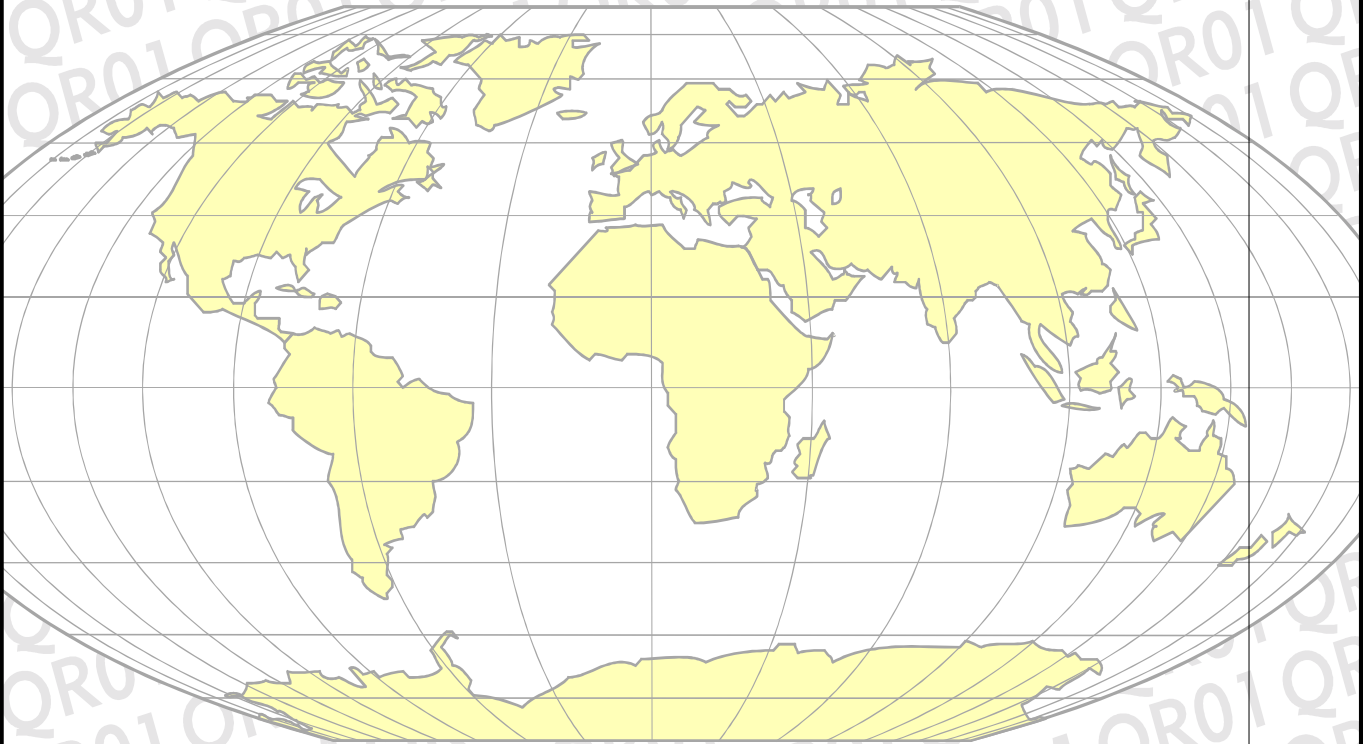


Quality Requirement for Suppliers QR01

**Quality assurance  
of  
purchased parts  
in the  
kiekert/keykert group**



**kiekert**

Locking Systems For Cars of the World

# kiekert

Locking Systems For the Cars of the World

## **Quality Requirements for Suppliers**

**-QR01-**

4. Fully revised issue, Heiligenhaus, August 2003

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# Chapter 1

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## 1. Preface

Over the past few years, our customers' requirements regarding system supplier product and service quality have increased continuously.

kiekert has been able to increase its market share each year and is meeting the international challenge by constructing further production plants throughout the world. Our industrial experience in the fields of locking systems, our technical knowledge, the quality and reliability of our products and the development potential which we employ guarantee that kiekert will continue to co-determine automotive technology in the future.

These changes and market globalisation necessitate the adaptation of our quality strategy and, in turn, complete revision of our **quality guideline for suppliers QR01**, which we are hereby publishing in this 4th revised version.

We now purchase 100% of the products used in our locking systems from our suppliers throughout the world. Our partners' performance and quality capability significantly contribute towards our joint commercial success.

Supplier and partner, expectation and performance, quality and service are in harmony with one another.

As a system supplier, global sourcing is assuming an entirely new procurement and quality strategy dimension for kiekert.

The procurement of our highly-specialised products is no longer exclusively limited to purchasing products from our globally operating suppliers, but also necessitates our partners' relocating to those parts of the world in which we require their specialised products and know-how, which has arisen as a result of many years of co-operation, subject to the applicable, local market conditions.

Accordingly, the requirements made on our suppliers are extremely high. QM systems such as, e.g. the EFQM model, ISO TS 16949:2002 and also EM systems such as ISO 14001 or EMAS are required today. Particular automobile manufacturer-related interpretations for obtaining the required specialisations also form part of this.

Under the aspect of common parts usage, however, these assume particular significance as regards kiekert's quality strategy. The requirements made on quality systems have to be standardised to kiekert's specifics in such a way that we are able to use these in our world-wide operations, strengthening and further extending our market and technological lead.

The kiekert **quality guideline for suppliers QR01** is therefore a binding quality assurance agreement which defines the quality system requirements made on our suppliers in uniform terms.

Thanks to our suppliers' performance capabilities and innovativeness in implementing the requirements which are made on them, we will be able to

# Chapter 1

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jointly meet the quality challenges posed by all of our customers throughout the world.

We require you, as our supplier and partner, to meet the requirements of our **quality guideline for suppliers QR01**, thereby enabling us to jointly develop and successfully manufacture our products to meet the very highest standards.

Heiligenhaus, August 2003

Strategic Purchasing

Quality Management

Strategic Purchasing  
Supplier Management

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H.-J. Iffländer

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W. Koltes

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S. Krepler

## Chapter 2

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### 2. Scope of validity

This **quality guideline for suppliers QR01** applies to contractors who supply drawing parts, assemblies and components for our locking systems. These include:

- Rotating parts
- Forged, flow-moulded, stamped and bent parts, rods
- Springs, spring washers
- Die and fine cast parts
- Injection moulded plastic parts
- Mechanical assemblies, Bowden cables
- Standard parts, bolts, pins, etc.
- Electric and mechatronic components, motors, wiring harnesses, connectors, switches, etc.
- Electronic systems, circuits, printed circuit boards, components
- Speakers, airbags, switch units
- Electric and mechanical window winders
- Rubber parts

Product development contractors and external transportation and storage service providers must meet the relevant requirements or specifications for each specific order.

Supplementary agreements based on this QR01 may be concluded with the relevant, responsible Kiepert divisions.

### 3. Requirements for suppliers

The following basic requirements are defined for our suppliers in order to ensure effective and objective-oriented co-operation between kiekert and its suppliers. These become valid on acknowledgement of this quality guideline and conclusion of the framework contract.

- Responsibility for planning and carrying out work at production, assembly and testing locations is borne exclusively by the supplier. He bears full responsibility to kiekert for the quality of the product which he manufactures or supplies, including the services and deliveries of sub-contractors, under consideration of the drawing regulations, technical delivery conditions, standards and legal and official regulations. In addition, he is personally responsible for procuring and updating the kiekert and customer regulations cited in the product specification documents. At least once a year, he must have the actuality of these confirmed by the standards department CU-S via our purchasing department PU. **Quality responsibility**
- On conclusion of the framework contract, kiekert quality officers are entitled to agree the measures required to maintain quality capability with the supplier and to check adherence to these agreements on a continuous basis. **Agreements**
- Following the arrangement of an appointment, kiekert employees and kiekert customers are granted access to the production plants and testing facilities. **Right of access**
- The supplier is obliged to record and evaluate the data which the kiekert quality officer considers necessary to document quality and to make these available along with the relevant delivery or upon special request. These data must be kept accessible throughout the duration of their storage. **Documentation**
- If unforeseen tests or rework become necessary due to the determination of a defect, incomplete data on the delivery papers, incorrect deliveries or missing / incomplete proof of quality, the costs incurred for these are invoiced to the supplier. **Defect costs**
- The supplier is obliged to grant kiekert its warranty rights even if kiekert only discovers defects, which could have been ascertained during a technical incoming goods inspection, during or following processing. Following the discovery of defects, however, the supplier is immediately informed and is requested to carry out damage limitation. The supplier is expressly informed of the fact that he is obliged to clarify the above mentioned regulation with his liability insurer, in order to ensure that he is able to obtain the required product liability insurance, including the intended recall cost insurance. **Warranty**

The supplier is aware, and agrees to, the fact that kiekert has to grant its customers very long warranty periods. As a result of this, the supplier agrees to the fact that the warranty period for the products which he supplies shall be 24 months, calculated from the initial

## Chapter 3

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registration of the vehicle in which the kiekert product is installed.

