Kunststoff Schwanden

Innovative Plastic Solutions

Quality Assurance Agreement - Suppliers (QAA)

Foreword

Our reputation and position in the market are crucially influenced by the quality of our products. The quality of your deliveries has a direct impact on our products. Our suppliers are responsible as our partners for the quality of their products.

This QAA-Suppliers document is intended to help implement a common quality strategy based on the regulations below, in order to ensure smooth processes between our suppliers and Kunststoff Schwanden (KSAG) and minimize costs.

A comprehensive philosophy of continuous improvement (CIP) must be implemented throughout the entire supply organization. This applies in particular to:

- Quality
- Costs
- Deadlines
- Products and processes

Another essential contribution to delivery reliability is effective environmental management, which ensures compliance with national environmental regulations and continuously and efficiently improves the supplier's environmental situation.

This QAA guideline is part of the KSAG purchasing conditions.

Section 1: General requirements

Section 2: Planning

Section 3: Process and product release

Section 4: Further requirements

Section 5: Bibliography

Section 1 General requirements

1.1 Quality Management System

An effective and certified quality management system based on the IATF 16949 / (VDA 6.1 / QS 9000 / or at least ISO 9001) is a prerequisite for a supplier relationship with KSAG. The following aspects ensure the effectiveness of the QM system:

- Continuous and demonstrable improvement of processes, procedures, and products
- Delivery quality
- On-time delivery
- Effectiveness and efficiency of corrective actions implementation
- Communication at all levels
- Timely handling of new and change projects

The aim of this quality management system is to achieve the common goal of **zero defects**.

KSAG reserves the right to audit or have third parties audit the quality management system, procedures, and products of the supplier. KSAG representatives must be granted access during regular business hours with prior appointment.

During such audits, KSAG may also randomly verify compliance with systemic, customer-specific requirements. Similarly, KSAG customers may request to examine and evaluate the QM and UM system of the supplier.

Upon request by KSAG, the supplier shall conduct self-audits and provide KSAG with the results of such audits. The supplier shall use KSAG forms to document the results of its internal audits, if required.

The supplier must create contingency plans for events such as interruptions in energy supply, labor shortages, failures of critical equipment, etc., to ensure the continued supply to KSAG even in emergencies to the best extent possible.

Some automotive customers may require the appointment of Product Safety Compliance Representatives (PSCR) in the supply chain. If the KSAG supplier is part of the supply chain of a product to an automotive customer, the supplier must appoint a PSCR and provide their contact information to KSAG.

Similarly, the supplier whose product is incorporated into an automotive product must have knowledge of and comply with systemic, customer-specific requirements of the OEM automotive customer. The procurement of such customer-specific requirements is the responsibility of the supplier, e.g. through https://www.iatfglobaloversight.org/oem-requirements/customer-specific-requirements/

The above-mentioned points are for clarification purposes and do not impose any limitations on the aforementioned regulations.

1.2 Business language

Business language is the language of the country of the ordering works, alternatively english.

1.3 Quality objectives

To measure and assess the quality achieved, the supplier defines internal and external quality goals. In this context, the following minimum requirements apply:

- Determination of the internal and external error rates on the basis of PPM (parts per million).
- Determination of the internal and external error costs.
- KSAG may, jointly with the supplier, agree on quality targets for the products to be defined, whereby measures to be implemented in case of non-achievement may also be defined.

The supplier's liability for deficiencies or for claims for damages due to nonconforming supplies remains unaffected.

1.4 Environment / Health protection / EU standards / regulations

It is recommended that the environmental situation be continuously and efficiently improved in line with international environmental management standards such as the EC Eco Audit Regulation or ISO 14001.
It is recommented on the basis of ISO 45001, that occupational health and safety management be set up and appropriately certified in order to prevent all types of accidents, downtimes and protect the health of employees.

1.4.1 Conformity of raw material, components, packaging and equipment EU Directives

On request the supplier is obliged to certify compliance with the following guidelines:

EU Directive 2011/65 / EU and applicable also 2015/863 / EU RoHS Restriction of hazardous substances

EU Directive 2000/53 / EC End-of-Life Vehicle Directive

EU Regulation 2011/10 on plastic materials and articles intended to come into contact with food, including all amendments

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

KSAG expects that all samples and products delivered are fully in compliance with the current legal regulations and standards. If required, such declarations must be registered by the suppler or its upstream supplier directly.

1.5 Project planning

Comprehensive planning is required to meet the high quality requirements of our customers. Fro this reason a systematic, order-related planning must be a main component of the QM System.

