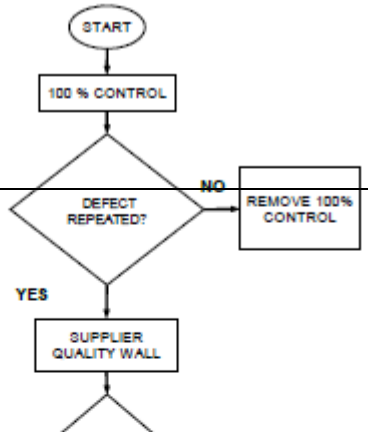
6.3.3 Supplier – Sourced Defective Product Detected At Customer Line and End – User

Notifications sent to suppliers regarding nonconforming products sourced by them and detected at customer lines and end – users. Semi – products and products including defected sub – components are examined by supplier contacts, scrapped within DLGPLAST, and the cost is charged to suppliers. The quantity detected in production line is reflected to supplier's PPM. Related costs regarding supplier sourced defects (costs related sortings at customer site, sortings on vehicle, and at finished product stocks of DLGPLAST, quality wall installed at customer site) are charged to suppliers.

8D is opened for supplier –sourced defects detected at customer line and end – user.

6.3.4 Quality Controls of Nonconforming Products In Supplier Site and Quality Wall Management

Non singular defects detected in DLGPLAST lines, if defect type is affecting functionality, operation, safety and regulation issues of product, and if there are supplier sourced defects detected at customer site, the quality control system is settled as in the flow – chart below.

Quality Claim		
%100 Control In-Line		First 3 batch is 100% controlled following quality claim and a determined marking is done on a non-visual surface of the product, if applicable. Inscription regarding 100% control must be located on packages.

		100% control is removed in case there are no nonconforming product in 3 batches delivered 100% controlled. Quality wall is settle in supplier's site in case of the recurrence of the issued problem.
Quality Wall (SUPPLIER)		**Quality Wall Settled By Supplier** to be continued until permanent actions are taken and no defects found on quality wall. STA of DLGPLAST confirms the efficacy and capability of the quality wall and countermeasures taken (by a process audit, if necessary). A determined marking is done on non-visual surfaces of products controlled, if applicable. Inscription regarding 100% control must be located on packages.
		Quality wall is removed by the confirmation of DLGPLAST STA in case there are no defects found on quality wall after countermeasures are taken. Quality wall is settled by a third – party company in case of the recurrence of the issued problem.
Quality Wall (3rd Party)		**Quality Wall Settled By Third Party Company** to be continued until permanent actions are taken and no defects found on quality wall. STA of DLGPLAST confirms the efficacy and capability of the quality wall and countermeasures taken (by a process audit, if necessary). A determined marking is done on non-visual surfaces of products controlled, if applicable. Inscription regarding 100% control must be located on packages.
		Quality wall is removed by the confirmation of DLGPLAST STA in case there are no defects found on quality wall after countermeasures are taken. Without completion of permanent actions and prevention of the recurrence of the issue on quality wall; it is not removed from the third party company.

6.4 Corrective and Preventive Action – 8D Management

8Ds are opened and followed-up by DLGPLAST over VSRM system. Suppliers fulfill 8D steps over the system according to actions taken according the claim. Also evidence documents related actions are recorded to the added files section regarding 8D study.

Taking Action Time for 8D steps are listed as below:

- D0-D3 steps: 24 hours
- D0-D5 steps: 5 days
- D0-D6 steps: 14 days
- D0-D8 steps: 30 days

Suppliers should complete 8Ds opened according to action target dates. 8D study that can not be completed in 30 days affect supplier point negatively. If investments needed actions are pending to fulfill 8Ds, supplier may request additional time by notifiying the situation.

8D studies fulfilled up to D8 step are checked by Supplier Quality Engineer in terms of effectiveness and conformity. 8D studies, which are nonrecurrent, taken actions effectively, verified at supplier's site, are closed. Otherwise, 8D steps are rejected and new actions are requested from suppliers.

Recurrency of defects issued to an 8D indicates actions taken are not sufficient and effective. This situation also affects supplier point negatively. Suppliers are obliged to provide taking permanent actions and perfoming root cause analyses in the right way.

6.5 Audit

6.5.1 Audit At Supplier Site

For suppliers directly affecting the production, Annual Supplier Audit Plan is prepared according customer special requirements, project start-up process, product quality level, escalation situation, supplier point (level), and suppliers are audited in terms of process and documentation by foretelling. Nonconformities and/or missing points detected during audit and audit report is declared to suppliers as actions plans. Improvement studies to be fulfilled, target dates and responsibles are defined in action plan and sent to DLGPLAST. It is followed through process action plan. Process is completed following and running source inspection regarding effectiveness of improvements indicated. Audit at supplier site and following-up the action plan is executed by Supplier Quality Engineer.

6.5.2 Process Audit (Internal Audit)

Supplier should create an audit plan as they perform one audit for minimum one DLGPLAST reference. Audit plan should be performed including all shifts and shift changes. Audits should be actualised on planned date, and actions should be closed immediately after creating an action plan for nonconformities detected.

