

Supplier Quality Guideline

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1. Introduction / Scope

The quality guideline describes the ITW specific requirements that the supplier and ITW have to apply in order to establish a successful partnership. It describes the minimum requirements for both parties management system in respect of quality assurance. This guideline is an integral part of the purchase order terms and conditions and purchase agreements with ITW. Individual quality agreements and activities can be agreed by ITW business units or plants and suppliers. The quality guideline is applicable to all supplier manufacturing sites of raw material, production parts and service parts as well as suppliers for production, assembly, painting, plating and finishing. Any changes and amendments to this guideline must be in writing and are only valid with the approval of both parties.

2. Quality Management System

All suppliers shall be registered by an accredited certification body according to

- IATF 16949 as a preferred system requirement
- ISO 9001 as a minimum requirement with the objective to develop the management system towards IATF 16949.

ITW reserves the right to verify supplier compliance to automotive standards and contract requirements on site after notification and to conduct system, process and product audits. Suppliers are committed to the zero-defect target and must continuously optimize the performance. Suppliers not fulfilling these requirements will not be considered for new business.

3. Advanced Product Quality Planning (APQP)

The supplier shall have an advanced product quality planning process in place in accordance with the APQP manual published by Automotive Industry Action Group (AIAG) and/or VDA Volume 4 published by "Verband der Automobilindustrie" (VDA). Similar automotive regulations such as for example those defined by EAQF (France) and AVSQ (Italy) are acceptable.

By start of the project all necessary activities and milestones will be agreed by ITW and the supplier. ITW must ensure that the complete technical specification and quality requirements are made available to the supplier. The supplier shall check the technical specification and quality requirements including all documents for completeness and consistency. Any deviation must be notified to ITW and eliminated by mutual agreement.

A project manager should be appointed by the supplier to coordinate and communicate all activities and to ensure completion on time.

A project timetable must be prepared by the supplier including all project specific activities and milestones. Suppliers are required to submit the timetable, project status reports and any changes to ITW for verification and approval. Depending on the nature and complexity of the project regular planning and review meetings are held by ITW and the supplier. The following points must be taken into special account by the supplier and must be coordinated with ITW

- Contract and feasibility review
- Definition of special, critical characteristics and statistically monitoring
- Review and approval of control plan and FMEA
- Review and approval of the tool
- Review and approval of measuring concept
- Packaging and logistic planning

All project and planning documents shall be submitted to ITW on request

4. Production Part Approval Process (PPAP)

4.1 Production Part Approval

Suppliers are required to obtain full approval from the ITW receiving plant following the requirements described in AIAG Production Part Approval manual or VDA Volume 2 manual unless otherwise specified.

4.2 Run at Rate

Depending on the project and agreement between ITW and the supplier a production trial run is performed to verify the supplier's production process can meet the program volume at an acceptable quality level. All suppliers are required to perform a production trial run prior first shipment. ITW Requirement is:

- Capable of producing quality components/systems/modules, as stated in the Production Part Approval Process (PPAP), VDA Volume 2 (PPF) and...
- Capable of meeting or exceeding the "daily contracted capacity within one production day," on a sustained basis. Additionally, other elements of systems readiness may be reviewed and noted to ensure that potential start of production problems are identified and addressed.

4.3 Submission Report

The supplier shall submit the completed submission report to the Quality department of the receiving plant together with a sufficient quantity of sample parts as agreed on. The supplier is required to include all characteristics, measurements and test results as defined by the drawing/specification in the report. Non-measurable dimensions have to be highlighted. For special and critical characteristics defined the supplier shall prove the capability of processes and submit the data as part of the sample report. For processes not fulfilling the capability requirements – at least achievement $pp/ppk \geq 1.67$ and $cp/cpk \geq 1.33$ (for Daimler projects the minimum requirement is $Cmk > 2,0$, $Cpk > 1,67$ according to Daimler Special Terms latest version) -the supplier shall implement special monitoring and an improvement plan. All suppliers are required to provide evidence about the entry of materials, substances in the IMDS system. PPAP approval will not be granted for parts not accompanying this documentation. All suppliers are responsible to collect data from respective sub suppliers and submit within PPAP documentation.

4.4 Product, Process, Manufacturing Location Changes

All changes to products and to production processes must be documented by the supplier. The supplier is required to inform ITW prior to

- Product changes
- Change of materials, components including sub suppliers
- Change of manufacturing methods and sequence
- Change of test methods/equipment
- Change of manufacturing location
- Change of sub suppliers and sub-contractors. The receiving plant must approve all changes in advance.

The suppliers shall request written approval from ITW. Submission for PPAP approval is required unless waived by ITW.

5. Series Production

5.1 General Agreement

Supplier is required that products meet the agreed conditions and that manufacturing and testing is done according to the latest technical specifications and agreements. The supplier shall carry out tests and inspections as planned in order to fulfill the agreed specifications.

5.1.1 Special release

In case of any deviation from the agreed conditions the supplier shall inform ITW immediately in writing. Any deviation must be notified to ITW and eliminated by mutual agreement. The supplier is obliged to request a waiver prior to shipment to ITW.

5.2 Reception –Material Receiving Inspection

Following receipt of goods ITW will confirm the quantity and identity of material, products and components supplied and check for externally visible damage. ITW shall not be obliged to perform any additional checks such as sample inspections.

ITW is exempted from the immediate duty to inspect and report complaints. ITW must report defects in delivered supplies to suppliers forthwith as soon as these are detected during the normal course of business. The supplier waives its right to reject delayed notification of defects.

