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TECHNOLOGY THAT LEADS

Quality Regulation for Suppliers

„QR 01“

Quality Assurance of Purchased Parts in the Kiekert Group

Quality throughout the supply chain is becoming increasingly important and is therefore an important key to the business success of the company.

This Quality Regulation 01 (hereinafter referred to as "QR01", or “Guideline”) applies worldwide to all suppliers of production material as well as to suppliers of raw materials and supplies, which are included in our products. In addition, the requirements of this QR01 for third-party services apply to our products and to the suppliers of production and operating resources as well as testing and laboratory facilities. For convenience, the terms KIEKERT and SUPPLIER are used below.
This QR01 explains the quality requirements of KIEKERT as well as of any subsidiaries and other affiliated companies towards the SUPPLIERS. It serves to implement a coordinated quality management with the aim of ensuring the quality of common products and the satisfaction of customers of KIEKERT.

The present QR01 is a binding document and part of all contractual agreements.
Subsequent changes become binding, as soon as KIEKERT has communicated them in text form to the SUPPLIER.

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1. General Terms

1.1. Purpose of this QR01

(IATF 16949: Preface Purpose)

KIEKERT, as a supplier to the automotive industry, produces high-quality products. The QR01 secures the procurement and production of high-value, high-quality products through suitable, technically recognized and economically justifiable measures.

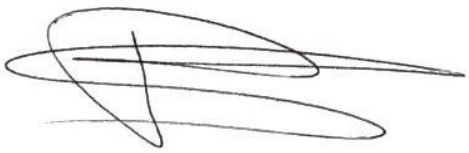
The purpose of this guideline is to help minimize quality issues and to ensure smooth operations between KIEKERT and the SUPPLIER, as well as to minimize costs, by describing the SUPPLIER's quality management system's minimum requirements.

The QR01 describes the technical and organizational framework conditions and processes that are necessary to achieve the desired quality goal.

All processes must be focused on "continuous improvement" and the goal "zero defects".

The quality produced by the SUPPLIER has a significant influence on internal processes of KIEKERT and thus on the quality of end products. Strict compliance with this agreement is to be ensured by the SUPPLIER, including product liability and warranty obligations.

Heiligenhaus, June 2020



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1.2. Validity of this Regulation

(IATF 16949: Chapter 1.1)

The present QR01 applies to all contracts between KIEKERT and its SUPPLIERS.

Deviations from this Guideline requested by the SUPPLIER must be agreed with KIEKERT and confirmed in writing by KIEKERT.

The present Guideline does not replace the - if applicable - requirements according to IATF 16949, DIN EN ISO 9001, DIN EN ISO 14001, sets of rules of the automobile industry in the valid version (e.g. VDA and AIAG) as well as customer standards, but contains the minimum requirements of KIEKERT only.

In addition to the present QR01, the GENERAL TERMS OF PURCHASE of KIEKERT (latest Status see: https://www.kiekert.com/en/procurement/downloads) apply. The application of “General terms and conditions” of the SUPPLIER is excluded.

1.3. Sustainability and Work Ethics

(IATF 16949: Chapter 5.1.1.1)

KIEKERT advertises reputable and honest conduction of business in the course of everyday procedures, which comply with relevant rules and regulations, described in KIEKERT’s accompanying documents (see addendum, e.g. Code of Conduct, Conflict-Free Smelters, among other). These agreements are also expected of our SUPPLIERS’ business partners, particularly where environmental protection, health and work safety, and human rights are concerned.

1.4. Confidentiality

(IATF 16949: Chapter 8.1.2)

KIEKERT concludes a separate NDA with the SUPPLIERS, which regulates the secrecy between KIEKERT and the SUPPLIER.

1.5. Warranty

(IATF 16949: Chapter 10.2.5)

Insofar as the contracting parties have concluded a separate warranty agreement, the provisions made in such a warranty agreement shall apply.

Otherwise, the regulations are valid in KIEKERT’s „General Terms of Purchase“ in its update version.

The SUPPLIER grants KIEKERT to concede rights resulting from warranty cases even if, despite a constricted goods-inward inspection under the terms of chapter 4.1, KIEKERT detects defects during or after assembly. After the discovery of defects, however, the SUPPLIER receives immediate information and is requested to limit the damage. The SUPPLIER is expressly advised that it is required to clarify the above arrangements with its liability insurer to ensure that it is nevertheless able to obtain the required product liability insurance, including the envisaged recall cost insurance. The minimum cover in case of damage must correspond to current business conditions (see FRM-GL-FI-012 Proof of Insurance Supplier).

1.6. Risk Management/ Contingency Planning

(IATF 16949: Chapter 6.1.2.3)

The SUPPLIER must ensure that all potential incidents that could adversely affect its ability to deliver within the supply and process chain are identified and evaluated on its own responsibility.

The contingency plans must be reviewed annually for effectiveness, adjusted if necessary, and must be submitted to KIEKERT upon request.

1.7. Product Liability

(IATF 16949: Chapter 4.4.1.2)

The SUPPLIER shall be obliged to provide extended product liability coverage, including cover for warranty, connection-, mixing- and processing-damage, other damage from further processing, removal and installation costs as well as inspection and sorting costs, including foreign claims (worldwide including direct exports to USA/ Canada).

The minimum cover in case of damage must correspond to current business conditions (see FRM-GL-FI-012 Proof of insurance supplier). The requirements for insurance protection do not constitute a limitation of liability; their sole purpose is to mitigate the liability risk borne by our SUPPLIERS. An annual review of the currently required minimum cover as well as their adaptation and presentation must be carried out independently by the supplier.