Within the framework of a Project Management, project planning in compliance with the requirements as per section 2 of the present QAA/QR must be implemented to guarantee the product quality and delivery times for all new or modified products. This applies also to commissioned subcontractors, if any.

Project progress reports must be submitted in coordination with KSAG. The name of the person in charge of the project must be communicated to KSAG.

1.6 Particular characteristics

In principle, all product and process characteristics are important and must be maintained. Particular characteristics, i.e. quality characteristics of functionally important and critical for the processes as well as attributes subject to a particular duty of proof, require special attention, since any deviations may significantly affect not only the suitability for assembly, the function or the quality of subsequent production operations, but also the compliance with legal requirements. Particular characteristics are defined by KSAG and its customers and/or result from the supplier's design and/or process FMEA.

1.7 Products and characteristics subject to a particular duty of proof

Concerned here are products whose characteristics have a significant influence on the safety of a vehicle or the compliance with legal requirements. A corresponding risk must be expected in this area in the context of product liability. Products falling in this category and their characteristics are suitably identified in the technical documentation of KSAG and its customer.

The supplier undertakes to install an appropriate system for the treatment of products and characteristics subject to a particular duty of proof.

Submission of proof must meet the requirements of VDA volume 1 as regards contents and be of a nature to enable proof of applied diligence in an event of damage (evidence for the defence).

Traceability must be set up in such a way that an unambiguous assignment is guaranteed from the suppliers to the production and inspection lots. A derivation system working down to subcontractor level must be guaranteed.

1.8 Subcontractors – change of subcontractor

The supplier is responsible for the development of its subcontractors (sub-suppliers / suppliers) according to the requirements stated in section 1.1. If the supplier places orders with subcontractors, the requirements of this guideline must also be met by the subcontractors. In this context please refert to the section 6.1 Presentation stages (position 12).

KSAG must be notified in good time of a planned change of subcontractor and the change needs the prior approval of KSAG. A release by KSAG of both production process and products is mandatorily required.

KSAG reserves the right to audit also subcontractors. Such audits, however, shall not relieve the supplier of its responsibilities towards the subcontractor and KSAG.

The supplier shall ensure that its sub-suppliers also comply with the obligations outlined in this agreement. To this end, the supplier shall conduct a qualified assessment and selection of its sub-suppliers and provide support in quality planning and environmental planning. Any changes in sub-suppliers resulting in relocation must be notified to KSAG and require approval.

The supplier shall involve its sub-suppliers in both the quality and environmental management systems. The quality and environmental management manual, as well as the procedural instructions of KSAG, shall be made available for inspection by the supplier, to the extent that they are relevant to the production of the parts.

1.9 Release of process and product

The process and product release shall be effected in accordance with the production process and product release procedure (PPF) of VDA volume 2 or according to the production part acceptance procedure of QS 9000 (PPAP).

Series supplies may only be effected after a process and product release has been obtained from KSAG. The process and product release comprises i.a.

- Release of first samples of the products
- Release of quality planning
- Proof of the corresponding presentation stages

Complete payment of the mould costs will only take place after process and product release.

1.10 Changes to product or process

Changes to both product and process are subject to approval by KSAG. They must be documented in a permanently updated product and process record.

1.11 Treatment of complaints / warranty

After receiving a complaint from the purchaser KSAG, the supplier must immediately initiate measures to rectify the error and provide a written notification of the initiated corrective actions to KSAG within 48 hours. In addition, the supplier must submit an 8-D Report to KSAG without prompting within 2 working days.

All costs associated with the error notification, including costs for rework and expenses incurred internally or by the end customer, shall be borne by the supplier, in addition to the fees listed below.

Gebühren / Fees	
Bearbeitungsgebühr / Handling Fee	EUR 300 / CHF 350
Keine Reaktion innerhalb 48h / No answer within 48 hrs	EUR 300 / CHF 350
1. Mahnstufe: Keine Reaktion innerhalb 5AT / 1. Reminder: no answer within 5 days	EUR 1'000 / CHF 1'100
2. Mahnstufe: Keine Reaktion innerhalb 10AT / 2. Reminder: no answer within 10 days	EUR 2'000 / CHF 2'000

If necessary, KSAG might verify the effectiveness of the the initiated measures taken by the supplier.

The supplier must attach particular importance to the verification of the effectiveness of measures and the preventive transfer to similar processes or products, including FMEA adaptation.

In case of non-conforming goods, the entire delivery may be returned or scrapped at the expense of the supplier by KSAG. The supplier must promptly provide a replacement delivery if requested in the complaint report.

If the supplier is unable to provide conforming goods or sorting services within 4 hours in the event of an impending machine or assembly shutdown, resulting cost consequences will be invoiced to the supplier.