- ❑ If the agreed QM measures arising from this quality guideline or the part-related quality and testing measure agreements are not met and defective products are supplied and processed as a result of this, leading to additional production costs, production downtime costs or additional logistical costs, kiekert reserves the right of recourse. **Consequential damage**

- ❑ New development suppliers will be evaluated by us within the framework of a development audit and, following successful completion, will be released as development suppliers for co-operation in new projects. **Product development**

A contract "regarding co-operation in developing motor vehicle locking systems" will be concluded with all development suppliers.

The i2 project, the development audit and the contract define the prerequisite for development suppliers.

More extensive documentation can be found in the i2 "Innovation through integration" project and our Internet platform.

Development suppliers commissioned to develop and design products are obliged to perform the following services and co-ordinate these with the corresponding CD and CU divisions, to request the necessary requirement specifications from these divisions in writing and to seek confirmation that these are up to date.

- Execution of computer-aided design (CAD) according to the regulations required by kiekert and under consideration of the customer-specific CAD- specifications.
- Provision of the CAD data in the relevant data format required by kiekert. If the data have to be converted, e.g. because the supplier works in a different data format, the supplier is responsible for checking the converted data, correcting any conversion errors and supplying us with these data in the desired format.
- Computer-aided (CAD) generation of the required drawings according to kiekert standards and under consideration of the customer-specific drawing specifications.
- Execution of computer-aided analyses.
- Execution of risk analyses.
- Execution of the development project according to the QM methods described in VDA Volume 4, Part 1 "Ensuring quality prior to use in series production", insofar as is appropriate and necessary. If tests are required parallel to development in order to verify and validate the design, these must be documented in test protocols and in the DVP&R in accordance with our standards.
- Delivery of prototype safety parts in accordance with our test specification PV-4906 0022 "Technical delivery conditions for prototype safety parts".

- ❑ Prior to the commencement of extensive product tests (measurements and tests), the supplier co-ordinates the measurement method and possibly the measurement equipment to be used with the kiekert quality assurance department representative. Data should be compatible with kiekert's measuring system. **Product testing**

## Chapter 3

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- ❑ The contingency plan describes the potential risks and the safety precautions introduced for all of the supplier's operating and production departments. The supplier is personally responsible for defining a contingency concept, in order to rule out the risks of interrupted or impeded delivery capability. In particular, the points listed in kiekert's contingency plan form must be integrated for this purpose. **Contingency plan**
  
- ❑ The supplier is obliged to conclude product liability insurance in order to cover the liability risk. This must contain recall cost insurance for a maximum of 2 cases of damage per year. **Liability insurance**  
The minimum coverage per case of damage is €7.5 million; the supplier's liability is not limited as a result of this.  
This necessary insurance protection can be covered by joint group insurance for kiekert and its partners.  
The concluded insurance contracts do not represent liability limitation; they merely serve the purpose of reducing the liability risk borne by our partners.

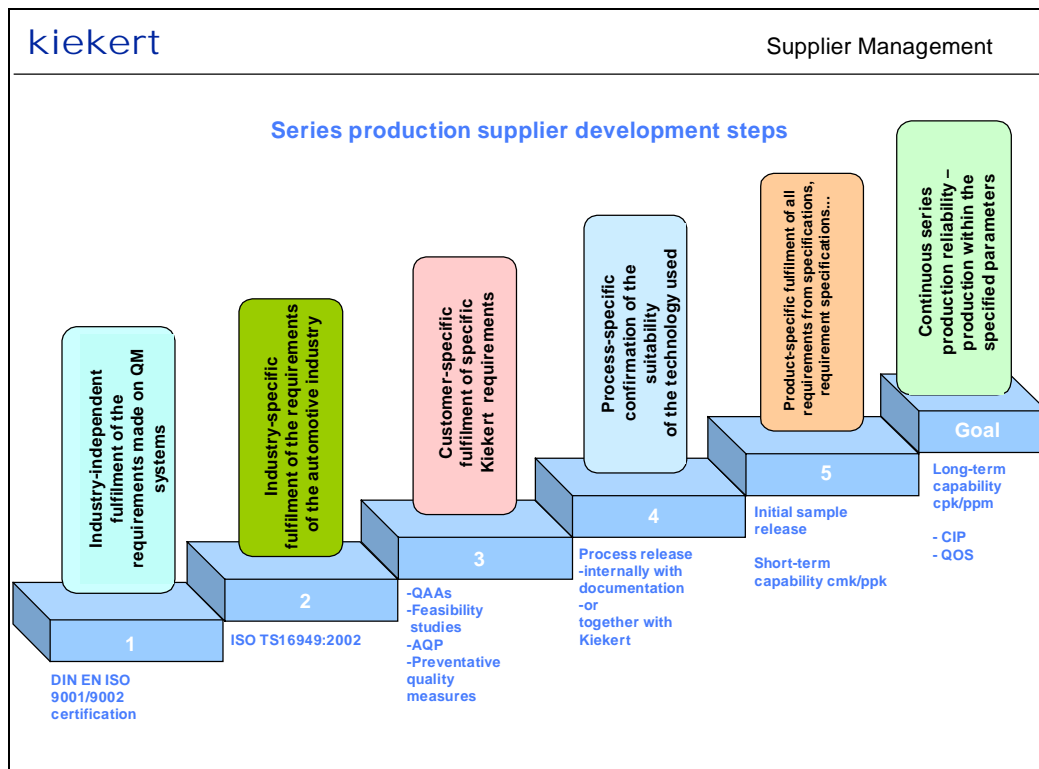
**Deviations from the requirements defined in this quality guideline necessitate written confirmation by the responsible party within the strategic purchasing department.**

## 4. Supplier selection and registration

Our suppliers' QM system must be developed in accordance with the industry-specific requirements of the automotive industry (see Figure, step 2).

Before a producer can become a Kiekert supplier, Kiekert evaluates the supplier prior to the conclusion of a supply contract, with the objective of determining:

- ❑ whether a QM system which meets the requirements of the automotive industry (ISO TS 16949:2002,) based on the DIN EN ISO 9000:2000 standards, is installed,
- ❑ whether the supplier has corresponding development potential,
- ❑ whether the supplier is capable of meeting our logistical and DP requirements,
- ❑ whether the supplier is capable of meeting our quality standards in accordance with our quality guideline QR01 and the development steps depicted in the following



## Chapter 4

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Evaluation for registration can be carried out e.g. via:

- A kiekert-specific registration / process audit**
- Carrying out a QM system audit (QSA / Potential Supplier Assessment)**
- Recognition of a QM system audit previously conducted according to the requirements of the automotive industry by an accredited certification body or a QM system evaluation by an automobile manufacturer or supplier**

**Supplier registration procedure**

Supplier registrations will be repeated as required.

Suppliers who only initially possess non-industry-specific certification according to DIN EN ISO 9000 must provide proof of higher qualification according to the requirements of the automotive industry on the basis of a schedule.

Non-industry-specific certification according to DIN EN ISO 9000 is not in itself sufficient as a registration criterion (step 1).

### 4.1 Process registration procedure (process audit)

Prior to the assumption of series production deliveries, process release may be carried out by means of a process audit.

The process audit serves to assess the effectiveness of the QM measures on a specific process. The correspondence of other applicable documents, e.g. operating instructions, specifications and customer requirements, is examined in context.

Unscheduled process audits may become necessary due to current events. Reasons for carrying out process audits may include:

**Process audit according to VDA 6.3**

- Current complaints, declining product quality**
- Product / process changes**
- Delivery irregularities, incorrect deliveries**
- Process qualification as part of initial sample release**
- Supplier registration**

kiekert issues process release if the supplier has provided proof, on the basis of the control plan and supplementary documents such as

**Process release**

- Machine / process parameter definition**
- Process capability proof, collective defect cards**
- Proof of Measuring equipment capability**
- Maintenance plans**
- Cycle time calculations / ramp-up part requirement curves, etc.**

that, taking current kiekert delivery call-offs into consideration, continuous series production reliability is guaranteed whilst maintaining process capability.

**Series production reliability**

### 5. Project management

The supplier must be equipped with a suitable project management system.

A project manager, who co-ordinates all planning activities, must be appointed for each project. The relevant, specialist project managers must be made known to kiekert as contact persons throughout the course of the entire project. **Project responsibility**

In order to meet the project objectives from a technical, scheduling, financial and quality point of view, an overall project plan, which is valid for all departments and clearly reveals all of the planned objectives, must be drawn up. **Overall project plan**

The overall project plan should reveal risks and critical project elements at an early stage, thereby enabling correctional measures to be introduced if necessary.

The entire scope of the project plan (project management) depends on the complexity of the product and will be co-ordinated with kiekert.

#### 5.1 Project progress status reports

The supplier must maintain a status report which reflects the current status of the project plan. This should provide information on those points of the plan which are in critical status and when this status can be rectified.

The status report will be submitted at the request of kiekert or due to special circumstances. **Submission frequency**

## Chapter 5

### 5.2 Project plan: advanced quality planning (AQP)

The supplier shall draw up a specialist, detailed project plan for advanced quality planning.