1.8. Quality Capability

(IATF 16949: Chapter 4, 8.5.1)

The SUPPLIER is fully responsible for the products and services supplied by it. The SUPPLIER commits to institute and maintain a Quality Management System. It is expected to proceed according to IATF 16949. The SUPPLIER must prove the effectiveness of its QM-System by means of a certificate at least in accordance with DIN EN ISO 9001. The use of relevant quality management tools (Core Tools) from the IATF 16949 is required. The supplier's clear development goal is the IATF 16949. The SUPPLIER provides KIEKERT with respective valid certificates without being asked and informs without being asked if a certificate has expired.

The SUPPLIER permits KIEKERT and its customers to perform audits to approve system, products, processes, and IT-security - at the request of KIEKERT or its customers, after consultation. The representative of KIEKERT and its customers must be given access to the production facilities. KIEKERT will in this case oblige its customers to adhere to secrecy obligations to the same extend as agreed upon under chapter 1.3.

The SUPPLIER obliges its sub-suppliers to comply with the obligations assumed by it under this agreement. Alternatively, the SUPPLIER must safeguard the quality of subcontracting through its own processes and procedures. KIEKERT may require the SUPPLIER to provide documented evidence that the SUPPLIER is convinced of the effectiveness of the Quality Management System at its subcontractors and/ or has ensured the quality of its purchased parts or external service by other suitable measures.

Insofar as KIEKERT provides the SUPPLIER with production and test equipment, these must be included by the SUPPLIER in its Quality Management System like its own production and test equipment, unless otherwise agreed. All operating and measuring equipment required by the SUPPLIER

for the provision of services and in its possession, but owned by KIEKERT, must be clearly and permanently marked as such. KIEKERT is responsible for the calibration of such operating and measuring equipment. Any other agreements must be concluded separately.

The quality agreements and standards agreed upon with KIEKERT are binding for the SUPPLIER.

1.9. Target Agreements

(IATF 16949: Chapter 6.2)

The SUPPLIER is committed to the zero-defect strategy and must continuously optimize its services accordingly. This goal must be pursued with measures such as consistent quality planning and series monitoring, with a focus on error prevention. Targets may be set in Target Agreements periodically. The setting of such targets does not affect the SUPPLIER's obligation to supply defect-free products only, nor does it relieve the SUPPLIER of claims by KIEKERT for defects in the case of defective or deviant delivery.

2. Product and Process Development (Quality Planning)

2.1. Project Management

(IATF 16949: Chapter 8.1)

In order to include the SUPPLIER in the quality planning as early as possible, KIEKERT as part of the project management, requires its SUPPLIERS to carry out systematic planning in accordance with VDA Volume 4 or AIAG APQP. This planning includes both, the products delivered by the SUPPLIER and its purchased parts or outsourced processes.

2.2. Inquiry Documents

(IATF 16949: Chapter 7.5)

The SUPPLIER receives technical documents (e.g. 3D data, drawings, specifications, specification sheets, customer requirements and standards, test specifications) with the quotation by KIEKERT. The SUPPLIER must obtain any missing documents for the preparation of an offer. Copyright-protected documents, such as standards, customer specifications, etc. are to be purchased by the supplier.

Through its change management process, the SUPPLIER ensures that all relevant departments are always provided with the latest documents submitted by KIEKERT. Invalid/ outdated documents are to be marked as such and withdrawn from circulation.

At the request of the SUPPLIER, KIEKERT shall offer the SUPPLIER technical support from the relevant specialist departments. If the SUPPLIER recognizes that the design specified in the technical documentation or the prescribed test methods can be replaced by more suitable, economical and/ or effective ones, KIEKERT expects appropriate suggestions.

2.3. Scope of the Offer

KIEKERT expects the SUPPLIER to clearly consider the respective request-documents in its offer. Deviations from these request documents must be clearly marked by the SUPPLIER.

2.3.1. Feasibility

(IATF 16949: Chapter 8.2.3)

The Feasibility Analysis is to be created with the submission of the offer and is a prerequisite for the award of the contract. The result of the Feasibility Analysis must be documented in the supplier portal ("eFA", electronic Feasibility Analysis).

The SUPPLIER checks the Feasibility Analysis of the product based on the technical documents submitted to it. For this purpose, all characteristics of a drawing or a specification must be individually assessed and confirmed. The Feasibility Analysis also includes the investigation of economic and process-feasible manufacturability, taking into account the requirements and information provided by KIEKERT in the supplier portal.

2.3.2. Scheduling

(IATF 16949: Chapter 8.1)

The SUPPLIER prepares a project-related schedule including resource planning, which also includes the scheduling of subcontractors. This schedule is to be presented to KIEKERT with the final offer and includes the following criteria:

- Feasibility Analysis
- Calculations (simulations)
- Process Flow Chart
- Process-FMEA/ if applicable Product- (Design-) FMEA
- Production Control Plan (CP)/ Test Plan
- Resources for monitoring and measurement
- Tool/ Equipment schedule including regular updating (if applicable via eTTS)
- Correction phase/ optimization loops by SUPPLIER
- Project relevant milestones including milestones of KIEKERT, e.g.
    - First Qualified Parts (FQP)
    - Date of initial sample inspection
    - Internal Production-/ Process-release audit (by SUPPLIER self-dependently)
    - Start of Production (SOP)
    - Launch Readiness Audit (LRA, performed by KIEKERT)
    - Run at Rate (R@R - Capacity-commitment and -verification, performed by KIEKERT)
    - Respective other

Changes and scope to the schedule may only be made in agreement with the AQP-responsible "Supplier Quality Engineer" (SQE) and the purchaser of KIEKERT and must be reported with sufficient lead time.

2.4. Ordering

(IATF 16949: Chapter 7.5)

With the order, the SUPPLIER receives binding, approved technical documents (e.g. 3D data, drawings) from KIEKERT. The SUPPLIER must check the documents and is obligated to inform if changes have been detected compared to the request status.