1.12 Supplier assessment / escalation levels

At defined intervals, in principle once per year, the purchaser KSAG informs the supplier of the supplier's classification as regards quality (achievement of the objectives), deadlines and service. The classifications defined below are hereby used and substantiated with additional demands as required.

Classification A

No measures required
The supplier is requested to constantly pursue the objectives of our mutual QAA (target = 0 ppm) and to keep the achieved quality position stable.

Classification B

Plan of action required
Information to the Management of the supplier, requesting it to implement a mutually agreed plan of action in order to reach the classification of an A-supplier again within a reasonable period.

Classification C

Immediate action required
Information to the Management of the supplier, requesting it to mandatorily initiate immediate measures, which must be implemented successfully within a specified period and whose effectiveness must be proven.
At the same time, KSAG will investigate alternative suppliers in order to be able to react if necessary.

C-Suppliers are generally blocked for new enquiries.

1.13 Suppliers of direct parts

Direct parts are products that have been directly specified and commercially negotiated between the customer of KSAG and the sub supplier of this product. In this case, the QAA of KSAG is an integrating and binding part to the existing quality agreement between the customer and the sub supplier.

If, contrary to expectations, no QAA has been agreed between the customer of KSAG and the sub supplier, the conditions of the QAA of KSAG automatically apply as part of the contractual relationship between KSAG and the sub supplier.

Section 2 Planning

As a matter of principle we demand from our suppliers a systematic planning according to VDA volume 4 or alternatively QS 9000 APQP within the framework of a project management.This planning shall not only comprise the parts produced by the supplier, but also the parts purchased by him.

2.1 Feasibility

The feasibility declaration must be carried out upon submission of the quotation and confirmed in writing to KSAG.

The supplier must confirm in advance the compliance with REACH and ROHS, and/or input of material data into the IMDS.

2.2 Scheduling

KSAG will provide the supplier with project-related deadlines. Based on this, the supplier will create a detailed schedule with milestones for the project, including detailed tooling scheduling, which encompasses all necessary activities, and coordinate it early with KSAG prior to product and process approval.

2.3 Planning contents

The minimum requirements and processes/procedures to be applied must be looked up in the regulations.

2.4 Project evaluation

Project progress reports are the basis for a regular project evaluation and have to be submitted to KSAG. KSAG reserves the right to verify how the project progress.

2.5 Project release

Approval to commence production may only take place after positive inspection of all activities planned in the project.

This approval must be documented by the supplier, including the date and signature of all responsible personnel from quality assurance, production, planning, and other relevant departments, as applicable.

2.6 Packaging

The type of packaging must be determined and agreed upon in advance through mutual agreement.

2.7 Quality Planning

According to this Quality Planning Standard, several activities must be carried out during the quality planning for the production of a part. This includes conducting a Design Failure Mode and Effects Analysis (FMEA) if responsible for development. Additionally, the functionally relevant quality characteristics for the part must be determined in collaboration with KSAG. A process flow plan must be developed, and a Process FMEA must be conducted.

Furthermore, it is necessary to create a Production Control Plan (PLP, Control Plan) that also includes the planning of product and requalification audits. The required tools, fixtures, gauges, and measuring equipment must be identified, developed, and procured. Measurement system capability studies must be conducted for all measuring equipment/gauges.

Work instructions and inspection instructions for the entire production process must be created, and machine and process capability studies must be conducted. Quality control charts must be established and maintained for functionally relevant characteristics. Finally, initial samples must be produced under production conditions and submitted to KSAG with an Initial Sample Inspection Report for approval according to VDA or PPAP. All technical changes must be documented in a product lifecycle.

KSAG has the right to request access to the documents to review and approve them.

2.8 Prototyping

For prototype parts, a prototype report must be submitted upon initial delivery and for changes (index/part number).

As part of product development, prototype parts or pre-series parts are typically produced and delivered to KSAG. To validate the quality of development, the supplier of prototype or pre-series parts must provide measurement results to KSAG in the following cases:

- Upon/after the initial creation of a tool or after a process change
    - Complete measurement of all dimensions on 3 components per nest/form/processing station
    - Material certificate according to EN10204, level 3.1
- After tool optimization or tool changes
    - For all characteristics affected by the optimization/change, 3 components per nest/form/processing station
    - All special inspection dimensions, if already specified, on 3 parts
    - Material certificate according to EN10204, level 3.1

The format of the measurement reports must allow for quick and unambiguous assignment to all drawing requirements. This documentation must continue until approved initial sample reports are available from KSAG. Prior to the start of series deliveries, initial samples must be submitted by the supplier with an initial sample inspection report. Details on the effort for initial sample testing and the documentation to be provided with it are to be agreed upon with the responsible quality departments of the receiving KSAG plants. The agreed capability evidence must be submitted by the supplier at the latest upon presentation of the initial samples. Only after KSAG has granted complete initial sample approval, including the necessary IMDS approvals, can any tooling costs be paid in full.