Amongst other elements, the project plan monitors:

- the determination of kiekert's quality requirements
- the buildability evaluation process
- saleable product quality planning activities
- measuring and test equipment procurement and acceptance
- series production supply release

Project progress monitoring must be specified in the project plan and should not exceed periods of 4 weeks.

#### Project plan AQP

No.	Procedure name	Duration	1997							1998							
			O	N	D	J	F	M	A	M	J	J	A	S			
1	Order assignment decision (project inauguration)	1	█														
2	Buildability evaluation/declaration	4	█														
3	Determination of Q requirements / agree Q goals	8	█														
4	Define critical and significant characteristics	7	█														
5	Co-ordinate packaging and identification	3	█														
6	Co-ordinate D part handling	2															
7	D-FMEA / FMEA interfaces	2															
8	Sub-supplier quality assurance	61	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
9	Define/agree sub-supplier Q goals	14															
10	Agree Q measures with sub-suppliers	28															
11	Sampling and release of parts purchased from sub-suppliers	21															
12	Saleable product quality planning activities	146		█	█	█	█	█	█	█	█	█	█	█	█	█	█
13	P-FMEA generation	60															
14	Generate pre-series test plan/control plan (other samples)	30															
15	Generate series production test plan/control plan	17															
16	Generate test sequence plan for autom. tests	40															
17	Operating equipment procurement and release	299															
18	Pre-series tools and production equipment	10															
19	Procure and release tools and production equipment	1															
20	Measurement and testing equipment	1															

Procedure   
 In progress

The updated project advanced quality plan is submitted at intervals of 4 weeks or subject to agreement

Supplier:.....			Project advanced quality planning (AQP)														
Project man:.....			Part name:.....														
Signature:.....			Part No.:.....Index:.....														
No.	Procedure name	Duration	1997							1998							
			O	N	D	J	F	M	A	M	J	J	A	S			
21	Testing equipment procurement and release	1	█														
22	Measurement system evaluation	1	█														
23	Measurement and test co-ordination with kiekert	1															
24	Result documentation	1	█														
25	AQP meeting with kiekert (check list)	1															
26	Series production part sampling	1															
27	Pre-production series production/internal release	1	█														
28	Execution of capability studies	1															
29	Initial sample acceptance deadline	1	█														
30	Series production ramp-up	1															
31	Series production ramp-up process with cpk values	1															

Procedure   
 In progress

The updated project advanced quality plan is submitted at intervals of 4 weeks or subject to agreement

### 5.3 Project plan: product development

In so far as the supplier has been commissioned to develop a product, he bears full responsibility for processing all development activities. **Co-ordination**

During the development phase, the supplier must remain in close contact with kiekert so that continuous co-ordination, particularly at the interfaces to components designed by kiekert, is guaranteed.

The supplier draws up a "product/design development" project plan, which reveals the time required for the development project and which is co-ordinated with kiekert's development and design departments.

### 5.4 Advanced quality planning meeting

During process / product development advanced quality planning meetings (AQP meetings) are conducted with the kiekert quality officer and the supplier's project manager.

The advanced quality planning meetings serve to co-ordinate quality assurance measures with the suppliers and, via the use of check lists, ensure that all planned quality activities are carried out and documented prior to the launch of series production. **Objective of the AQP meetings**

If deviations are determined, suitable correctional measures must be introduced. kiekert must be notified in writing that the deviations have been eradicated.

Critical characteristics, which necessitate statistical proof of capability within the framework of initial sampling and possibly during series production, are jointly defined. **Critical characteristics**

These characteristics are selected according to defined drawing specifications, the planned production conditions and production and product requirements.

The planning results are documented in the "Advanced quality planning check list" form and apply as a part-specific quality assurance agreement. **Quality assurance agreement**

## Chapter 6

### 6. Feasibility analyses

Within the framework of advanced quality planning, the supplier carries out **Feasibility analyses** buildability analyses and evaluates the buildability and feasibility of the specifications, by integrating his know-how, together with his production and assembly departments, his sub-suppliers and, if necessary, Kiekert's development and design departments.

The supplier thereby ensures that the product which is to be supplied can, taking the available production equipment and capacity into consideration, be manufactured, assembled, packaged and supplied under adherence to the specifications and quality requirements.

This is fundamentally necessary for new parts, and must be revised and reconfirmed in the event of product and process changes.

The supplier draws up the buildability analysis as a result of the buildability evaluation.

**kiekert** Feasibility Analysis

Part number: \_\_\_\_\_ Index: \_\_\_\_\_  
Description: \_\_\_\_\_  
Project: \_\_\_\_\_

1. Is the article  
feasible?  
 Yes  
 No, if  
\_\_\_\_\_

2. Are all the  
specifications  
 Yes  
 No, if  
\_\_\_\_\_

3. Are the 6  
the limits  
 Yes  
 No, if  
\_\_\_\_\_

4. Can the 1  
perform  
 Yes  
 No, if  
\_\_\_\_\_

**kiekert**

5. Are the service conditions of the article known and is it suitable for this application in principle?  
 Yes, the service conditions are known and the article is suitable for this application in principle.  
 No, the service conditions are not known or not fully known to us and we regard the following points as critical:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Summary of the Feasibility Analysis

The article is producible with process reliability taking into account the ppm-defects target - with capability indices and ppm rates. No design changes or specification-related changes are necessary.

The article is producible in principle. Minor changes in design or specification are necessary. A consultation with Kiekert's design department is scheduled for \_\_\_\_\_.

With regard to the present specification the article is not producible. Major changes in design or specification are necessary in order to guarantee producibility with process reliability. Nevertheless, in principle we believe a change can be implemented. A consultation with Kiekert's design department is scheduled for \_\_\_\_\_.

The article is not producible. A fundamental change in design, specification or method of manufacture would be necessary (if) do not see any possibility of producing the article with process reliability on an economically acceptable basis.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Supplier's production manager

\_\_\_\_\_  
Supplier's quality manager

Forms

### 7. Documentation obligation / safety parts

According to internal kiekert regulations, safety parts subject to obligatory documentation are selected products whose drawings are marked with a triangle standing on end within a circle.

**Safety part  
documentation  
symbol**



The drawings additionally contain a reference to the internal QM operating procedure SOP-D-27-30-10-00, Appendices 1 and 2 of which specify the characteristics subject to obligatory documentation for the relevant product groups. The supplier bears personal responsibility for procuring and updating Appendices 1 and 2 of SOP-D-27-30-10-00.

**Characteristics  
subject to obligatory  
documentation**

The supplier must ensure that safety parts which are subject to obligatory documentation are clearly identified throughout all material flow stages, in order to prevent products from becoming mixed.

All quality-relevant documents pertaining to such parts must be clearly identified as "subject to obligatory documentation".

The supplier carries out all of the tests required to provide proof - if applicable to the specific product - on the safety parts which are subject to obligatory documentation with regard to the characteristics subject to obligatory documentation as specified in SOP-D-27-30-10-00 Appendices 1 and 2 and such additional characteristics as agreed in the AQP meetings. He guarantees to document and store the test results and the relevant process parameters for his own production process and his sub-contractors' production processes.

Unless otherwise agreed, the storage period for such documents is 15 years. Regulations regarding the type and manner of storage and ensuring access at all times must be defined in the supplier's QM system.

**Storage period**

### 8. Series production supply release

Prior to the assumption of series production deliveries, a series production supply release must be available for each production part number.

Supplier carries out initial sampling inspection (production part approval procedure) and confirms adherence to all requirements in accordance with drawings, requirement specifications, standards, specifications and legal regulations. Initial sample acceptance is preferably carried out at the supplier's premises. **Initial sampling inspection**

Initial sampling inspection is carried out using parts which have been manufactured under defined process, testing and logistical conditions, which must be identical to those subsequently applied during series production. (See DIN 55350, VDA Volume 2, QS9000 PPAP guideline). **Series production conditions**

In the following cases, initial samples must be presented to kiekert prior to the assumption of series production deliveries: **Initial sample presentation**

- new products**
- modified products**
- on eradication of a deviation from previously presented products**
- on use of new tools or production facilities**
- on relocation of production to a different plant or to sub-suppliers**
- on use of other possible materials which were not approved for the part**

In the following cases, kiekert must be informed of changed series production conditions: the kiekert quality officer then decides on the submission of an initial sampling inspection report:

- in the event of a change in sub-suppliers**
- changes in production processes**
- long breaks in production (>12 months)**

Initial sample parts are only accepted if the drawing's change field contains the specification "Product released" (also see Section 8.8 -Other samples-). **"Other samples"**

The supplier updates his initial sample documents in such a way that these reflect the current process and the status of the part at all times.

If kiekert dispenses with submission, the initial sample documents must bear the name of the kiekert quality assurance department representative who issued this dispensation, plus the date.

This does not release the supplier from his duty of conducting, documenting and archiving such tests.

### 8.1 Scope of sampling

The supplier bears full responsibility for carrying out initial sampling inspection and for documenting all results. **Responsibility**

He generates the initial sampling inspection report for the production parts which are to be supplied.

The initial sampling inspection report is comprised of the cover sheet and the required test result reports.