2.5. Duty to Inform

(IATF 16949: Chapter 8.2)

If it becomes apparent that agreements made between the parties (e.g. regarding quality, deadlines, delivery quantity) cannot be met, the SUPPLIER is obligated to inform KIEKERT without delay and initiate its internal escalation process. In the interests of finding a solution quickly, the SUPPLIER is obligated to disclose relevant data and facts and provides KIEKERT an action plan.

2.6. Special Characteristics

(IATF 16949: Chapter 8.2.3.1.2 / 8.3.3.3)

Special Characteristics require special consideration, as deviations in these characteristics may affect product safety, service life, assembly capability, function or quality of subsequent manufacturing steps, and regulatory compliance.

Special Characteristics are specified by KIEKERT in the "Quality Control Matrix for Special Product Characteristics (AQP special characteristics matrix)" and agreed upon together with the SUPPLIER. If there are no specifications for special characteristics, the SUPPLIER must independently select product and process characteristics, which make sense for product quality and process stability and submit to KIEKERT for approval. These result from the risk analysis of the SUPPLIER, e.g. from Product- (Design-) and/ or Process-FMEA. Special characteristics specified by KIEKERT are to be evaluated in the FMEA with a severity-value as defined in the "AQP special characteristic matrix".

Special characteristics must be identified by the SUPPLIER and marked in all relevant product and process documents (e.g. drawing, FMEA, risk analysis, test and production control plans). Special characteristics must be specially taken into account and monitored in all relevant planning steps. In order to prove adherence to special characteristics, scope and retention period of the necessary documents must be defined accordingly. All information must be available to KIEKERT upon request.

2.7. Process Flow Chart

(IATF 16949: Chapter 8.3.5.2)

The SUPPLIER is to create a process flow chart for the visual representation of the process chain. This process flow chart must be consistent with the Product- (Design-) and/ or Process-FMEA and the production control plan. Outsourced processes must be listed as part of the process flow chart.

2.8. FMEA

(IATF 16949: Chapter 8.3.5)

The FMEA is a method to detect potential errors in the development and production/ assembly of a product or in new manufacturing processes, to assess the resulting risks, and to avoid them by taking appropriate measures. It is carried out in a multidisciplinary team.

An FMEA must be created or revised on the following occasions:

- Development/ production of new parts
- Implementation of manufacturing processes/ manufacturing facilities
- Relocations
- Changes in drawings
- Changes in production processes
- To avoid errors
- For error prevention after a complaint
- Customer requirements (e.g. Reverse-FMEA)

When creating an FMEA, at least the following points must be considered:

- Special characteristics
- Material changes and mixing of materials
- Variant management
- Separation of defective parts, rework parts, setting parts and sample parts
- Technical cleanliness
- Lessons learned from similar products and processes

The FMEA must be carried out according to the methodology described in the latest standards.

2.8.1. Product- (Design-) FMEA

A Product- (Design-) FMEA is to be performed for all items developed under the responsibility of the SUPPLIER.

2.8.2. Process-FMEA

The SUPPLIER prepares a Process-FMEA for all process steps of an article. Particular attention must be paid to the special characteristics and, if applicable, the results of the Product- (Design-) FMEA. Furthermore, the Process-FMEA must be updated in case of changes and complaints.

Upon request by KIEKERT, the FMEA must be presented for inspection. Proof of creation of an FMEA is to be submitted at the latest during the initial sampling, with a corresponding cover sheet. Minimum requirements are information about initial investment, change status, FMEA team, as well as an overview of the evaluation methodology used, and the rating key used (in accordance with applicable regulations and/ or customer specifications; e.g. Reverse-FMEA requested by certain OEMs).

2.9. Total Productive Maintenance (TPM)/ Tool Management

(IATF 16949: Chapter 8.5.1.5 / 8.5.1.6)

The SUPPLIER must prove a documented TPM system. All tool-relevant data must be documented accordingly in a tool management system (e.g. release status, maintenance history, service life, etc.) If the SUPPLIER is commissioned with the production of tools, where KIEKERT or a third party (e.g. customer of KIEKERT) is the owner, these tools are to be marked as property of KIEKERT or the third party (see specification in the Supplier Portal). Tool data must be entered and updated by the SUPPLIER in the KIEKERT Supplier Portal, basis for this is the content of the tool order.

2.10. Production Control Plan

(IATF 16949: Chapter 8.5.1.1)

The production control plan is a planning tool. It must be derived from the FMEA and contain all the characteristics, which are rated as quality-relevant in the FMEA. The compilation takes place in a multidisciplinary team and covers all checks within the entire process chain. Generally, the scope and test frequency are defined in the "AQP special characteristics matrix".

The production control plans should take into account the results and experience of similar processes and products. The production control plan must be prepared in accordance with IATF 16949 Annex A1 for pre-series and series production phases. As far as applicable, the requirements of QR02 apply to prototypes.

The layout of the production control plan must comply with the requirements of the automotive industry in accordance with IATF 16949 Annex A2.

2.11. Inspection Instruction

(IATF 16949: Chapter 8.5.1)

The production control plan forms the basis for the Inspection Instruction. The Inspection Instruction shows all the characteristics to be evaluated with the associated test equipment and the test frequency for each work process.

For special characteristics, machine- and process-capability, investigations are to be scheduled. When planning, the determination of training for employees, as well as the setting up of workplaces with regard to statistical process control (SPC, control chart technique) must also be taken into account.

2.12. Resources for Monitoring and Measurement

(IATF 16949: Chapter 7.1.5.1.1)

For all characteristics to be tested resulting from the production control plan, the SUPPLIER must specify the test methodology with appropriate test equipment. The procurement process must be planned in such a way that the necessary test equipment for the pre-production start is available and suitability of test process is proven.