Section 3 Process and product release

If not otherwise specified, the supplier must generally notify KSAG of any changes according to the trigger matrix in VDA 2 or PPAP, and present initial samples with an initial sample inspection report before the changes are implemented in series production.

For such changes, the quality management documents (FMEA, Control Plan, etc.) must be reviewed and updated accordingly. In exceptional cases, KSAG may waive re-sampling by providing a written confirmation or change of non-necessity. The confirmation of non-necessity does not release the supplier from the responsibility to deliver according to the current drawing.

After receiving and evaluating initial samples, KSAG will provide the supplier with a written approval before proceeding with deliveries to KSAG. For both new parts and technical changes, the supplier must clearly mark the first deliveries on the goods and delivery note.

3.1 First samples

First samples must be produced and delivered analogously to VDA 2.

First samples are products that are manufactured and inspected under serial production conditions (using the same machines, equipment, measuring instruments, and processing conditions).

All inspection results for the characteristics must be documented in a first sample inspection report. The number of parts to be documented must be agreed upon with KSAG. The first samples must be delivered to the purchaser on the agreed-upon date, along with the first sample inspection report and documents according to release level 2. Clear identification as first samples and indication of the production location are required. Identical numbers in the first sample inspection report and the KSAG-approved, current drawing must be used for identification of characteristics.

Assemblies manufactured according to KSAG design must undergo initial sampling, including individual components, and be presented to KSAG.

For products of supplier's own design, the supplier must submit the assembly for initial sampling and presentation to KSAG. Initial samplings must also be conducted for individual parts and, if applicable, sub-assemblies. KSAG must be granted access to this documentation as needed.

Deviations from KSAG specifications that were not detected during process and product approval entitle KSAG to raise objections at a later date, as long as these individual positions have not been clearly declared as accepted by KSAG on the EMPB.

3.2 First sample documentation

The first-sample documentation must be delivered together with the first samples. A missing first-sample documentation leads to a negative assessment of the supplier. Unless accompanied by the first-sample documentation, first samples cannot be processed.

3.3 Reasons for first samples

Any changes to the production process and product must be notified to KSAG.
Unless otherwise agreed, the procedure shall follow VDA 2 / trigger matrix.

3.4 First samples according to data records

Measurements must be made against the valid 3-D data model. The number of measuring points must be selected so that all geometries are safely determined. Details of the measurements must be coordinated and agreed with Quality Assurance / Measuring Technology KSAG.

3.5 Material data colection

Recording of material data is a firm part of sampling. The data must be entered in the International Material Data System (IMDS) in coordination with the purchaser.

3.6 Release status / approval with reservations

If the supplier's PPAP cannot be released due to deviations or if only a limited approval (yellow release) is granted, the supplier is obliged to re-sample and re-present all non-conforming positions within 4 weeks accordingly.

In a case of limited release (yellow release) scenario, KSAG is allowed to block the remaining payments until sufficient proof of rectification is provided by the supplier.

Section 4 Further requirements

4.1 Retention periods for quality-relevant documents and records

Documentation control and retention shall be carried out in accordance with VDA Volume 1, current edition, throughout the product lifecycle.

These provisions do not replace any legal requirements.

4.2 Special inspections

Special inspections are inspections which extend beyond the usual series inspections. Among them are e.g. strain tests, reliability tests and technically elaborate inspections. The supplier has to carry out special inspections on the occasion of first sampling in accordance with the specifications of KSAG, and aslto to continue the ongoing production monitoring with the jointly determined number of parts and the inspection frequency. The parts to be tested must originate from the current mass production and the inspection results must be traceable to the production lots.

In case of negative test results the supplier must immediately stop any further deliveries of products, determine the cause of the nonconformity, initiate suitable corrective measures and document these.

KSAG must be notified without delay (Purchasing and Quality Assurance). Further action must be agreed with KSAG.

4.3 Release of work stations

A formal workstation release of all production and assembly stations must be granted before mass production is started. All working steps in production and assembly must be included in this. All the results have be documented. The persons responsible to implement stopping and improvement measures must be nominated and deadlines must be set for the finalisation of such measures.

A renewed inspection (KVP) taking into account the deviations revealed beforehand must be carried out after completion of the specified measures. The result shall again be documented in writing.