OEM companies requesting VDA 6.3 quality system (Volkswagen, Daimler, BMW, audit, etc.) process audits will be carried out in accordance with VDA 6.3.
In order for the process to be considered conforming and for mass production approval to be given, the "CONFORMING" result must be obtained after the audit.

VDA 6.3 Process Audit Results Evaluation;
Points;
10 points ; Fully meets requirements
8 points: Meet the requirements with some minor deviations that are largely risk-free. (Coverage Ratio >> ¾)
6 points; Requirements are partially met, there are significant deviations.
4 points; The requirements are met insufficient, there are major aberrations.
0 points; Requirements are not met

The number of unanswered (n.b.) of the mentioned questions should be less than 1/3 of the total questions. n.b. It should be taken into account that all questions must be covered to allow the audit to be accepted by

other parties. If the complaints in the previous audit continue, the points of those problems are drawn down while the scoring is
performed.
Note: questions containing specific product and process risk ((*) questions); deviations from the requirements of questions marked with (*) are of particular importance, as they may result in the process not being safe or failure in the product.
Categories;
EG> 90 A Quality - sufficient
80 <EG <90 B Conditional Quality – adequate
EG <80 C Quality Insufficien

6.5.3 Product Audit

Supplier should create annual product audit plan including all DLGPLAST goods. In order to verify conformity of products to defined requirements, supplier should inspect products using approachs defined by customer at proper phases of production and delivery. Product audit should be executed in accordance with the actual control plan regarding the product.
For German customers, the VDA 6.5 product inspection standard should be based.

7.0 DLGPLAST SPECIAL REQUIREMENTS

ISSUE	REQUIREMENT
Quality Monitoring	Evaluation of delivery and quality performance in periods.
Continueous Improvement	Supplier should have such a process that define and implement continueous improvement at all their processes.
Deviations	In case derogation occured, suppliers should send DLGPLAST a deviation notification and request for approval.
Parts Reworked or Repaired	Supplier should send notification to DLGPLAST for parts reworked or repaired and take permission/approval for delivery. Traceability should be sustained for those parts and required inscriptions on packages and parts should be applied (if applicable).
Verification of Parts Including Integrated Software	DLGPLAST's suppliers producing automotive products with integrated softwares should create a process in order to realize and conserve quality assurance of those softwares. Suppliers should utilize software development and evaluation methodology to evaluate their software development process. Besides this, suppliers should anually share their product and process verification results with DLGPLAST.
Quality Records Of Products	• Control Records: 10 years, • Product Approval Files: 20 years, • Calibration Records: 10 years • Other: Product should be keeped during activity time + 1 year. ***For German customers VDA Vol. 1 base should be taken.***

ISSUE	REQUIREMENT
Packaging, Logistics and Delivery	All suppliers are expected to perform delivery in required time and quantity. (Delivery performance should be 100%)
Stuff Training	Education plan should be defined for new beginners and employees whose job description has modification. Tables indicating their education status should be displayed in production area. (Multi-skilling Matrix)
Pokayoke	Suppliers should implement pokayoke strategies at material checks, processes and labelings for all products. Supplier should construct error-proof and fool-proof pokayokes throughout mentioned process. Supplier should implement pokayokes at a level that defected goods are impossible to be delivered.
Measurement Requirements	Functional tests and final controls done should assure performance of product designed under real vehicle conditions.
Lay-Out Inspection Requirements	Supplier should anually perform full dimensional measurement and test determined on technical drawing and specification and report to DLGPLAST, unless otherwise indicated.

8.0 Minimum Automotive Quality Management System Requirements for Sub Suppliers – MAQMSR

DLGPLAST suppliers that does not have the certificate of IATF 16949 automotive quality management system, should accomodate their quality management systems to Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers (MAQMSR) prepared by IATF for subsuppliers.

You can access MAQMSR document through the link below.

http://www.iatfglobaloversight.org/wp/wp-content/uploads/2016/12/Minimum-Automotive-Quality-Management-System-Requirements-for-Sub-tier-suppliers-2ndEd-rev2.pdf

9.0 OEM CSR REQUIREMENTS FOR SUBSUPPLIERS

9.1 Renault Groupe "Customer-Specific Requirements for use with IATF 16949 1st Edition – version 2016"

- DLGPLAST suppliers should inform DLGPLAST before any change in product, process or controls and they should apply a change after the completion of Renault approval process. Without any approval from Renault, a change can not be run in related product, process or controls.

- DLGPLAST suppliers should prepare risque analysis related change before changing product, process or controls and determine countermeasures to be taken related to risques. This prepared study should be presented to DLGPLAST before approval.

- DLGPLAST suppliers should periodically review their FMEA documents regarding processes for Renault, using Reverse FMEA methodology. (Reviewing FMEA documents by Reverse FMEA method, is recommeneded after each customer complaint.)