The test result reports are sub-divided into the following 9 report sections: **Report sections**

- Section 1: **Deviation report**
- Section 2: **List of individual parts used**  
Specification of the part number, change status and release status for all individual parts contained in assemblies and components **or** a visual inspection report approved by the automobile manufacturer for appearance-dependent parts.
- Section 3: **Dimensional report**  
List of all nominal dimensional values with assignment to the actual values by means of item numbers or actual values, legible directly on the part drawing.
- Section 4: **Material report**  
List of all material specifications in the form of a nominal/actual value comparison. Certificates regarding material tests which have been carried out must correspond in full to EN 10204 3.1 B. List of all function, endurance and reliability test results, results of surface treatment and surface resistance tests which have been carried out.
- Section 5: **Proof of capability**  
List of all capability indices for machine capability/preliminary process capability cmk/ppk pertaining to the critical characteristics defined within the framework of advanced quality planning, incl. the statistical evaluation protocols. Capability is regarded as proven if the determined cmk / ppk value is  $\geq 2.0$  (see Section 9.4)
- Section 6: **Measurement methods**  
Specifications regard the measuring tools, test equipment, mounting facilities, hardware, test software, etc. used. Measurement orientation co-ordinated with kiekert measuring technology.

## Chapter 8

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- ❑ Section 7: **Design approval**  
Copy of design approval for parts for which "Release according to EH 4.1/26" is specified in accordance with the drawing specification.
  
- ❑ Section 8: **Process sequence plan**  
Depiction of the production progress achieved with all process and test steps and the parts and auxiliary materials supplied to the process.
  
- ❑ Section 9: **Materials contained in purchased parts (environmental compatibility report)**  
Entry of the contained materials in the IMDS with specification of the IMDS No. in the material report.  
Material data sheet: safety and environment completed by the ISIR (initial sampling inspection report)  
**Note:** VDA list of materials subject to obligatory declaration.

kiekert-specific forms are available as files for perusal and processing by our [Forms](#) suppliers.

All basic drawings (positioned drawings in original size), design documents, catalogue or standard specifications, poss. with a visual inspection report, must be enclosed with the initial sampling report.

Characteristics which cannot be tested by the supplier himself must be proved by means of test certificates from accordingly accredited external institutions.

If the required scope of sampling is incomplete, the supplier is informed by means of a test report, and is requested to complete the documents within three days. [Rejection](#)

If this period of grace is not adhered to, initial sampling cannot be carried out by kiekert, and the currently available scope of initial sampling is rejected.

The test report contains a negative delivery evaluation, which may possibly be used in evaluating the supplier.

## Chapter 8

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### 8.2 Internal release

Prior to the submission of samples to kiekert, the supplier carries out an internal, documented release procedure pertaining to his tools, processes and purchased parts.

Upon request, the "internal release" documentation must be enclosed with the sampling documents.

### 8.3 Deviations

The supplier summarises the deviations determined from all report sections in the deviation report.

If the supplier is unable to eradicate deviations which have been determined due to deadline or technical reasons, the supplier submits the deviation report for evaluation prior to initial sample acceptance.

kiekert evaluates the specified deviations according to technical aspects and may possibly approve these on the deviation report.

Those deviations which are still present on approval are therefore initially released for series production, but must be eradicated at a later point in time by and at the expense of the supplier upon request by kiekert. **Release with reservation**

### 8.4 Sample scope and identification

The production parts submitted for initial sampling inspection must be taken from a representative production run. **Production run**

In order to achieve this, at least N=300 parts must be produced in a pre-production series, unless a different quantity has been agreed in writing with kiekert.

5 samples or, if tools / production facilities are of a compound design, 5 samples per nest / cavity, must be submitted to kiekert's quality assurance department.

The random sampling quantities in accordance with the "SPC application overview" Table in Section 9.5 apply with regard to capability evaluations. **Proof of capability**

Capability indices must basically be specified separately according to nests / cavities.

All initial samples which are submitted must be clearly identified with an "INITIAL SAMPLE" sticker on their delivery documents and individual packaging units. **Identification**

### 8.5 Definition of acceptance steps

Depending on the defined supplier qualification, initial sample acceptance may be carried out according to the acceptance steps specified in the following.

The acceptance steps are defined as follows:

#### Acceptance steps

- Acceptance step A1 All documentation remains at the supplier's premises. For acceptance purposes, kiekert is provided with the ISIR cover sheet and poss. the deviation report approved by the kiekert development and design departments (in addition, the report approved by the automobile manufacturer in the case of appearance-dependent parts). No sample deliveries are required.
- Acceptance step A3 The entire scope of sampling is submitted to kiekert for acceptance. Sample deliveries are carried out in accordance with call-offs. This procedure must basically be applied to the delivery of "Other samples" in accordance with the scope of sampling specified in Section 8.8.
- Acceptance step A5 All documentation remains at the supplier's premises. Acceptance is carried out at the supplier's premises after inspecting all sampling documents and assessing the production process. If any deviations are present, the deviation report approved by the kiekert development and design departments must be available. Upon request by kiekert, sample deliveries are required for installation tests.

The acceptance step which is to be applied must be specified on the initial sampling inspection report cover sheet.

### 8.6 Initial sample release

Initial sample release is carried out if:

- all characteristics lie within the specified limits or, in the event of deviations, the deviation report approved by the kiekert development / design and quality management departments is available.
- all documentation, and therefore the agreed quality documents, is available.
- machine capability / preliminary process capability cmk / ppk has been proved on all characteristics for which statistical proof of capability is required.

### 8.7 Initial sampling inspection result

One of the following usage decisions is specified per test result report and **Usage decision** as the overall decision in evaluation of the initial sampling inspection report:

- UD 1 released,**  
**without any restriction whatsoever.**
- UD 2 released,**  
**deviations for which correction is initially postponed.**
- UD 3 released,**  
**conditional for a defined period of time.**  
**Correctional measures and subsequent sampling are required.**
- UD 4 rejected,**  
**correctional measures and subsequent sampling are required.**

The initial sampling inspection result is documented in the central EDP system and helps the logistics department to sub-divide series production delivery call-offs.

The supplier is informed of the initial sampling inspection result.

Deliveries without valid initial sample / other sample release require written approval from kiekert.

## Chapter 8

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### 8.8 Other samples

This involves products and materials which have not been manufactured under series production conditions, or whose drawing does not yet contain the specification "released for production" (part with limited product release / status N part). **Status N part**

Other samples are requested from the supplier by kiekert in the same manner as samples for initial sampling inspection reports, with an order specifying the deadline.

The report cover sheet and all enclosed report sections must be identified as such in the "**Other samples test report**" field.

The EMPB must be generated as described in Point 8.1.

Other samples, which do not meet the initial sampling conditions, must be clearly identified as such in the reporting system.

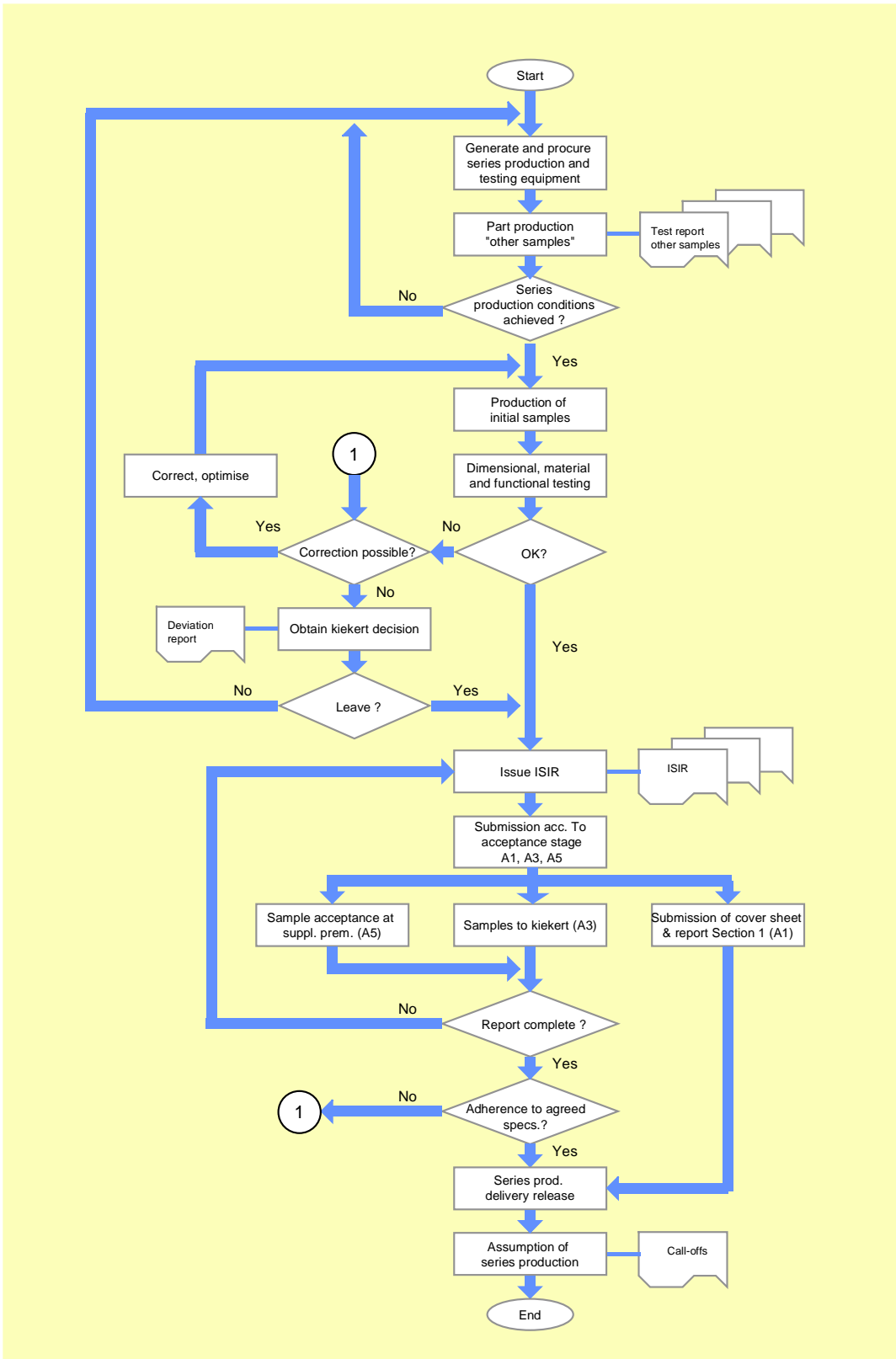
The usage decision regarding other samples on the part of kiekert does not simultaneously signify series production supply release and does not justify dispensation with initial sample processing.