4.4 Product audits / process audits

By means of product and process audits carried out at regular intervals (as per audit schedule and event-related) the supplier must endure that all specifications applicable to supplies (production, inspection, identification, preservation, cleanness, packaging, delivery documents, etc.) are complied with. The results are to be documented, including the measures introduced. Proof of the effectiveness of the measures must be submitted. The product audits can also be carried out and substantiated by „families of products“.

4.5 Capability factors

The methods to determine the capability factors must be looked up in the applicable trade publications of VDA volume 4 part 1 (Quality Assurance prior to series deployment) or QS 9000.

The following minimum requirements apply:

- Short-time process capability Cm, Cmk equal or > 2.00
- Long-time process capability Cp, Cpk equal or > 1.67

4.6 Centered production

A centered production must be aimed at where characteristics are controllable.

For the special characteristics, a mastered and capable process must be maintained and documented by means of statistical process control (SPC) on the basis of ongoing systematic evaluations of the test results in accordance with the regulations.

Uncontrollable special characteristics such as e.g. mould-related characteristics and special characteristics without process capability require a restriction of the work tolerance taking into account all general conditions of statistical process control such as e.g. machine/process, measuring processes, uncertainty of inspection, measuring and test equipment, and a corresponding definition of the intervention limits.

A sorting outside these intervention limits must be avoided. In case of characteristics without process capability the 100% inspection must also be documented by statistical methods.

4.7 Approval of deviations

In case of deviations from technical documents of KSAG, a release for delivery must be obtained from KSAG prior to delivery as a matter of principle. In case the goods are already delivered, KSAG must be notified immediately so that further action can be specified.

4.8 Requalification

The supplier shall ensure that the products undergo a complete dimensional and functional inspection in accordance with the control plans, taking into consideration the applicable customer requirements for material and function.

The evidence of such inspections shall be presented to KSAG in written form upon request.

4.9 Transportation / Delivery

The supplier shall generally only deliver products without any defects, as KSAG's incoming inspection typically includes only an identity, visual, and quantity check. KSAG must always be able to directly send parts received from the supplier to production without conducting incoming inspection.

Each packaging unit must be labeled with the quantity, KSAG part number, manufacturing date, and batch number. All deliveries must be traceable based on the information provided on the delivery note. The supplier is obligated to fully comply with their delivery commitments. The supplier must ensure that the quality of the products is not compromised during transportation through appropriate packaging. Shipping documents must be complete and accurate. In case of changes or index switches, the first three deliveries must be labeled with a unique label.

Records of additional freight costs, special incidents, and their causes (for special deliveries) must be maintained and should reflect both the costs paid by the supplier and the subcontractor.

Definition of Delivery Quality:

The terms "defect" and "faulty" are defined as the non-fulfillment of agreed-upon requirements. Faulty supplier parts will be formally reported by KSAG through a complaint report.

Measurement of Delivery Quality:

Irrespective of the actual number of defective parts, KSAG primarily measures the relative delivery quality by counting and weighting the number of deliveries with complaints and the number of complaint reports.

If KSAG cannot determine the actual number of defective parts, all parts in the delivery lot are counted as defective until the supplier provides verifiable information on different part numbers. In case of incorrect deliveries or packaging, all parts in the delivery lot are considered defective.

Section 5 Bibliography

Associated documents VDA / QS 9000 / DIN EN ISO / EU Directives
(in the current edition)

Quality Management in the automotive industry:

A)	**VDA regulations**
Volume No. 1	Submission of proof
Volume No. 2	Quality Assurance for deliveries to the automotive industry
Volume No. 4 (parts 1-3)	Quality Assurance prior to series deployment
Volume No. 6 (part 1)	QM System audit
ISO/TS 16949	Quality Management Systems Special requirements in case of application of ISO 9001 for series and spare-parts production in the automotive industry
Volume No. 6 (part 5)	Product audit at automotive producers and subcontractors
Volume No. 6 (part 3)	Process audit
Volume No. 3	Reliability Assurance at automotive manufacturers
B)	**QS 9000 Regulations**
QA 9000	PPAP
QA 9000	APQP
QA 9000	SPC
QA 9000	MSA
QA 9000	FMEA
C)	**EU Directives**

EU Directive 2011/65/EU and its amendment 2015/863/EU RoHS (Restriction of Hazardous Substances) Directive
EU Directive 2000/53/EC End-of-Life Vehicles Directive
EU Regulation 2011/10

Furthermore, we refer to our general purchasing terms and conditions.:

To be obtained under www.KSAG.ch

The German version of this QAA / QSV shall prevail.