Supplier quality guideline

VOSS Automotive Group
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Preamble

Products and new developments for line and connection technology have made VOSS a recognized and market-leading system partner in international automotive and mechanical engineering.

The VOSS brand has stood for quality and innovation for over 85 years. A consistent quality policy is a central component of the VOSS company strategy and the quality of our products is decisively determined by the quality of the supplier products.

We purchase the majority of our raw materials and components for our products from our suppliers around the world, and the performance and quality capability of our partners contributes crucially to the overall success of the business.

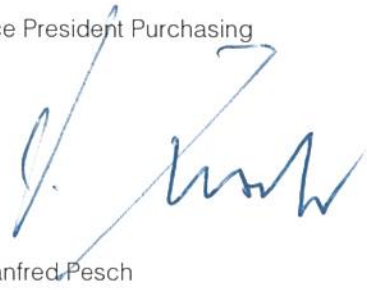
Customer satisfaction through quality in all aspects is a crucial success factor for VOSS as a supplier of complex products for their international customers.

As our partners, our suppliers are self-responsible for the quality of their products in their entirety and continuous improvement of products and processes as well as sustainably ensuring quality and costs must be a fixed component of the entire supply chain.

This guideline will contribute to gaining a shared understanding of quality in the sense of the zero-defect target and implementing it according to ISO/TS 16949 in order to ensure smooth processes between our suppliers and VOSS, and to minimize costs.

As a supplier and partner, we ask you to meet the requirements of this quality guideline so that together we can develop and successfully produce our products to the highest standards.

Vice President Purchasing



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1. General requirements

1.1 Scope of application

This quality guideline applies to the delivery of raw materials, materials and components that will become part of a VOSS finished product or directly passed on to the customer as a commodity.

In addition, this guideline also applies to service providers, hereinafter referred to as suppliers, of services such as surface treatment, surface coatings, assembly, sorting, reworking, etc.

This guideline extends to all sites of the VOSS Automotive Group and is applicable worldwide. This document is containing the basic quality rules and it relates to all current and future orders. If applicable additional customer requirements can be cascaded to supplier, this will be communicated by VOSS in the specific cases where customer has this cascading requirement.

1.2 Quality objectives

The primary quality objective is zero-defects and this must be aimed at consistently and permanently with the meticulous application of the following methods:

- Risk analysis product and process (D-FMEA; P-FMEA)
- Development of robust products and processes
- Realization of stable products and processes
- Sensitive process control with competency assessment incl. measuring methods
- Continuous improvement process (CIP)
  Definition and tracking of suitable key figures and targets for processes and quality
- Sustainable correction of all nonconformities with effectiveness test
- Competent employee qualification and target-oriented employee development

1.3 Quality management system

An effective quality management system according to the rules of IATF 16949 is a prerequisite for a long-term supply relationship. On an interim basis, QM system according to VDA 6.1 is also approved in consideration of a further development according to IATF 16949.

Proof of certification according to ISO 9001 and readiness to carry out all relevant processes for planning and production of the VOSS products according to IATF 16949 are minimum requirements. VOSS also requests that these suppliers further develop their entire quality management system according to the requirements from IATF 16949.

The expiration of a certificate without a scheduled recertification must be communicated to VOSS at least three months prior to the expiration date. New certificates are to be sent to the supplied VOSS plants without being prompted. Withdrawal of a certificate must be reported immediately.

1.4 Supplier approval and release

VOSS only purchases production material and services from partner that are released process and product related for supplying. Suppliers are released with a positive result from a defined supplier selection procedure, which may include a potential analysis and/or supplier audit according to VDA 6.3. However, requested information such as a full supplier self-assessment and full financial report must be provided and a nondisclosure agreement signed beforehand.

1.5 Legal, safety and environmental and energy regulations

The processes required to manufacture the parts and the materials used must comply with the current state of science and technology as well as the applicable legal and official standards and regulations of the exporting country, the importing country and the country of destination specified by the customer, insofar as they are notified.