### 8.9 Storage of documents and sample parts

The supplier stores all documents in accordance with the storage periods defined in his QM system, including 2 sample parts per nest / cavity, each identified with the report number and date. **Storage period**

# Chapter 8

## Series production supply release flow chart



## Chapter 9

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### 9. Process steering

The supplier must apply a procedure which ensures that the product creation process is planned and monitored.

This element's task includes planning production, assembly, testing and maintenance processes, and therefore all production organisation.

Suitable project plans, which give consideration to planning steps for implementing process-validated series production, must be applied to achieve this (see Chapter 5).

The product and process characteristics which are important as regards product quality must be defined and co-ordinated with kiekert (see Section 5.4).

#### 9.1 Work sequence planning

The planned work sequence must be graphically depicted in a process flow [Process flow chart](#) chart.

Using this schematic depiction of the process sequence / work sequence, the quality assurance steps required for each step of the sequence are described in detail.

#### 9.2 System FMEA

The supplier must commission a multi-disciplinary team to generate a Failure Mode and Effects Analysis (FMEA), in order to detect and avoid possible risks in the case of new or modified products and processes at an early stage.

Necessary improvement measures are evaluated and their execution is co-ordinated and monitored.

All important functional dimensions specified in the kiekert drawings must also be subjected to a risk analysis. The analysis of a group of functional dimensions in terms of their fault sequences may be helpful in this case.

The "process system FMEA" must be submitted to the kiekert quality assurance department representative within the framework of the advanced quality planning meetings. [Process system FMEA](#)

Suppliers who are commissioned to develop products generate a "product system FMEA". [Product system FMEA](#)

Further details regarding the generation of FMEAs can be found in VDA [VDA Volume 4 Part 2](#) Volume 4 Part 2 and the QS9000 FMEA manual.

# Chapter 9

## 9.3 Control plan

The generation of a control plan is an important phase in the quality planning process. The control plan is a summarising, written description of all quality assurance measures.

Supplier control plan											Page of	Date:
Project:			Customer:			Author:			<input type="checkbox"/> Prototype			
Material number:			Receiving plant:			Checked:			<input type="checkbox"/> Pre-series			
Designation:			Customer No.:			Released:			<input type="checkbox"/> Series product			
Index:			Designation:			Change status:						
No.	Process flow chart	Process loc./dept.	Sequence step	Test resp.	Characteristic			Method			Correction plan/ Measures in case of deviations	
					Product char.	Process parameter	Char. value	Test equip.	Scope of test	Test freq.		Dokumentation
1	Incoming goods	IG										
2	ID check	IG										
3	Lab. test	Lab.										
4	Stamping	Production										
5	Production test	Production										
Comments:												

Example control plan

This describes the measures to be carried out in each phase of the work sequence, e.g. on receipt of goods, during the process, on departure of goods and all tests which have to be carried out on a regular basis to monitor parts and processes.

All test measures specified in the FMEA must be contained in the control plan.

The control plan is submitted to kiekert within the framework of advanced quality planning. If applicable, a distinction must be made between the prototype, pre-series and series production phase.

The control plan constantly reflects the current production sequence and must be updated accordingly in the event of product and process changes.

## 9.4 Proof of process capability

The supplier must provide proof of process capability for all important and critical product and process characteristics which have been agreed and specified in the control plan.

Statistical process control (SPC) methods must be applied to achieve this.

Proof of short-term capability cmk/ppk is provided within the framework of initial sampling.

Proof of long-term capability cpk is provided continuously and must be evaluated at regular intervals.

## Chapter 9

### SPC application overview Table

kiekert quality management	SPC application overview		
Designation	Critical machine capability	Critical preliminary process capability	Critical continuous process capability
Shortened form	Cmk	Ppk	Cpk
Rand. sample scope Rand. sample interval Prod. scope	n = 100 In sequence Approx 300 / init. samples	n = 5 At intervals PP series / init. samples At least 300	n = 5 Following definition Pre-series / Series prod.
No. rand. samples	1	20	At least 2 / day or corresp. series prod. definition
Process days	- - -	At least 1 day	At least 20 days with proof of capability
Capability index	$\geq 2,0^*$	$\geq 2,0^*$	$\geq 1,67^*$
Mean value	$\bar{x}$	$\bar{x}$ or $\tilde{x}$	$\bar{x}$ or $\tilde{x}$
Scatter	s	$\hat{s} = \frac{\bar{R}}{d_2}$ or $\hat{s} = \frac{\bar{R}}{c_4}$	$\hat{s} = \frac{\bar{R}}{d_2}$ or $\hat{s} = \frac{\bar{R}}{c_4}$
* Depending on customer specifications			
Proof; purpose	The potential capability of a machine, when correctly centred, to produce with normal distribution or approximately normal distribution within $\bar{x} \pm 5s$ within the specifications and visualisation of this via the quality index Cmk $\geq 2.0$	The potential capability of a production system, under the influence of a multitude of employed persons, machines and parts, despite cumulative scatter influences, to produce with normal distribution or approximately normal distribution within $\bar{x} \pm 5s$ within the specifications and visualisation of this via the quality index Ppk $\geq 2.0$	Retention of the potential scatter and proof that, due to set-up procedures, trend or trend-like influences, no process changes which endanger the minimum requirements of acceptance without 100% final inspection under the condition $\bar{x} + 4s < = OSG$ $\bar{x} - 4s > = USG$ occur and visualisation of this via the quality index Cpk $\geq 1.67$
Influence on the "survey"	Short-term influences mainly generated by the machine	Accumulation of short-term influences from various machines, parts and people	Long-term influences such as: Setting-up operations Changed material batches Tool changes Personnel changes Equipment wear and tear Trends
Capability certificate	Evidence that the agreed capability index has been maintained		

## Chapter 10

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### 10. Tests

The supplier ensures that all tests planned within the entire process chain are carried out in accordance with the way and manner defined in the control plan.

The test results must be documented accordingly.

At defined intervals, the results of SPC test characteristics must be evaluated as regards process capability. If, with regard to these characteristics, the products have been produced in an insufficiently capable process, 100% testing must be carried out until the production process has been optimised and the required cpk values have been achieved (also see Section 9.4).

**Process capability**

**100% testing**

Prior to delivery of the products, a final inspection must be employed to verify that all of the planned work steps have been carried out and that no deviations from the specifications have been determined during the quality tests.

**Final inspection**

Recourse to plant test certificates or external test orders does not relieve the supplier of his direct quality responsibility towards kiekert.

#### 10.1 Periodic tests

Periodic tests must be carried out to ensure that all quality requirements, which exceed the scope of continuous process monitoring, are met. These periodic tests include:

- Environmental resistance tests (e.g. alternating temperature tests, salt spray tests, etc.)**
- Long-term tests**
- Strength tests**
- Product audits**

As a rule, periodic tests are significantly more extensive than tests which accompany series production. Their type and scope must be clearly defined in the control plan.

#### 10.2 Re-qualification test

The supplier carries re-qualification tests out at least once per year in the form of an intermediate inspection.

**Intermediate sampling inspection**

The intermediate sampling inspection report form must meet the requirements according to Chapter 8, and the scope of reporting according to Section 8.1, and must be submitted to kiekert upon request.

### **11. Deviations**

If deviations from the specifications are determined during the course of process monitoring, the supplier's internal QM system must be employed to ensure that these parts are effectively separated from the OK products (see Chapter 13).