The SUPPLIER must provide evidence in accordance with the requirements of VDA Volume 5 or AIAG MSA. Records for test equipment monitoring of all gauges, measuring and test equipment must be kept. Evidence must be provided to KIEKERT upon request or for selected characteristics according to "AQP special characteristic matrix".

2.13. Statistical Process Control

(IATF 16949: Chapter 8.3.5.2 / 9.1.1.1)

The SUPPLIER commits to continually evaluate its processes and process flows by means of suitable software-based methods, to analyze errors and to carry out suitable corrective measures in order to maintain and improve process capability and to meet all requirements for zero-defect targets. Ongoing evidence must be provided by means of a CAQ system or other appropriate methods.

Process capability studies serve as a benchmark for the quality capability of the processes. For all special characteristics and, if applicable, further agreed inspection characteristics, the SUPPLIER must introduce suitable preventive measures and make these available to KIEKERT on request.

If customers of KIEKERT have no other requirements to statistical process capabilities (SPC), the following limits apply to demonstrate process capability:

- Machine capability: C_{mK} ≥ 2,00
- Preliminary process capability: P_{pK} ≥ 2,00
- Long-term process capability: C_{pK} ≥ 1,67 with continuous improvement.

Machine capability and Preliminary process capability must be performed during the sampling. Agreed capabilities are to be documented by the SUPPLIER and made available to KIEKERT upon request.

The determination of the capabilities is based on VDA Volume 4 or AIAG Manual SPC. Deviating demands for process capability or process capability index are agreed to separately.

If the SUPPLIER can not conform to agreed process capability, the SUPPLIER performs root cause analyses, agrees to appropriate measures with KIEKERT, and performs them accordingly in order to prevent defective parts from delivered.

2.14. Requirements for Materials and Substances

(IATF 16949: Chapter 8.3.4.4 / 8.4.2.2 / 8.6.5)

All purchased parts, substances, and materials used for the contractual item in the SUPPLIER's production, as well as the processes required to manufacture the products, must comply with the applicable legal and regulatory requirements, e.g. environmental protection and work safety, distribution, and destination countries. Otherwise, the regulations in chapter 10 apply.

Depending on demand, with each delivery, the SUPPLIER sends the current safety data sheet unsolicited to KIEKERT. In case of transient changes, KIEKERT will receive the updated version without separate request. If an inspection certificate 3.1 according to DIN EN 10204 is required according to the order documents, this must be prepared by the SUPPLIER and, if requested, transmitted within one day. Depending on requirements, KIEKERT shall be provided with the associated safety data sheet, technical data sheet and / or material certificate for sampling purposes.

The SUPPLIER records all substances, substance groups and material data in the International Material Data System (IMDS) of the automotive industry at www.mdsystem.com, or for Chinese OEMs, in the China Automotive Material Data System (CAMDS) at www.camds.org/camds_en/.

3. Result of Product and Process Development

3.1. Sampling of Prototype and Pre-Series Parts

(IATF 16949: Chapter 8.3.4.3)

Prototype and pre-series parts are products that are not fully manufactured under serial production conditions. The SUPPLIER must sample such prototype and pre-series parts according to VDA Volume 2 or AIAG PPAP or according to customer agreement (see below).

- Prototypes according to KIEKERT QR02
- Pre-series parts according to KIEKERT "Supplier Sampling Guideline"

3.2. Initial Sampling

(IATF 16949: Chapter 8.3.4.4)

The SUPPLIER shall sample samples of new products in accordance with KIEKERT's "Sampling Guideline for Suppliers". The Kiekert "Sampling Guideline for Suppliers" combines the requirements for Europe according to VDA Volume 2 (Production Process and Product Release PPF) and for NAFTA (USMCA) states according to AIAG PPAP.

The initial sampling includes the use of the serial tool, the serial machines, systems, and devices, including compliance with the serial parameters, serial cycle time, at the production site, serial packaging, and logistics. Furthermore, personnel perform the initial sampling, which is also used for further serial production and is trained according to the work and testing instructions. In addition, the products and processes of the production materials are released separately. The process parameters set during initial sampling must be recorded and archived by the SUPPLIER and added to the internal sampling documents.

For all special characteristics and, if applicable, for further agreed inspection characteristics, the SUPPLIER must carry out and document detailed analysis of the suitability of the production equipment and test equipment used, as well as process capability analysis and document them accordingly. To determine the machine capability analysis, all parts used must have the same requirements and be manufactured consecutively. For normal distributions, a representative sample size should be chosen. The evaluation of the preliminary process capability is to be presented to KIEKERT. The information given in Chapter 2.12 applies to the required limit values. Further details are regulated in the KIEKERT "Initial Sampling Guideline".

For goods that are relevant for product safety, the requirements of IATF 16949 (chapter 4.4.1.2) must be observed and considered in the supply chain.

When using external laboratories, they must be accredited to ISO/ IEC 17025 (or nationally comparable). The SUPPLIER must provide appropriate evidence for this.

The sampling documents must be sent in electronic form to KIEKERT.

Serial delivery may only be made after the initial sample approval.

3.3. Reserve Samples

(IATF 16949: Chapter 8.5.1.1)

Reserve samples - at least two undamaged of each cavity - are kept safe by the SUPPLIER and protected against environmental influences. If the color, appearance or surface are relevant to KIEKERT’s processes, the reserve samples shall apply as reference (e.g. laser welding: laser light transmittance, varnished or plated parts, among others).

4. Ensuring Product and Process Quality in the Series

Responsibility for the use of effective systems to monitor and continuously improve process and product quality lies with the SUPPLIER.

As technical possibilities permit, monitoring methods are to be used, which inevitably prevent the delivery of faulty products.