All materials and substances supplied and used in production must also fulfill the applicable legal requirements, in particular those of the REACH Ordinance 1907/2006/EC, the EU End-of-Life Vehicle Directive 2000/53/EC and the End-of-Life Vehicle Act in the respectively applicable amendment and the protection orders for declarable and/or prohibited substances, such as the requirements regarding the environment, electricity and electromagnetic fields.

VOSS is committed to protecting the environment and hence also expects from its suppliers the self-commitment to protecting the environment in the form of an implemented environment management system.

To be able to ensure a complete record of all components in the IMDS system, the supplier must retroactively create an accurately and completely filled out material data sheet in the IMDS system for all series production parts released up to now and for new parts as part of their initial sampling and confirm this with submission of the VOSS initial sampling test report. A material data sheet in the IMDS system which is not completely and accurately filled out will lead to the sampling being rejected.

In order to have sufficient reaction time in the event of an emergency, VOSS expects the material data to be entered in the IMDS no later than 10 working days after receipt of the first order or a change order.

On initial delivery and change of delivery of hazardous and auxiliary materials (oils, greases, adhesives, paints and similar), an EC safety data sheet according to 1907/2006/EC, or safety data sheets are required by other national laws, must also be sent. The same (written statement and complete documentation) applies to the supply of substances and parts, which again release hazardous substances under certain conditions as well as substances which, from experience, are particularly difficult to dispose of.

VOSS is committed to protecting the environment in accordance with DIN EN ISO 14001 and to energy efficiency in accordance with DIN EN ISO 50001 and therefore expects its suppliers to commit themselves to environmental protection in the form of an implemented environmental management system.

VOSS also expects its suppliers to observe and comply with the ethical principles based on the provisions of international human rights law, in particular the renunciation of child labor and forced labor.

1.6 Confidentiality and data protection

All documents and information received by the supplier as a result of the business relationship with VOSS shall be kept secret from third parties. The Federal Data Protection Act (BDSG) must be observed for personal data - in case of doubt, the data protection officer of VOSS must be informed about the purchase.

1.7 Business language

Either the national language of the purchaser or English will be used as a business language.

2. Development and realization of product and process

2.1 Project and quality planning

To ensure a project execution in due time and in due quality, the supplier is obligated to develop an effective project plan based on the following standards:

- IATF 16949 in conjunction with ISO 9001: Chapter 8.1 et seq.
- VDA 2
- VDA 4
- VDA Product creation - Maturity Level Assurance for new Parts
- or AIAG – APQP, MSA, FMEA, PPAP, SPC

The milestones specified by VOSS must be integrated into their project and quality planning and complied with. The supplier maintains a system for internal monitoring of dates with escalation process for the independent solution of project and schedule difficulties. Threats to the schedule must be reported to VOSS immediately.

In all phases of project planning, VOSS reserves the right to inspect all documents.

On the request of VOSS, the supplier must forward a project status report to VOSS.

2.2 Feasibility study

Technical documents (e.g. drawings, specifications, environmental requirements, legal requirements, requirement specifications, etc.), which are created by VOSS or are legally prescribed, must be analyzed by the suppliers during the contract review. The study, which includes an instrument for simultaneous engineering, includes both the analysis of feasibility of the planned development project (with development supplier) and the analysis of the economical and process feasibility. This review gives the supplier the opportunity to use their experience and expertise with modification proposals for mutual benefit.

In the event of issues of understanding or illegibility of the documents prepared by VOSS, the supplier has to inform VOSS immediately and has to take measures to rectify the deficits independently.

2.3 Product and process FMEA

In consideration of the use of products, the supplier carries out preventive risk analyses (FMEA) for all products delivered to VOSS and their production processes according to VDA Volume 4 Part 2 and/or AIAG FMEA. Where nonconformities in the product or process quality arise, the FMEAs will be updated. Product or process modifications may only be documented in consideration of the FMEA and must also be documented there.

All parameters affecting product safety must be factored into the analysis and, as critically evaluated points, must be immediately improved using suitable corrective and preventive measures so that the specification, features and product quality as well as capable manufacturing can be guaranteed.

On request the supplier grants VOSS access to the FMEA and its associated documents.

The supplier agrees to contribute to the system or interface FMEAs initiated by VOSS.