If the supplier intends to supply kiekert with parts in which deviations outside of the permissible characteristic limits have been determined, a deviation permit must be obtained prior to delivery of these parts.

## Chapter 12

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### 12. Complaints

If deviations are determined on the basis of assembly problems, laboratory tests, customer complaints or other tests, the supplier is immediately informed of this in writing by means of a test report.

**Test report**

Even following initial telephone information, however, he introduces the measures required for rapid clarification and eradication.

Complaints may refer to initial sample parts, series production parts and other samples (status N parts).

If a delivery is blocked, the supplier is responsible for delimiting the stock in circulation.

He introduces immediate measures, e.g. replacement delivery or reworking, without delay.

**Defect eradication**

If this is not possible due to deadline reasons, Kiekert and the supplier shall co-ordinate the introduction of short-term special measures for maintaining production.

If goods are accepted with reservation, a test report documenting the defects is also drawn up.

#### 12.1 Immediate measures

For each test report, the supplier shall draw up written information on our 7-step plan by the specified return deadline.

This includes at least Points 1-3, specifying a description of the defect, the cause of the defect and immediate recovery measures.

**Immediate measures**

In the event of serious quality problems or impending assembly line downtime, Kiekert expects a return deadline within 24 hours.

If the actual basic causes are not yet known and the permanent correctional measures to be introduced have not yet been defined (Points 4-7), the deadline for completion of the entire 7-step plan must be specified along with the immediate measures (also see Chapter 13).

**Deadline for correctional measures**

Until the permanent correctional measures which have been introduced have been verified, 100% of all products must be checked with regard to the defect which has occurred. Identification is carried out in accordance with the specifications in the test report.

**100% control level**

In co-ordination with the Kiekert quality officer at the relevant production plant, the problem solving process may also be documented by means of an 8-D report.

**8-D report**

### 13. Problem solving procedures

Corresponding problem solving procedures which have been adapted to the problem must be used to effectively determine the cause of defects, e.g.:

- Cause and effect diagrams (Ishikawa diagrams)
- Pareto analyses (ABC analyses)
- Histograms
- Team-oriented problem solving procedures (7D / 8D procedures)

**Problem solving techniques**

The integration of multi-disciplinary teams into the problem solving process brings a specific procedure to bear on the problem and reveals dependencies between the causes.

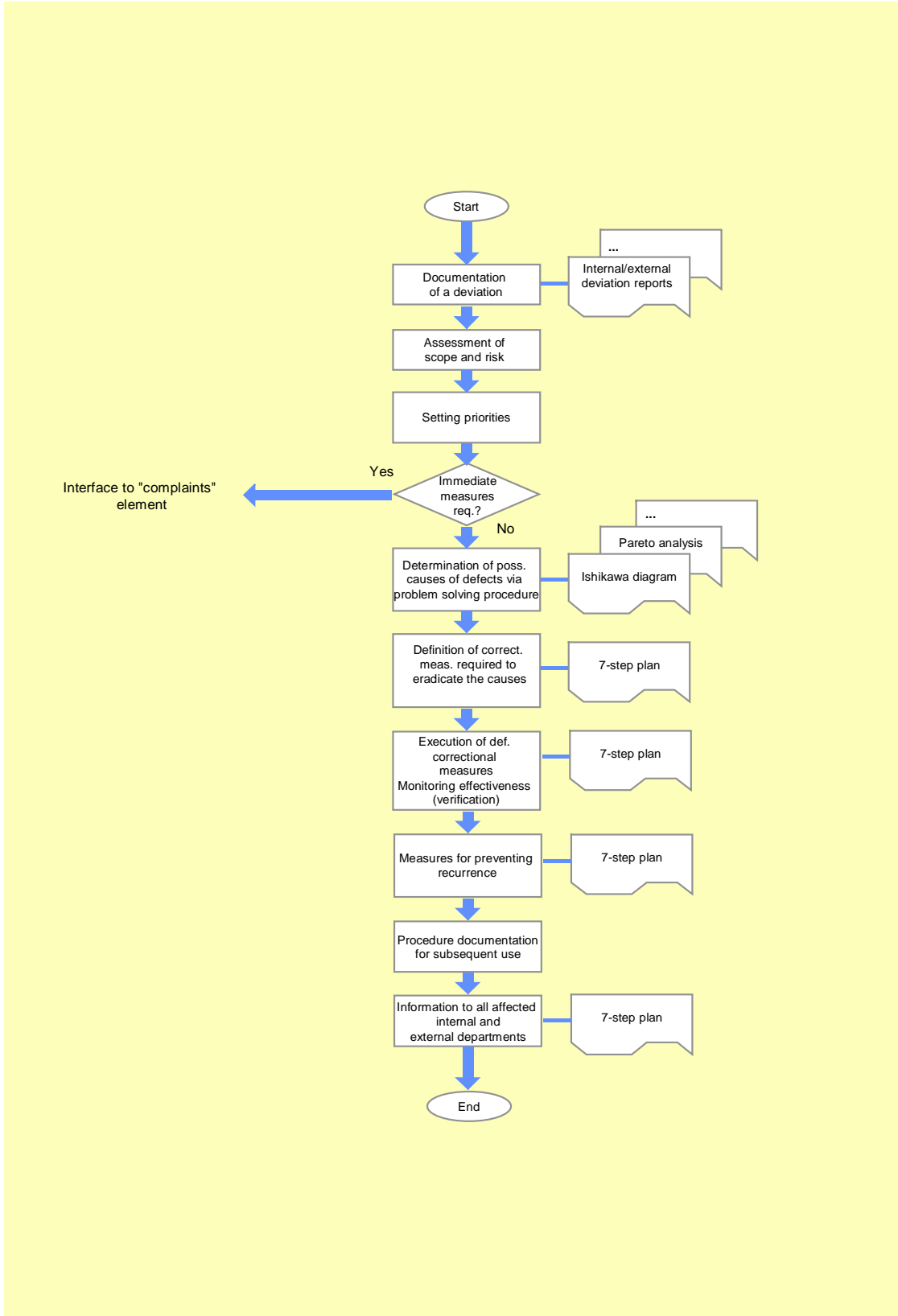
The effectiveness of the measures which have been introduced must be checked.

The process can be concluded once the measures have been documented and verified.

**Verification**

The documentation will be viewed within the framework of supplier visits or process audits.

**Correctional measure flow chart**



## Chapter 14

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### 14. Handling, storage, packaging, identification and shipping

The supplier must ensure that the products and production batches are properly handled and identified at all times:

- Creation of technical prerequisites
- Packaging planning
- Use of packaging to prevent reductions in quality
- Defective product steering
- Instructing / familiarisation of employees
- Visualisation tools
- Move tickets, route cards, labels

The delivery units are identified by means of labels according to the [VDA label](#) relevant, most recent version of VDA recommendation 4902.

#### 14.1 Storage

The following aspects are taken into consideration during storage and when planning corresponding areas:

- Proper goods reception
- Prevention of possible environmental influences
- Warehousing according to the FIFO principle
- Particular product and material-specific storage conditions, EGB, etc.
- Storage/staging areas are protected, marked, clear and clean
- Identification of materials and products
- Regulations regarding inventory and disposal responsibility
- Storage time limit

#### 14.2 Packaging

The supplier is responsible for protecting his products by using suitable packaging.

In order to ensure this, packaging must be planned according to the following procedure:

The supplier draws up a packaging proposal, taking the product and process-specific requirements and the "General packaging guideline" into consideration. [Packaging guideline](#)

The packaging proposal is jointly assessed and its applicability is checked on the basis of sample packaging, which is submitted by the supplier.

Release is carried out on the packaging data sheet. [Packaging data sheet Forms](#)  
The packaging guideline and packaging data sheet are available as files for our suppliers to view and process.

### 15. Continuous supplier evaluation during series production

Applying the

Zero defects as the general rule

**"zero defect principle as the general rule"**

each delivery is registered in our central material management system and is available to the production department without any further technical incoming goods inspection.

Deviations from this "zero defect principle" are recorded as test reports in our central EDP system, and have a negative impact on the supplier's delivery statistics.

Delivery statistics

A supplier's capability and performance in supplying our production plants flawlessly and punctually are evaluated in accordance with the following points:

- Evaluation of the ppm rate over the delivered quantity in comparison with the competition
- Evaluation of the ppm rate over the actual defective quantity for special products
- Delivery deadline adherence evaluation
- Complaint activity evaluation
- Customer satisfaction evaluation
- Evaluation of supplier certification statuses

Evaluation procedure

The results of the individual evaluations serve as decision making tools when assigning new orders and for correctional and improvement programs in the event of deviations from targets or deviations in comparison with the industry.

They additionally form the basis of the quality competition.

#### 15.1 ppm rate evaluation in comparison with competitors

With each quality complaint, the delivered quantity specified in the test report is integrated into the evaluation process as a "NOK quantity".