Details can be found in the respective KIEKERT standards/ Quality Assurance Agreements, compare list of co-applicable documents in appendix.

4.1. Exoneration (Easing of Burden) - Inspection by KIEKERT

(IATF 16949: Chapter 8.6.4)

The SUPPLIER is responsible for the adherence of specifications by means of an outgoing inspection in order to secure a flawless delivery of goods.

KIEKERT limits the incoming inspection for deliveries by SUPPLIERs to the detection of deviation in terms of quantity and identity of the ordered contractual goods, as well as obvious transport and packaging damage. Detected deviation and damages are reported immediately. Apart from that, KIEKERT is exempted from the obligation to inspect and to give notice in accordance with respective applicable law.

During the production process, KIEKERT inspects the delivered goods in accordance with the conditions of a proper business process and notifies the SUPPLIER of any defects immediately after they have been ascertained. Beyond that, the SUPPLIER waives the objection of the delayed notice of defect.

The SUPPLIER is advised that it is in its interest to coordinate the above provisions with its liability insurer. It lies within the responsibility of the SUPPLIER to maintain insurance coverage, whereas the minimum cover in case of damage must correspond to the current update amount in case of damage must correspond to the current update amount (see FRM-GL-FI-012 Proof of insurance supplier).

4.2. Treatment of Faulty or Suspect Parts

(IATF 16949: Chapter 8.7 / 10.2.3 / 10.2.6)

If KIEKERT or a customer of KIEKERT discovers a defect, an indication of the defect (complaint) will be provided by a test report and/ or written notice. Affected faulty parts will be sent to the SUPPLIER - as far as the SUPPLIER can reasonably be expected - or made available at KIEKERT for viewing.

The SUPPLIER is informed as to whether defective goods can be assembled conditionally or be sorted at KIEKERT. Reworking is generally not permitted and always requires previous coordination with KIEKERT. Within the scope of approved rework, the SUPPLIER continues to be responsible for the conformity of the goods in accordance with the latest approved release for delivery. The SUPPLIER is obliged to sort out and exchange faulty deliveries at its own expense so that no damage arises to KIEKERT. KIEKERT will set the timeframe for any actions.

Due to different time zones and to ensure production with consistent quality, KIEKERT reserves the right to take immediate measures in advance without the prior consent of the SUPPLIER (sorting out defective parts/ products). This is to reduce the risk of delivery of defective products to maintain customer satisfaction. Furthermore, KIEKERT reserves the right to choose the service providers to be used for any measures in the context of complaint handling. This should ensure the minimum standards required

for the actions to be carried out (quality and transparency of work), as well as access control in the KIEKERT plants.

The SUPPLIER must examine whether further faulty goods are located at KIEKERT or are in transit and inform KIEKERT immediately.

The SUPPLIER must ensure by sufficient means (e.g. examination, sorting, and scrapping of own inventory and goods in transit) that no further faulty products are delivered to KIEKERT. The SUPPLIER must ensure that products to be scrapped are rendered unusable before they are disposed of. KIEKERT may carry out a scrapping of faulty delivered products directly on site in coordination with the SUPPLIER. KIEKERT may request proof of the scrapping carried out. If requested by the SUPPLIER, it will take place under the supervision of a representative of the SUPPLIER. The costs of scrapping are borne by the SUPPLIER.

If the SUPPLIER identifies errors in its facility from which goods already delivered may be affected, KIEKERT is to be informed immediately. Immediate emergency measures must be implemented and announced immediately.

Upon receival of a test report, the SUPPLIER shall transmit all measures (e.g. immediate measures, medium- and long-term corrective measures) to KIEKERT in the form of an 8D report. The SUPPLIER notifies KIEKERT within 24 hours of receival of a complaint about the immediate measures taken (steps 1 to 3 of the 8D Report). The mid-term corrective actions (steps 4 to 5 of the 8D report) are to be reported within 3 working days, the long-term corrective actions (steps 6 to 8 of the 8D report) within 8 working days, unless otherwise agreed with KIEKERT. An extension of this period, e.g. by a comprehensive analysis at subcontractors, is to be notified by the SUPPLIER and agreed to with KIEKERT before the deadline. In the root cause analysis, the SUPPLIER uses appropriate methods (e.g. Ishikawa Cause and Effect Diagram, 5-Why).

The SUPPLIER is responsible for monitoring the effectiveness of medium and long-term measures. KIEKERT reserves the right to verify the effectiveness.

If claims or complaints of defects repeat, or test reports are not answered timely or correctly, visits and quality meetings are held with the SUPPLIER. Possibly, resulting audits are carried out at the SUPPLIER. KIEKERT reserves the right to charge the SUPPLIER for additional expenses resulting therefrom. Claims for indemnification resulting from complaints and consequential secondary costs are also invoiced to the SUPPLIER.

4.3. Part Defective Analysis on Field/ No Trouble Found Process (NTF)

(IATF 16949: Chapter 10.2.5 / 10.2.6)

In the case of field complaints, in addition to the 8D report, a method for damaged part analysis is to be performed, including an established No Trouble Found process and an extensive analysis of parts returned from the markets. To avoid recurrence of the problem, problem-solving approaches and corrective measures must be initiated or implemented. The SUPPLIER must communicate the results of these analyzes, findings and measures both, internally and toward KIEKERT.

4.4. Escalation

(IATF 16949: Chapter 8.4.2.5)

If a SUPPLIER repeatedly causes quality problems with KIEKERT and/ or a risk to the customer is to be expected, KIEKERT proceeds according to a defined escalation model. KIEKERT reserves the right to charge the SUPPLIER for the costs of the additional costs incurred as a result of extraordinary supplier development (e.g. event-oriented supplier audit).