2.4 Control Plan (CP)

In the Control Plan, the results of the product FMEA and/or process FMEA along with experiences from similar products or processes must be considered. A detailed description of the procedure for creating a CP can be found in the VDA Volume 4 and AIAG APQP. Based on the CP, the supplier ensures compliance with all routine tests from incoming goods and all production processes to outgoing goods. This is done in consideration of the defined test equipment, test frequencies and sample sizes.

The CP and all other associated documents are to be made available to VOSS on request.

2.5 Planning of series production

The planning of systems and operating resources includes the planning and preparation/procurement of all required operating resources for manufacturing the component. The capabilities or applicability of operating resources must be verified. For many appliances or multi-cavity molds, the capabilities must be verified individually. Operating resources with sufficient capacity and function must be available for the initial sampling date or at the latest during the production of series parts. Internal and external means of transport and packages must also be taken into account in the planning.

2.6 Special features

Special features require particular attention, since nonconformities in these features can greatly influence the product safety, lifetime, ease of assembly, function or quality of the production operations and legal requirements stated below. They are defined by VOSS and/or are the result of the risk analysis of the supplier, e.g. from the construction and/or process FMEA.

All product and process features are important and must be complied with.

Documentation and inspection obligations are defined for special features so that fulfillment is ensured within the specification limits. These features must be identified in all associated documents (e.g. drawings, FMEAs, quality control plans and test documents). Parts with special features must always be identifiable in the entire process sequence. For corresponding features, the supplier must verify stable and competent processes through Statistical Process Control (SPC).

For stable processes, the following process capability values must be attained with regard to special features:

- Cmk ≥ 2.0
- Ppk ≥ 1,67
- Cpk ≥ 1.67

A regular assessment of the SPC records must be carried out at the latest from the start of production and presented on request.

If the required specifications are not fulfilled, the supplier must carry out a 100% inspection.

2.7 Machine and process capabilities

Using suitable statistical methods, the supplier ensures that the machines, tools, test equipment and processes used are suitable and capable of producing the products supplied to VOSS. The features for which capability verifications must be provided are defined by the supplier on their own authority. Particular attention must be paid here to ensuring that all features necessary for the process and product quality are considered.

The following process capability values apply to stable processes provided these are not special features:

- Cmk ≥ 1.67
- Ppk ≥ 1.33
- Cpk ≥ 1.33

If the required specifications are not fulfilled, the supplier must carry out a 100% inspection

2.8 Test equipment

The supplier defines the test methodology with the corresponding test equipment for all features.

Corresponding test equipment management with controlled test equipment monitoring and documentation is required to ensure the part quality.

The test process suitability must be verified for all planned measuring equipment. The entire measuring process, including testing device, part fixtures, different testers if necessary and the tolerance of the feature to be measured must be taken into account. The verification must be made in accordance with the general requirements of the VDA Volume 5 (test process suitability) or AIAG MSA.

2.9 Subcontractors and their products

If the supplier gives orders to subcontractors, the contents of this guideline must also be fulfilled by them.

The supplier must use a system that ensures that the applicable legal and customer-specific standards and requirements are passed on and complied with throughout the entire supply chain.

The use of subcontractors that meet the quality requirements must be ensured and is the responsibility of the VOSS suppliers. The supplier must use a suitable procedure for selecting their subcontractors and ensure that only subcontractors that meet the quality requirements are used. Furthermore, the supplier is obligated to use an appropriate evaluation and development procedure for their subcontractors.

The subcontractors and their production processes must be sufficiently qualified and capable at the latest before starting series delivery.

The process and product release at subcontractors must be completed before the process and product release at VOSS supplier.

2.10 Audits

The supplier regularly carries out internal audits (e.g. VDA Volume 6.3 and 6.5) scheduled in advance for all products delivered to VOSS and the processes associated with their development and production. The basis for this is the contractually defined product specifications and features as well as other agreements relating to the delivery, e.g. on logistics and packaging.

In the event of nonconformities, the supplier immediately takes all required corrective measures and ensures their effective implementation on a sustained basis.

Furthermore, VOSS and their customers are authorized to check whether the quality assurance measures of the supplier guarantee the VOSS requirements with advance notification through a process, product or system audit.