At appropriate intervals, overall supplier-related evaluation is carried out, subdivided into defined industries, according to the following formula:

Overall ppm evaluation

$$\text{ppm}_{\text{Delivery}} = \frac{\sum \text{Queried delivery quantity}}{\sum \text{Total delivery quantity}} * 1,000,000$$

### 15.2 ppm rate evaluation over the actual defective quantity

If defective parts are determined during on-going series production at kiekert (production failures), at the customer's premises (0 km failures) or during the warranty period, the failed parts which are the fault of the supplier are recorded on a part-related basis in the central EDP system, and the failure rate is calculated in ppm according to the formula:

$$\text{ppm} = \frac{\sum \text{Queried parts}}{\sum \text{Delivered parts}} * 1,000,000$$

Part-related  
ppm concept

### 15.3 Delivery deadline adherence evaluation

Delivery deadline adherence is evaluated at monthly intervals. In order to do so, the delivery date and the delivered quantity are compared with the call-off date.

Determination of dimensional figures:

**Underdelivery area = quantity x No. of days too late = (units x days)**

**Overdelivery area = quantity x No. of days too early = (units x days)**

**Underdelivery dimensional figure = underdelivery area : delivered quantity**

**Overdelivery dimensional figure = overdelivery area : delivered quantity**

**VDA key figure = underdelivery dimensional figure x weighting factor  
+ overdelivery dimensional figure x weighting factor**

<b>Weighting factor for</b>	<b>Underdelivery</b>	<b>= 2</b>
	<b>Overdelivery</b>	<b>= 1</b>

Evaluation is carried out with the central EDP system according to the VDA key figure

### 15.4 Complaint activity evaluation

If incorrect deliveries (critical complaint) are determined during on-going series production at kiekert, the missing/excess parts which are the fault of the supplier are recorded on a logistical basis in the central EDP system.

Evaluation is also carried out with the aid of the central EDP system.

### 15.5 Customer satisfaction evaluation

At defined intervals, suppliers are assessed according to different characteristics by certain Kiekert divisions. Assessment is carried out according to the school grade principle.

Customer satisfaction evaluation provides information on the suppliers' continued willingness to perform in terms of logistical, deadline and quality aspects.

Evaluation is also carried out with the aid of the central EDP system.

### 15.6 Quality competition

Our suppliers participate in the quality competition on written recognition of [Quality competition](#) this QR01.

## Supplier of Excellence

### KieCup – quality prize

The prerequisites for awarding our quality prize are:

- that the supplier is the best in comparison with the competition following all of the above described evaluation procedures.
- that a commercial relationship has existed for at least the past 12 months and a certain turnover limit has been exceeded.
- that auditing / certification has been carried out according to the automotive industry's QM regulations.
- that the ppm rate is better than that of the competition and the agreed targets have been achieved.
- that the QOS requirements (see Chapter 16) are met in full and the key characteristic evaluations reveal improvements during the previous 6 months.
- that adherence to delivery deadlines meets our requirements.
- that the supplier has installed an EM system.

Based on the full year's results, the calculation for determining the quality prize winner is carried out with the aid of the central EDP system.

## Chapter 16

### 16. Continuous improvement

Throughout its entire organisation, the supplier is obliged to establish a systematic management system which pursues the objective of achieving a high degree of customer satisfaction and constantly improving this.

Customer satisfaction

An all-encompassing philosophy of continuous improvement of standards, i.e. quality, services, products and processes, up to and including commercial processes and supporting services, must be prevalent throughout the supplier's entire organisation.

Improvement of standards

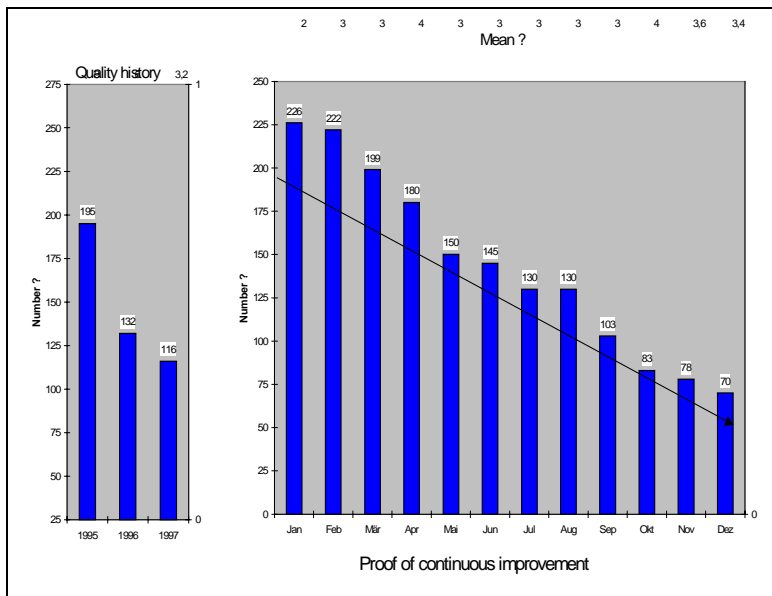
In order to achieve this, statistical evaluations, on the basis of which the effects of improvement measures can be continuously monitored, must be regularly drawn up for selected key characteristics.

These evaluations should reveal the effectiveness of the entire improvement process, e.g. via a system of key figures.

The intervals between evaluations should not be longer than one month.

*"If you cannot measure it, you cannot control it.  
If you cannot control it, you cannot manage it.  
If you cannot manage it, you cannot improve it."*

Dr. James Harrington  
Former Chairman  
American Society for Quality Control



Evaluation example

### 16.1 Determination and improvement of key characteristics (QOS)

By analysing its commercial and production processes, and on the basis of existing data material, the supplier must select the significant key characteristics from his organisation.

Key characteristics in the system of key values include, e.g.:

- Scrap costs / rework costs**
- Number of incorrect deliveries**
- Number of complaints**
- Turnover growth**
- Internal production failures (ppm)**
- System availability**

**Key characteristics**

The key characteristics must be regularly analysed and evaluated in multi-disciplinary teams.

Specific improvement measures must be introduced if necessary.

Once the improvement has been introduced, progress, whether the selected measures have led to an actual and permanent improvement, must be continuously monitored.

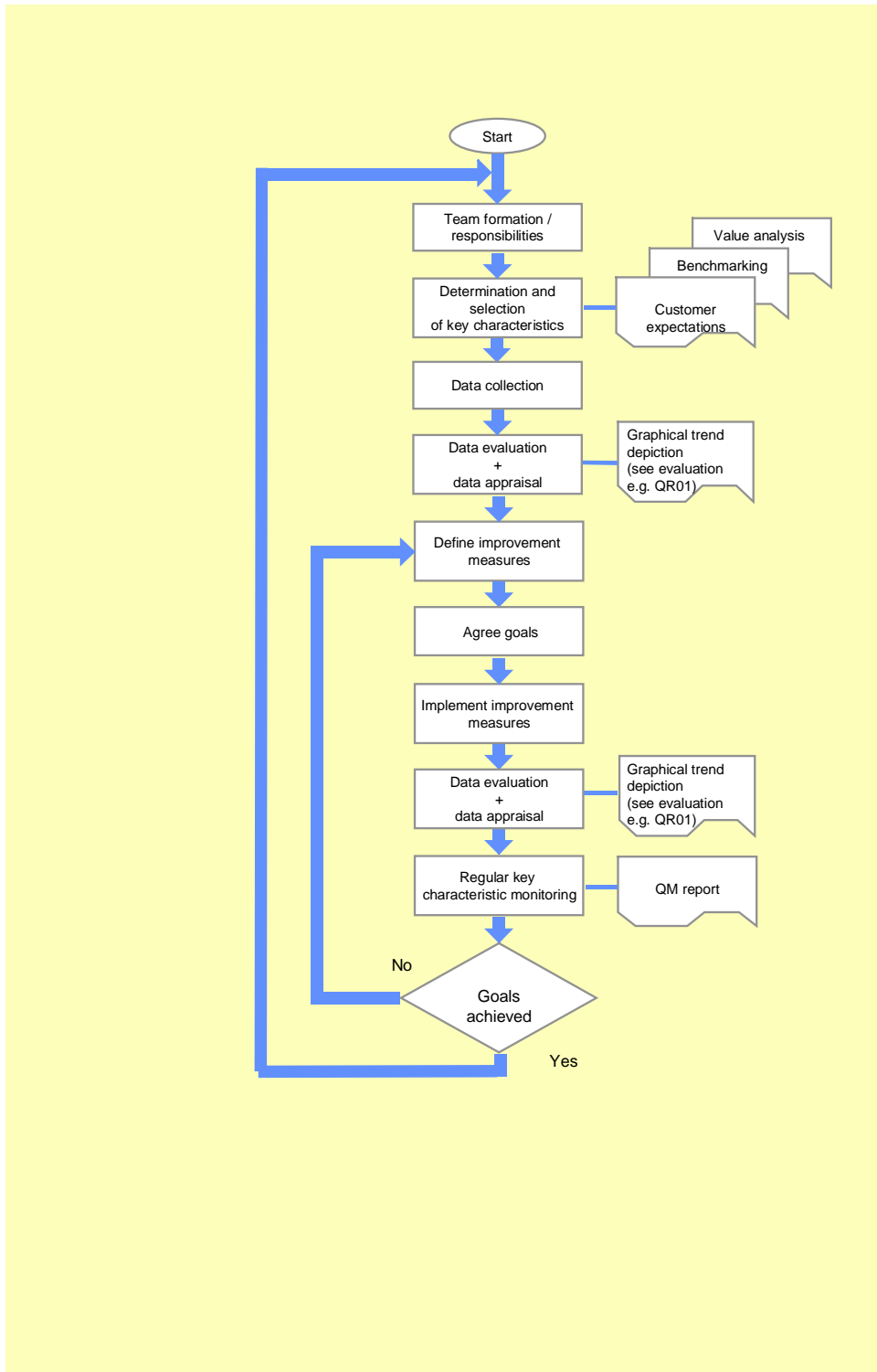
**Progress**

The supplier's continuous improvement status (QOS status) will be evaluated by kiekert throughout the entire commercial relationship, and the potential for improvement will be monitored.