5. Traceability and Documentation

5.1. Traceability

(IATF 16949: Chapter 8.5.2.1 / 8.5.4.1)

The SUPPLIER ensures traceability and continuous proof of quality of all materials, manufacturing processes, and products by suitable measures of production marking. This includes compliance with the FIFO principle throughout the supply chain. There are three traceability levels that are relevant:

1. Lot to Lot (Batch) – Traceability back to large single batch production
2. Box to Box – Lot (Batch) traceability split by subsequent processing operations.
3. Serialized – Single part traceability with unique identification

In the above cases, the product and process data will be available at the relevant level 1, 2, or 3, as indicated in the Feasibility Analysis (eFA) and as agreed and documented during APQP. This will be verified during the SUPPLIER LRA/ R@R.

Requirements for shipped products include:

- Must be traceable back to the raw material including the entire supply chain.
- A traceability map must be developed for the shipped products showing how the different processing steps are linked. This will be documented in the APQP record.
- The maximum size of a lot (batch) of one shift, or at a change of raw material, or where there are subsequent processing operations.
- Maximum lot (batch)/ box sizes shall be agreed to as part of business award.
- The product and packaging identification is part of the business award.
- The products and process data for the relevant traceability levels 1, 2, or 3 shall be made available upon request.

Traceability must be designed in such a way that, in the case of an error, it is possible to limit the defective products to at least the corresponding load carrier. The SUPPLIER must create and maintain plans for traceability to ensure continuous risk reduction.

Each package number of a shipping unit is to be listed on both, the delivery note and the acceptance test certificate (e.g. individual boxes on a pallet). The delivery note number ensures traceability throughout the entire process chain.

Separate arrangements for traceability are defined in separate Quality Assurance Agreements (e.g. QAA 01 "Quality Assurance Agreement for the processing, marking, and delivery of DS parts (safety parts with obligation to report: catch, pawl, striker)).

All product- and process-traceability-related records must be made available as fast as possible in the event of a quality-issue.

5.2. Recording Periods

(IATF 16949: Chapter 7.5.3.2.1)

The documentation is incumbent upon the SUPPLIER and must be carried out in a suitable form (fire and loss-proof), if necessary, with proven practicability (proof of discharge).

For documents, records and reference samples, the legal minimum retention periods must be observed. In addition, the recording period for all special characteristics and, if applicable, for further agreed inspection characteristics is 15 years after the series has expired (see VDA Volume 1). Longer storage periods (up to 30 years) are recommended against the background of the statute of limitations of product liability claims. The retention period for all other quality-related data is three years, beginning at the end of the year in which the data was created. The corresponding quality records must be submitted to KIEKERT upon request immediately.

If necessary, stricter customer requirements apply (e.g. GM "after the end of the series 50 years").

6. Requalification Examination

(IATF 16949: Chapter 8.6.2)

KIEKERT demands an annual requalification by the supplier. The requalification must be performed according to the CP (see chapter 2.10) as a complete dimensional and functional test, considering the applicable customer specifications for material and function. The SUPPLIER carries out the requalification examination without being asked and provides its documents or excerpts to KIEKERT immediately upon request. The first requalification must be carried out one year after serial release and annually thereafter.

If deviations from the latest, approved product release are found during the requalification, the SUPPLIER must inform KIEKERT immediately. Further procedure is to be agreed upon with KIEKERT.

7. Change Management

(IATF 16949: Chapter 8.2.4)

When submitting the offer, already the SUPPLIER considers that the machines and systems used must cover product life cycle of the goods and be state-of-the-art.

In order to properly perform test and inspection scopes necessary for serial production, the SUPPLIER must indicate changes in the manufacturing process, in particular changes in production processes and procedures, the relocation of production facilities, and the change of a sub-supplier in due time before the planned conversion date, and coordinate this with KIEKERT. This also includes any changes of or at subcontractors. The SUPPLIER may only implement the change after the approval of a change request in connection with a first sample release. The change release by KIEKERT must be attached to the relevant sampling documents.

7.1. Reason for Renewed Product and Process Approvals

(IATF 16949: Chapter 8.5.6)

Repeated sampling is always required for following occasions:

Engineering-changes	**Non-engineering-changes**
Product-changes	Installation of new or additional production equipment (machines, tools, lines, assembly)
Tool-changes	**Process-changes**
Material-changes	Relocation of production (relocation of sites or machines)
	Change of a sub-contractor of the SUPPLIER
	Suspension of production by ≥ 1 year
	Carry-over parts for other KIEKERT plants

"Non-engineering-changes" must be requested at least with a lead time of six months.

Exceptions in procedure and scope are only permitted in consultation with KIEKERT.

Details are described in the KIEKERT "Sampling Guideline for Suppliers".

7.2. Product History

(IATF 16949: Chapter 8.5.6)

At the request of KIEKERT, the SUPPLIER provides a product history. All changes to the product and changes in the process chain must be documented in a product history in accordance with VDA volume 2.

8. Supplier Management of KIEKERT

8.1. Supplier Monitoring and Evaluation

(IATF 16949: Chapter 8.4.2.4)

KIEKERT carries out a supplier evaluation covering the last 12 months for the SUPPLIERS of production material. The SUPPLIER will be informed in writing about the result in the supplier portal.

The stated goal is to prioritize cooperation with A-rated suppliers. If no evaluation has been achieved as an A- or AB-Supplier, measures must be taken (e.g. preparation and execution of an action plan) in order to provide the A-rated delivery service requested by KIEKERT.

8.2. Supplier Development

(IATF 16949: Chapter 8.4.2.5)

The objective of the SUPPLIER's development is a systematic improvement of delivery performance based on a regular analysis over a longer period of time.

A starting point for supplier development is the initial sourcing of new SUPPLIERS. New SUPPLIERS/ applicants are evaluated and developed by means of a potential analysis according to VDA 6.3.