The supplier is required to certify that the manufactured products do fulfil the specifications by inspection certificate according EN/ISO 10204-3.1 which has to be attached to the delivery documents for each delivery lot. Exceptions from this rule require written approval from ITW.

5.3 Tests and Inspections

The supplier shall inspect and test the manufactured products as agreed by the control plan and/or documented procedures. Quality records providing the evidence that the manufactured products have been tested and are in compliance with the specifications are to be kept by the supplier.

The supplier shall confirm compliance with agreed characteristics in series production. Therefore, the supplier must implement and maintain suitable statistical process control methods to demonstrate process capability over the entire production period.

For processes not fulfilling the capability requirements – at least achievement $pp/ppk \geq 1.67$ and $cp/cpk \geq 1.33$ (for Daimler projects the minimum requirement is $Cmk > 2,0$, $Cpk > 1,67$ according to Daimler Special Terms latest version) -the supplier shall implement special monitoring and an improvement plan.

Inspection and process data shall be recorded by the supplier to prove compliance with specifications and requirements. Special events, for example process changes, non-conformities found and corrective actions shall be recorded. The supplier shall provide these data and records to ITW upon request.

5.4 Traceability and Identification

The supplier shall maintain a traceability system for products supplied. The level of traceability must be such as to ensure that the quantities of products affected by a deviation can be delimited. The traceability system shall include the origin of material and components, process history and the delivery process. The suppliers are responsible to ensure traceability from their respective sub suppliers. A suitable identification and labelling system including information's such as material lot, manufacturing date shall be set up and maintained starting from receipt and during all stages of production and delivery. Traceability records must be provided by the supplier after they are requested by ITW. The supplier is responsible to comply with current packaging, identification and delivery specifications and agreements.

6. Record Retention

The supplier is obligated to retain all quality and process data necessary to prove of the compliance with agreed requirements and specifications for a period according VDA Volume 1. The supplier must allow ITW to inspect these data on request.

7. Non-Conforming products, Complaints, Containment Actions

In case of non-conforming products caused by the supplier, suppliers are obliged to maintain a systematic process to implement all necessary containment and preventive actions and provide ITW receiving plants with products according specification. For each delivery which does not meet the requirements (different from the released status), the supplier has to request a special release prior to shipment to any ITW receiving plants. The special release has to be submitted in a written form with all necessary information describing the deviation. The special release has to be accepted in writing by all ITW receiving plants where the products are delivered.

The supplier must implement ITW immediate action within 24 hours (1 business day) and perform root cause analysis and processing according systematic 8D method.

8. Non Conforming products, Complaint, Cost Recovery

Suppliers are liable for all costs related to complaints and warranty issues when the cause of defects is the supplier's responsibility.

8.1 Administrative Costs

The administrative charge covers the costs of complaint analysis, data collection and documentation. Depending on the complexity of the complaint the administrative charge will be fixed per complaint.

8.2 Complaint costs

If the non-conforming product supplied is detected during manufacturing or processing stage at ITW and / or customer and/ or final customer, ITW has the right to charge the supplier with all and any costs and/or expenses in relation to such non-conforming product. Such as but not limited to the costs for:

- substitute deliveries
- rejects of completed and/or semi-finished products
- re-inspection, rework, repair caused by supplier complaint
- sorting of suspect material in house, at customer premises, warehouses
- overtime to guarantee delivery to customers
- Production downtime and associated staff costs (ITW/customer)
- Packaging costs and handling costs
- Premium freights
- External laboratory testing
- Customer returns and related charges, transport and inspection services

8.3 Warranty charges

The supplier does accept the warranty procedure from ITW customers and/ or OEM including details about the part return process, replacement of defect parts and cost recovery. Depending on the final customer/ OEM procedure regarding handling of warranty charges ITW has the right to charge the supplier with all and any costs and/or expenses in relation to such warranty claims when the cause is the supplier's responsibility.

9. Continuous Improvement

Suppliers are committed to the zero-defect target and must continuously optimize the performance. The supplier shall maintain a systematic approach for continuous improvement by analyzing quality, process, delivery and commercial data and results. The supplier performance will be regularly monitored by ITW receiving plants and communicated. The supplier is obliged to analyse the results and to implement improvement programs in order to achieve a high degree of customer satisfaction.

10. Environmental Requirements

During design, manufacture, and distribution of products -and the handling of dangerous materials -all suppliers are committed

to comply with all legal, environmental, ecological and safety rules and regulations

to reduce environmental / ecological damage to a minimum

to economize on resources the implementation of an environmental management system according ISO 14001 is expected. Deliveries of dangerous material must be accompanied by a safety data sheet and transports of such material are to be carried out according to the respective national provisions and laws.

11. Final terms

Any changes and amendments to this guideline must be in writing and are only valid with the approval of both parties.

If terms of this quality guideline should be entirely or partially invalid, then the applicability of the remaining terms is not affected; in this case, the contracting parties will agree on applicable terms that as closely as possible fulfil the commercial intent of the invalid terms. This also applies accordingly to possible omissions.

The agreement of quality targets and measures shall not affect the liability of the supplier for guarantee and compensation claims by ITW as a result of defects in supplies.

The quality guideline is not limited in time. It may however be terminated by either party in writing at three months' notice. Upon this agreement coming to an end, ongoing individual supply contracts shall nevertheless remain in force until such time as they have been executed in full.