You can access Renault CSR through the link below:

http://www.iatfglobaloversight.org/wp/wp-content/uploads/2017/12/Renault-Group-Customer-Specific-Requirements-for-IATF-16949-July-2017.pdf

9.2 Ford Motor Company "Customer-Specific Requirements For IATF-16949:2016 - Effective 1-May-2017"

- DLGPLAST suppliers should immediately stop delivery for products nonconforming Ford engineering specifications and take precautions. In case such a situation is detected, related DLGPLAST Project Engineer and Supplier Quality Engineer (STA) should immediately be informed. After determination, correction and verification of root cause related to test and engineering specifications, suppliers may continue deliveries. In order to eliminate the nonconformance, supplier should prevent delivery of products those are not sorted and reworked.

- If a sub-supplier are not certified by IATF 16949, Ford reserv the right that the sub-supplier provide compatibility with Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers (MAQMSR). The evidence of the effectiveness should rely on the implementation of the process including measurement and monitoring during a defined time period.

- Suppliers of DLGPLAST should control significant characteristics indcated on technical drawings in order to assure the quality of products and prevent delivery of defected products. Those controls are defined on related PPAP documents (control plan).

- Suppliers of DLGPLAST is to manage its tooling, equipment and facilities such that, during a 7 calendar day week:

    - Average Production Weekly (APW) capacity requirements are to be met by operating the tooling, equipment and facilities based on a 5 day work week.

    - Maximum Production Weekly (MPW) capacity requirements are to be met by operating the tooling, equipment and facilities based on a 6 day work week.

    - The remaining time during the week is reserved for completing the required tooling, equipment and facility maintenance.

    - If the Supplier is unable to meet the Average Production Weekly based on a 5 day work week, or the Maximum Production Weekly based on a 6 day work week, the Supplier must contact their DLGPLAST Buyer/ STA to develop a resolution plan to meet the capacity requirements. Any exceptions to these requirements must be requested by the Supplier and concurred in writing by Ford.

- Suppliers of DLGPLAST are required to record their demonstrated capacity showing compliance to both Average Production Weekly and Maximum Production Weekly requirements on the Production Part

Approval Process Warrant (PSW). The PSW is to be submitted for approval with demonstrated capacity when:

- A new end item is being submitted for initial approval
- Any Supplier or Ford initiated change is proposed from the originally approved manufacturing process or end item design specifications
- Capacity requirements, expressed in APW and MPW, exceed existing tooling capacity

- In order to satisfy Ford's requirement of delivery 100 % in time, DLGPLAST's suppliers should adapt 100% to the delivery plan.
- If required, Suppliers of DLGPLAST should satisfy self assessment requirement including implementation of corrective action plans.
- According to Ford's special requirements, STA Engineers perform CQI-9 audits at heat treatment suppliers of DLGPLAST, per once a year.
- According to Ford's special requirements, STA Engineers perform CQI-15 audits for suppliers of DLGPLAST whose have welding operations within, per once a year.

You can access Ford CSR through the link below:

http://www.iatfglobaloversight.org/wp/wp-content/uploads/2016/12/Ford-IATF-CSR-for-IATF-16949-1May2017.pdf

10.WARRANTY MANAGEMENT SYSTEMS

The process of Failure Analysis including NTF shall be implemented.
Procedure shall comply with VDA Volume "Field Failure Analysis.
The purpose of the NTF and field failure process is to implement consistently the concept of field failure analysis throughout the entire supply chain. For this purpose, the basic processes and supporting processes and interfaces involved in warranty analysis should be taken into account. It is to determine the cause of the removal of the part from the vehicle, especially with respect to warranty analysis, where there is no failure in the product during the part analysis process. In this context, data analysis should be supported by examination of the overall process (from customer and vendor to OEM and supplier) and/or system.
This system conducts analysis of warranty reported by customers, takes permanent actions, informs all relevant units (customers, suppliers, mass production elements) about problems, and manages billing processes for costs.
NTF process defines a tack if no problems can be identified on the part after Root Cause Analysis for nonconforming parts.Trigger criteria must be specified and defined for the NTF process to start.
In the NTF process, the three key elements are data collection, system tests and process tests.
Steps in NTF process,
***Data collection and evaluation;** Sample data is collected to be used to analyze failure.*
This data should include customer data and supplier data, depending on the customer complaint.
Ishikawa, Six Sigma, Pareto, 5-Cause Analysis, etc. methods can be used to help obtain more data.

System and Process Tests; *system and process tests to be performed under aggravated conditions should be determined by meeting with the customer.*

Conclusion; *after the evaluations, customers should be informed about the results with documentation where data is available.*

DLG Plast's Expectations From Suppliers

It is expected that the NTF analysis process will be created and operated from suppliers. In audits and possible cases, the process is questioned. In the NTF process, it is expected that the book VDA Joint Quality Management in the Supply Chain will be taken as a source.

In suppliers, the NTF process covers failures in both the input quality and the process related to the parts that the supplier industries send to DLG Plast.

If no failure can be detected in the analysis of the problem reported by DLG Plast to the suppliers, 2. Level aggravated tests are initiated. This work can be done together with DLG Plast, and suppliers can do it themselves by informing DLG Plast.

Revison	Date	Explanations
Vda00	15.12.2022	First edition.
01	18.04.2023	Updated
02	03.05.2023	Updated According to German OEM requriements (VDA, NTF, PSCR, audits 6.3/6.5) and detailed.