Another essential criterion for supplier development is the supplier evaluation as well as the number and severity of complaints/ claims. If a SUPPLIER deviates from given expectations in any of these criteria within the past period of observation, a detailed situation analysis will be made based on the available data, for example through supplier meetings, site visits, target-oriented inspection or request of documents, and the SUPPLIER's classification into an escalation level in accordance with the subsequent matrix.

Escalation Level	Criteria	Solution
EL 0 (green)	The SUPPLIER is inconspicuous in the supplier evaluation.	• Continuous monitoring based on established SUPPLIER Evaluation
EL 1 (green/ yellow)	The SUPPLIER is conspicuous due to late and/ or defective delivery (deliveries) or a major damage to KIEKERT with a potential risk to the customer.	• Standard action tracking (8D Report) • Q-discussions (virtual), • Event-oriented SUPPLIER visits/ audits.
EL 2 (yellow)	The SUPPLIER is conspicuous in the supplier evaluation and/ or due to late and/ or defective delivery (deliveries) and a major damage to KIEKERT with a risk to the customer.	• Q-meetings (presence), • Action plan including evidence of effectiveness • CSL 1 • Event-oriented SUPPLIER visits/ audits
EL 3 (yellow/ red)	The SUPPLIER is conspicuous in the Supplier Evaluation and/ or there are repeated late and/ or defective deliveries and a major damage to KIEKERT with a risk to the customer (extraordinary actions required by the customer).	• Q-meetings (presence), • Action plan including evidence of effectiveness and sustainability, • CSL 2 • Presentation of actions by the SUPPLIER to KIEKERT. • Event-oriented SUPPLIER visits/ audits
EL 4 (red)	After classification of the SUPPLIER in EL3, the measures taken show no lasting improvement. The SUPPLIER is considered critical and enters EL4 along with “New Business Hold (NBH)”.	• Q-discussions (presence), • Action plan including evidence of effectiveness and sustainability • CSL 3 • Presentation of actions by the SUPPLIER to KIEKERT • Event-oriented SUPPLIER visits/ audits

The problem-solving methods defined in the above table in the problem-solving column can also be applied to existing SUPPLIERS in the case of new projects, new processes, new materials, new product groups and changed customer requirements. This can also be done as part of a potential analysis.

The aim is to achieve a systematic and sustainable improvement in delivery performance through effective measures, in particular

- to improve the QM-System of the SUPPLIER,
- to improve product quality,
- to reduce costs and
- to improve supply reliability and logistical processes.

8.3. Supplier Audits (Second Party Audits)

(IATF 16949: Chapter 8.4.2.4.1)

In addition to the triggers described in the matrix in Chapter 8.2, supplier audits can also be used for the following purposes:

- Supplier risk assessment
- Development of the QM system of the SUPPLIER (surveillance audits)
- Product and process audits

The determination of the need, type/ variant, frequency and scope of supplier audits is based on the following criteria:

- Risk analyzes
- Certification level of the QM-System
- (Official) requirements for product safety
- Customer demands
- Supplier performance

9. Subcontractor Management

(IATF 16949: Chapter 8.4, 8.3.2.3, and 8.4.2.3.1)

Subcontractors have a significant influence on the quality of the final product. The SUPPLIER should conclude Quality Assurance Agreements with its subcontractors for this purpose. The SUPPLIER must maintain a documented supplier management system. The SUPPLIER is responsible for the development of its subcontractors. The SUPPLIER should have the necessary skills and capacity to manage its subcontractors and monitor their performance. Incidentally, the regulations on subcontractors in Chapter 1.7 apply.

For SUPPLIERs of products and services including software or electronic hardware the QAA Electronics is to be considered additionally to this QR01.

10. Legal and Official Regulations

(IATF 16949: Chapter 1 / 8.4.2.2)

The SUPPLIER shall ensure that all applicable legal and regulatory requirements of the exporting country, the importing country and the country of destination specified by the customer are met. If the countries in question are not known to the SUPPLIER, it must request them from KIEKERT.

KIEKERT points out that all references to legal and official requirements listed in this QR01 refer to the up-to-date status.

11. Product Safety

(IATF 16949: Chapter 4.4.1.2)

The SUPPLIER appoints a responsible person (e.g. product safety officer) and ensures his/ her qualification through appropriate training. Should the responsibility change, the SUPPLIER is obliged to inform KIEKERT and to communicate who the new responsible person is. The requirements for product safety must also be guaranteed by the SUPPLIER at its subcontractors.

12. Severability Clause

If any provision of this QR01 is or becomes invalid or unfeasible in whole or in part, the remaining provisions of this QR01 remain unaffected. In lieu of the invalid or unfeasible provision, a valid and enforceable provision shall be ensured, of which the resulting objective comes closest to the invalid or unfeasible provision. The same applies in case of a gap.

13. Period of Validity

Validity of this Quality Regulation (QR01) remains for the entire Product Life Cycle and during running or open delivery commitments.

Annex

Confirmation

The SUPPLIER agrees to the requirements of this Quality Regulation 01 and agrees to comply with them.