If quality problems arise, which have been caused by the services and/or deliveries by subcontractors of the supplier, the supplier must, on the request of VOSS, carry out an audit at the subcontractor site (if necessary, with participants from VOSS and their customers) and disclose the results to VOSS.

2.11 Product and process approval (PPAP/PPF)

For the product and process approval, the supplier must present to the VOSS ordering plant initial samples together with a PPAP / initial sample test report before the start of series delivery which meet all contractually agreed specifications and features. This must be done on suppliers own initiative and separate orders for PPAP/PPF documents and parts is not necessary. Unless otherwise arranged, this verification must be provided for 5 sample parts. Contrary to Section 1.7 "Business language", the initial sample documents must always be issued in English so that they can be distributed and used within the VOSS Group if necessary.

Without product and process approval, no series deliveries are permitted.

The initial sample and all individual parts used in production must be completely manufactured with standard operating resources under standard conditions. The required documentation must be agreed with the VOSS purchasing department project-specifically in terms of content and scope. The initial samples may be carried out according to the specifications in VDA Volume 2 or the AIAG PPAP requirements. The submission level and if possible special additional verifications are defined by VOSS and communicated to the supplier.

To identify the features, identical numbers must be used in the initial sample test report and in the current drawing released by VOSS, which is also to be delivered.

In the dimension, material and function checking reports, all specifications required for the product must be identified with nominal and actual values. This applies to the features from adduced drawings, VOSS standards, public standards, customer standards or similar.

Deviations from the part specification and/or the series process must be indicated in advance to the VOSS quality and via the VOSS special release form of VOSS.

The process approval at the supplier site is carried out passing a process audit according to VDA Volume 6 Part 3 successfully by them with the classification A and a passed capacity test. A process approval can also be carried out with a B classification, whereby the nonconformities are settled with a corresponding improvement plan. VOSS can check or request the results of the process approval at the supplier site on request.

VOSS has the right to carry out a process audit and a Run@Rate at the supplier site and, if necessary, at the subcontractor site.

Nonconformities in the arranged specification, which were not found during the product and process approval, give VOSS the right to complain about these at a later point in time.

For missing initial samples or documents and/or faulty samples and documents, VOSS can make a complaint and charge corresponding costs of up to 150 € or equivalent in local currency.

A new model of the initial sample must be made on suppliers own initiative,

- when a product is ordered for the first time.
- after changing a subcontractor of the supplier.
- after a product modification to all features affected by this.
- after a drawing modification to all features affected by this.
- after a delivery block.
- after a delivery and/or production downtime after more than a year.
- in the event of a modified production procedure.
- after use of new/modified shaping devices.
- after production site relocation or use of new or relocated machines and/or operating resources.
- after using alternative materials and designs.

Changes of product and process have to be announced by supplier and need an approval for realization by VOSS (see 3.2 change management).

Within the VOSS Automotive Group, the release issued by VOSS is valid for all locations; i.e. unless our end customer has a different requirement, a copy of the initial sample release of the first delivery location is sufficient for the other locations.

2.12 Requalification test

Contents, scope and intervals are agreed between VOSS and the supplier before the start of production and documented in the control plan. If no agreement is made, a complete re-qualification must be carried out at least once a year in accordance with the jointly agreed specification and the associated product requirements from VOSS and/or communicated customer standards and/or specifications. If the test results are negative, the cause of error must be determined, remedial action introduced and the quality management of VOSS informed immediately. If not otherwise arranged, the specifications of IATF 16949 apply. All products must be subjected to a material, dimension and function check according to the control plan.

On request, the supplier provides VOSS with the documentation within 5 working days.

3. Further requirements

3.1 Archiving of documents and reference samples

The supplier defines archiving periods of documents, records and reference samples, and ensures that they are complied with. The following minimum requirements must be met:

Specification documents from the product and development phase as well as from the production phase, such as requirement specifications, FMEAs, drawings, quality control plans, work instructions, initial sample test reports and reference samples

Special features (law, security)	15 years after invalidation
Other characteristics (function, normal)	3 years after invalidation

Records from the product and development phase as well as from the production phase, such as test records, capability studies, control charts, audit reports, reviews and assessments

Special features (law, safety)	15 years after creation
Other characteristics (function, normal)	3 years after creation

These definitions do not replace the legal requirements.