**QOS status**

# Chapter 16

## Continuous improvement flow chart



### 17. Forms and documents

All of the documents are available as electronic files for our suppliers to view and process.

The supplier is responsible for using current on-line forms (collection obligation). The supplier will be informed of the access data upon request.

#### Notes:

The form of report specified in Chapter 8 "Series production supply release" may also be combined with forms from the QS9000 PPAP manual "Production Part Approval Process" in co-ordination with the relevant receiving plants.

The specified kiekert form is compulsory when applying for a deviation permit.

In co-ordination with the purchased parts quality assurance department of the relevant receiving plant, the 7-step plan form specified in Chapter 13 may be replaced by an 8-D report.

The project plan, control plan and system FMEA forms serve as examples and may prove helpful when used.

### 18. Change history

Chapter	Scope of changes
All	Editorial revisions.
	<p><b>Table of contents</b></p> <p>4.2 Registration as "self-certifying supplier" omitted.</p> <p>7.1 Safety parts subject to obligatory documentation without derivation omitted.</p> <p>7.2 Safety parts subject to obligatory documentation with derivation omitted.</p> <p>7.3 D part audit omitted.</p> <p>9.4 Servicing and maintenance omitted, sequence adapted.</p> <p>11. Testing equipment monitoring omitted, <b>Chapter sequence adapted.</b></p> <p>14. Correctional measures replaced by 13. Problem solving procedure, 14.1 omitted.</p> <p>15.3 Delivery call-off plausibility check omitted.</p> <p>16.4 Evaluation of initial sample deliveries / other sample deliveries replaced by 15.4 Complaint activity evaluation.</p> <p>16.5 Evaluation of response time in the event of complaints replaced by 15.5 Customer satisfaction evaluation.</p> <p>16.6 Quality award replaced by 15.6 Quality competition.</p> <p>16.2 Employee motivation omitted.</p> <p>18. Change history integrated.</p>
1.	<b>Preface</b> Current standards / regulations added.
2.	<b>Scope of validity</b> extended by further product designations such as rods, fine cast parts, mechatronic assemblies and Bowden cables.
3.	<p><b>Requirements pertaining to suppliers</b></p> <p><u>Quality responsibility Section:</u> Divisional code updated.</p> <p><u>Agreements Section:</u> Terms updated.</p> <p><u>Access right Section:</u> Reference to employees and customers, and Section shortened.</p> <p><u>Documentation Section:</u> Terms updated.</p> <p><u>Defect costs Section:</u> or rework added.</p> <p><u>Warranty Section:</u> Warranty period reduced from 36 to 24 months</p> <p><u>Product development Section:</u> Content re-formulated and shortened.</p> <p><u>Contingency plan Section:</u> Completely new</p> <p><u>Liability insurance Section:</u> The DM 10 million minimum coverage/case of damage has been replaced by €7.5 million. HDI omitted.</p> <p><u>Section end:</u> Terms updated.</p>

## Chapter 18

4.	<p><b>Supplier selection and registration</b></p> <p>Current standards / regulations added, graphic revised</p> <p><u>Registration procedure Section</u>: Re-designated and registration procedure re-structured. Evaluation Table omitted.</p>
4.1	<p><b>Process registration procedure (process audit)</b></p> <p><u>Following three Sections omitted</u>: For new suppliers, For existing suppliers, Execution.</p>
(4.2)	<p><b>(Registration as "self-certifying supplier")</b> omitted.</p>
5.	<p><b>Project management</b></p> <p><u>Following Section with list omitted</u>: With the overall project plan.....</p>
5.1	<p><b>Project progress status reports</b></p> <p><u>Submission frequency Section</u>: Re-formulated.</p>
5.2	<p><b>Project plan: advanced quality planning (AQP)</b></p> <p>Text sequence changed.</p>
5.4	<p><b>Advanced quality planning meeting</b></p> <p><u>ISIR acceptance step Section</u>: Omitted.</p> <p><u>Quality assurance agreement Section</u>: Definition of the EMPB omitted.</p>
6.	<p><b>Buildability evaluation</b></p> <p>Terms updated. Buildability analysis form inserted.</p>
7.	<p><b>Documentation obligation / safety parts</b></p> <p>Current standards / regulations inserted and re-formulated.</p>
(7.1)	<p><b>(Safety parts subject to obligatory documentation without derivation)</b> Omitted.</p>
(7.2)	<p><b>(Safety parts subject to obligatory documentation with derivation)</b> Omitted.</p>
(7.3)	<p><b>(D part audit)</b> Omitted.</p>
8.	<p><b>Series production supply release</b></p> <p><u>Initial sampling inspection report cover sheet Section</u>: Form depiction omitted.</p>
8.1	<p><b>Scope of sampling</b></p> <p><u>Section 6 Measurement methods</u>: Concretised in terms of measurement orientation.</p> <p><u>Section 7 Design approval</u>: Current standards / regulations inserted.</p> <p><u>Section 9 Materials contained in purchased parts</u>: Re-defined and formulated.</p> <p><u>Report sections, 3) Dimensional report and 4) Material report</u>: Form depiction omitted.</p> <p><u>Forms Section</u>: New.</p> <p>Section "If the required scope of sampling is incomplete...": Re-</p>

## Chapter 18

	submission period shortened.
8.3	<p><b>Deviations</b></p> <p><u>Dimensional accuracy indicator Section:</u> Omitted.</p> <p><u>Report Section, 1) deviation report:</u> Form depiction omitted.</p> <p><u>Following Section omitted:</u> The number of samples.....</p>
8.5	<p><b>Definition of acceptance steps</b></p> <p><u>Self-certification Section:</u> Changed and re-formulated.</p> <p><u>Following Section omitted:</u> The relevant, part-specific ...</p>
8.8	<p><b>Other samples</b></p> <p><u>Other samples parts Section:</u> Changed and re-formulated.</p> <p><u>Following Section omitted:</u> These parts are ....</p> <p><u>Dimensional accuracy indicator Section:</u> Omitted.</p> <p><u>Following Section omitted:</u> For certain agreed.....</p> <p>Note regarding ISIR generation formulated and added.</p>
9.2	<p><b>System FMEA</b></p> <p><u>FMEA form Section:</u> Omitted.</p>
(9.4)	<b>(Servicing and maintenance)</b> Omitted.
9.4 (9.5)	<p><b>Proof of process capability</b></p> <p><u>SPC application overview Section:</u> Form change in the columns: cmk 1.67 changed to cmk 2.0 / ppk 1.67 changed to ppk 2.0 / cpk 1.33 changed to cpk 1.67</p>
(11.)	<b>(Test equipment monitoring)</b> Omitted.
11. (12.)	<p><b>Deviations</b></p> <p><u>Deviation permit application Section:</u> Form depiction omitted.</p>
12.1 (13.1)	<p><b>Immediate measures</b></p> <p><u>7-step plan Section:</u> Form depiction omitted.</p>
(14.)	<b>(Correctional measures)</b> Omitted.
14.2 (15.2)	<p><b>Packaging</b></p> <p><u>Packaging data sheet Section:</u> Changed and re-formulated.</p>
(15.3)	<b>Delivery call-off plausibility check</b> omitted
15. (16.)	<p><b>Continuous supplier evaluation during series production</b></p> <p><u>Evaluation procedure Section:</u> List items and terms updated.</p>
15.3 (16.3)	<p><b>Delivery deadline adherence evaluation</b></p> <p>Revised, changed and re-formulated.</p>
15.4 (16.4)	<p><b>Complaint activity evaluation</b></p> <p>Completely revised, replaces the old Chapter</p> <p><b>(Evaluation initial sample / other sample deliveries)</b></p>
15.5 (16.5)	<b>Customer satisfaction evaluation</b>

## Chapter 18

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	Completely revised, replaces the old Chapter <b>(Evaluation of response time in the event of complaints)</b>
15.6 (16.6)	<b>Quality competition</b> Revised, replaces the old Chapter <b>(Quality award)</b>
16. (17.)	<b>Continuous improvement</b> <u>Improvement of standards Section:</u> System of key figures term inserted
(17.2)	<b>(Employee motivation)</b> omitted.
17. (18.)	<b>Forms and documents</b> Completely revised, replaces the old Chapter <b>(Appendix)</b>
18.	<b>Change history</b> New