Co-Applicable Documents

Abbreviation	Title
AIAG APQP	Advanced Product Quality Planning and Control Plan
AIAG CQI 9	Special Process: Heat Treat System Assessment
AIAG CQI 11	Special Process: Plating System Assessment
AIAG CQI 12	Special Process: Coating System Assessment
AIAG CQI 17	Special Process: Soldering System Assessment
AIAG CQI 20	Effective Problem-Solving Practitioner Guide
AIAG CQI 28	Traceability Guideline
AIAG FMEA	Potential Failure Mode an Effects Analysis
AIAG MSA	Measurement Systems Analysis
AIAG PPAP	Production Part Approval Process
AIAG SPC	Statistical Process Control
DIN EN 10204	Metallic products - types of inspection certificates
DIN EN ISO 9001	Quality Management Systems – Requirements
DIN EN ISO 14001	Environmental Management Systems - Requirements with guidance for use
IATF 16949	Requirements for quality management systems for series and spare parts production in the automotive industry
KIEKERT Form -FRM-GL-FI-012-	Proof of insurance supplier (see supplier portal)
KIEKERT Guideline	Sampling Guideline

Abbreviation	Title
KIEKERT Guideline	Metrological Expectations (Laboratory Guideline)
KIEKERT Guideline	Code of Conduct
KIEKERT Quality Assurance Agreement -QAA-21-	Quality Assurance Agreement on Process Monitoring/ Control in the Injection Moulding Process of Plastic Components
KIEKERT Quality Assurance Agreement -QAA-electronics-	QAA-electronics to be released in Q2/2020
KIEKERT Quality Assurance Agreement -QAA- Conflict-Free Smelters -	QAA-Conflict-Free Smelters to be released in Q3/2020
KIEKERT Quality Assurance Agreement -QSV-01-	Quality Assurance Agreement for processing, marking and delivery of DS parts (safety parts with obligation to report: catch, pawl, striker)
KIEKERT Quality Assurance Agreement -QSV-08-	Quality assurance declaration according for spring inspection/ testing (mass-production / initial sampling), processing, marking and delivery of DS parts – rather standard parts
KIEKERT Quality Assurance Standard -Mechatronic-	Quality assurance standard for the production and quality assurance of electric component carrier (ECC)
KIEKERT Quality Assurance Standard -Metal-	Quality assurance standard for the production and inspection of pawls (SPK) and catches (DRF)
KIEKERT Quality Assurance Standard -Metal-	Quality assurance standard for the production and inspection of frame boxes (SCK) and frame plates (SCP)
KIEKERT Quality Assurance Standard -Plastics-	Quality assurance standard for the production and quality assurance of plastic components
VDA Volume 1	Documentation and archiving
VDA Volume 2	Ensuring the quality of deliveries
VDA Volume 5	Inspection process

Abbreviation	Title
VDA Volume 6.1	QM system audit
VDA Volume 6.3	Process audit

The listed reference documents are always valid in their latest version.

This list does not claim completeness.

List of Abbreviations

8D	Eight Disciplines
§	Paragraph
A	Accepted
A/ AB	Performance classification in the supplier evaluation
AIAG	Automotive Industry Action Group
APQP/ AQP	Advanced (Product) Quality Planning and Control Plan
BGO	Black Grey Orange
CAMDS	China Automotive Material Data System
CAQ	Computer Aided Quality
C_{mK}	Capability machine Katayori (critical machine capability index)
	Katayori [Jap.] = "offset" or “shift” (of the process situation)
com	commercial
CP	Control Plan
C_{pK}	Capability process Katayori (long-term process capability index)
	Katayori [Jap.] = "offset" or “shift” (of the process situation)
CQI	Continuous Quality Improvement
CSL	Controlled Shipping Level
D	Dimensional
de	Deutschland (German for "Germany")
DIN	Deutsches Institut für Normung e. V. (German for "German institute of standardization")
DS	Dokumentationspflichtige Sicherheitsteile (German for "Security parts with obligation to documentation")
E	Escalation level (Development stage)
eFA	electronic Feasibility Analysis
e. g.	exempli gratia (Latin for "for example")
E-Mail	Electronic Mail
e. V.	eingetragener Verein (German for "registered society")
EL	Escalation Level
en	English
EN	European Norm
ePPAP	electronic Production Part Approval Process
etc.	et cetera (Latin for "and remaining")

eTTS	electronic Tool Tracking System
FI	Finance
FIFO	First In First Out
FMEA	Failure Mode and Effects Analysis
FQP	First Qualified Parts
FRM	Form
GADSL	Global Automotive Declarable Substance List
GL	Global
GM	General Motors (OEM)
HGB	Handelsgesetzbuch (German for "code of commercial law")
https	Hypertext Transfer Protocol Secure
IATF	International Automotive Task Force
ID	Identification
IEC	International Electro Technical Commission
IMDS	International Material Data System
ISIR	Initial Sample Inspection Report
ISO	International Organization for Standardization (in Greek from "isos" = similar)
IT	Information Technology
LRA	Launch Readiness Audit
ML	Maturity Level
MSA	Measurement System Analysis
NAFTA	North American Free Trade Agreement
NDA	Non-Disclosure Agreement
No.	Number
NTF	No Trouble Found
OEM	Original Equipment Manufacturer
.org	Generic Top-Level-Domain, originally for non-commercial organizations certainly
PPAP	Production Part Approval Process
P_{pK}	Preliminary process Katayori (short-term process capability index)
	Katayori [Jap.] = "offset" or “shift” (of the process situation)
Q	Quality
QAA	Quality Assurance Agreement
QM	Quality Management
QR	Quality Regulation/ Guideline

QSV	Qualitätssicherungsvereinbarung (German for "QAA")
QVP	Qualitätsvorausplanung (German for "AQP")
R	Rejected
R@R	Run at Rate
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
RL	Risk Level
RSMS	Restricted Substance Management Standard
SAP	Systems, Applications and Products in the Data processing
SOP	Start of Production
SPC	Statistical Process Control
SQE	Supplier Quality Engineer
SVHC	Substances of Very High Concern
UD	Usage Decision
USA	United States of America
USMCA	United States Mexico Canada Agreement (follow-up agreement of NAFTA)
VDA	Verband der Automobilindustrie e. V. (German for "Association of the Automotive Industry")
WWW	World Wide Web

Document History

1	Release	7th edition, complete revision	June 2020