Longer archiving periods (up to 30 years) are recommended in light of the limitation periods of product liability claims.

VOSS has the right to demand confirmation from the supplier at any time within 24h for proof of compliance with important features through corresponding test certificates, results protocol and/or capability assessments.

3.2 Change management

The supplier has installed a system for change management, which ensures that all changes are documented promptly and each work document meets the current revision status so that a delivery can be made on schedule in the desired revision status.

Changes to the product or process must be reported to the VOSS purchasing department in advance and approved by VOSS (see also 2.11). These changes must be documented by the supplier in a product and process resume.

Before initial delivery, the scope of the change sampling must be agreed with VOSS and the sample and the initial sample test report must be sent to VOSS in due time before initial delivery. The product of the initial delivery with the new revision status must be provided by the supplier with corresponding references to the change. The revision status must also be documented on the delivery note.

3.3 Transport, storage and packaging planning

The supplier is responsible for the packaging, storage and transport of his components. It must be ensured that the product cannot be damaged, soiled or changed in its material properties by external influences during storage and on the internal and external transport routes.

3.4 Cleanliness

The supplier is responsible for the cleanliness of its parts and packages. Any specifications made by VOSS on drawings or in additional agreements on technical surface cleanliness must be met and ensured through suitable packaging for long term.

3.5 Traceability

To avoid batch mixing and to ensure traceability, raw parts, purchased parts of subcontractors and parts from our own manufacturing facilities must be processed and delivered according to the "First In – First Out" principle.

The supplier must ensure their traceability by means of an unique and readable batch code; i.e. using this batch code, they must assign all raw-material, purchased parts, process and quality data to their own manufacturing facilities at order level and be able to link this data with the delivery to VOSS. Furthermore, they are obligated to demand and check a corresponding system for tracing at the site of their subcontractor.

For safety parts, special barcode identification of the batches may become necessary, which must be agreed in detail between VOSS and the supplier.

The system for traceability must be developed and maintained with the aim of limiting the quantity affected by quality defects. The traceability and the limitation of damaged parts / products / batches etc. must be ensured over the entire supply chain.

Parts or containers must be labeled in an appropriate way with a batch code and revision status.

3.6 Labeling of deliveries

Parts or containers must be labeled in an appropriate way using VDA 4902 material tags or AIAG B-3 shipping labels or special labels agreed by both supplier and VOSS. The delivery note contains the VOSS item number of the delivered product with the corresponding revision or version status. Furthermore, the delivery note must contain the total quantity per delivery item, the number of shipping containers (e.g. pallets) and individual packaging units (e.g. small load carriers) with the respective quantity.

3.7 Complaints processing

The supplier receives a letter or email of complaint from VOSS in the event of complaints.

Once initial information about the complaint is available, the supplier must immediately get in contact with VOSS to clarify necessary measures to maintain the supply capability.

The supplier immediately takes urgent measures to prevent other deliveries being sent with faulty parts and to maintain the supply capability of VOSS.

For this, the article of complaint must be 100% checked before delivery and every packaging unit provided with an additional label, which shows the tester, the date, the fault and the type of test. Only after proper effectiveness checking of the remedial action may this 100% check be carried out in agreement with VOSS.

In the event of complaints, the supplier is obligated to send a 3D report within 24 h. The complete 8D report is generally expected within 7 days. In exceptional cases, these dates can be postponed in agreement with VOSS.

Cause analyses are carried out systematically and methodically using instruments such as Ishikawa, 5 Why or others.

Measures must bring about a lasting prevention of the problem and must be used across all processes or products (lessons learned).

The effectiveness check must be adequate in type, duration and scope to the failure rate. And complaints process is only deemed complete by sending a written verification of successful effectiveness check to VOSS.

3.8 Reclamation costs

On delivery of faulty parts, the supplier bears the responsibility for handling the necessary rectification, repair, modification, sorting work and also for all costs incurred for this issue concerning the whole supply chain.

3.9 Reworking of faulty parts

Reworking faulty parts that are noticed either during our production or as part of a complaint must only be carried out after carrying out a detailed risk assessment and in agreement with the VOSS quality management and must be labeled as reworked parts in each container before delivery.

3.10 Supplier evaluation and development

VOSS regularly (at least once annually) carries out a supplier evaluation through which the supplier performance regarding purchasing, quality and logistics aspects are evaluated. The supplier receives notification of the result in written form. The supplier is obligated to analyze the identified deficits and to provide VOSS purchasing department with the improvement program on request.

3.11 Escalation process

In the event of recurring quality or logistics problems, the supplier is admitted to the VOSS escalation process. With this process, suitable measures are implemented at the supplier site which ensures that the supplier performance meets the VOSS requirements again. Three stages can be employed here depending on the duration and difficulty of the problems.

Escalation stage 1:

Escalation stage 1 is caused when the problems are not settled in a satisfactory way during normal processing. In the course of the escalation process, the supplier must initiate an effective problem solution and present it to the quality and/or purchasing department of VOSS during a quality meeting. Development progress is monitored over a defined period by means of coordinated key figures and targets.In addition, measures such as the use of a firewall or support from VOSS during the problem-solving process can be required or decided.

Escalation stage 2:

In escalation level 2, the supplier can be blocked for new articles and projects and the ongoing measures must be checked on site at the supplier for appropriateness and effectiveness. This can take place, among other things, within the framework of quality and/or logistics audits. The results of the on-site analysis are documented in an action plan. The supplier is responsible for the implementation of the measures and must regularly report the corresponding status to the responsible bodies. Key figures and targets must be defined or, if already defined in escalation level 1, reviewed and, if necessary, redefined. The extension of the firewall to other products can be demanded.

Escalation stage 3:

If the quality requirements are not met in escalation stage 2, the supplier is placed in escalation stage 3. This means blocking the supplier for new requests and assignments. VOSS also carries out a 100% incoming goods inspection at the expense of the supplier. We also reserve the right to forward information to the supplier's certification body. In escalation stage 3, the existing problems are analyzed by a VOSS team on site. The supplier must be prepared to support all activities of VOSS employees. The management of the supplier must ensure the agreed measures are complied with.

To ensure the implementation or effectiveness of the planned measures, the progress is monitored and documented by regular reviews. Escalation stage 3 ends with de-escalation. If a supplier support project does not run successfully and the supplier caused this, approval will be withdrawn from the supplier in the portfolio of the VOSS purchasing department.

3.12. Supplier development programme

In addition, suppliers who have been evaluated on the basis of annual evaluation results and other indicators (e.g. effects of complaints on end products and production risks at our customers, etc.) by Supplier Development - VOSS Automotive can be assessed as "High Impact Suppliers" and nominated for the annual Supplier Development Program, which is intended to improve this situation and secure the future. The supplier is obliged to cooperate with SQD and makes every effort to achieve the set goals.
The supplier development program is concluded with the achievement of the set goals. If the objectives are not achieved, the programme will be extended or the escalation level increased, depending on the situation.

3.13 Special approvals

The delivery of products with nonconformities for the specification may only be carried out once prior written approval has been given by VOSS. The VOSS special release form provided by VOSS QS is used for this purpose.

These deliveries may only be made for a quantity or period agreed with VOSS.

Every shipment must be provided with a specially arranged label. This means that unless otherwise agreed between VOSS and the supplier, each packaging unit of the affected deliveries will be equipped with a copy of the signed VOSS special release.

3.13 Emergency planning

Emergencies or operation-related faults can have a great impact on the supply capability of the supplier. For this reason, the supplier is obligated to install, continuously monitor and further develop an emergency concept.

3.14 Obligation to inform

The supplier is obligated to inform themselves of the respective current version of this guideline. This will be published on the VOSS homepage after being updated.

3.15 Associated documents

The quoted standards must be procured either from the Beuth Verlag GmbH (www.beuth.de), or the Verband der Automobilindustrie e.V. - Quality Management Center (www.vda-qmc.de), or the Automotive Industrial Action Group (www.aiag.org) and the latest respective version of these standards applies in this guideline.