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Purchasing/Quality Management Guideline

Knott Group

Contents

Foreword 5

1. Objective 7

2. General requirements 9

 2.1. Area of validity 9

 2.2. Language 9

 2.3. Quality 9

 2.4. Environmental protection 10

 2.5. Cyber security and information technology 10

 2.6. Communication 10

 2.7. Subcontractors 10

 2.8. Agreements 11

 2.9. Retention periods 11

3. Special characteristics (Besondere Merkmale BM) and risk classes 12

4. Preparations and planning 14

 4.1. Overview: From the provision of personal information to series production 14

 4.2. Feasibility analysis 15

 4.3. Risk analysis for product and process 15

 4.4. Scheduling 15

 4.5. Product description 15

5. Initial sampling 16

 5.1. Initial sample 16

 5.2. Reasons for initial sampling in accordance with the Production Process and Product Approval (Produktionsprozess und Produktfreigabe PPF) 16

 5.3. Initial sample inspection 17

 5.4. Requalification test (COP Inspection) 17

 5.5. Request for/scope of initial sampling 18

 5.6. Material data verification in accordance with DIN 10204 (Inspection report 3.1) 18

 5.7. Delivery and initial sample documentation 18

 5.8. Deviations in initial samples 18

6. Production 19

 6.1. Approval 19

6.2.	Production control	19
6.3.	Inspection plan	20
6.4.	Supplier Evaluation	20
7.	Deviations/changes/complaints.....	21
7.1.	Changes	21
7.2.	Deviations	21
7.3.	Complaints	21
8.	Deliveries/logistics	23
8.1.	Logistics agreement.....	23
8.2.	Transport planning	23
8.3.	Parts control	23
8.4.	Packaging	23
8.5.	Measures to secure products to be transported	25
8.6.	Cleanliness.....	25
8.7.	Preservation	25
8.8.	Inadequate packaging.....	25
8.9.	Labeling.....	26
8.10.	Accompanying documents	27
8.11.	Non-EU Deliveries / import regulations.....	28
8.12.	Supplier Code of Conduct.....	29
9.	General conditions and closing remarks	30

Foreword

Products from the KNOTT Group are synonymous throughout the world with technical innovations, system solutions, quality and reliability.

We see the loyalty of our customers as proof that we are doing the right things. At the same time, it encourages us to make ongoing improvements.

The quality of the parts that we buy in and the performance of our suppliers have a direct influence on the quality of our products and the safety of our processes.

KNOTT therefore aims to encourage awareness of the importance of quality throughout the supply chain by working together in a communicative, constructive manner.

The "Knott Group Purchasing/Quality Management Guideline" (KNOTT EQR; „Einkauf/Qualitätsmanagement Richtlinie der Knott-Gruppe" (KNOTT-EQR)) is the binding basis for achieving our quality standards. It documents key requirements in the procurement process.

Rigorous implementation of the guideline by all partners involved will provide a basis for reliable manufacturing processes and continuous improvements in product quality.

We are committed to complying with the procedures described and expect that our suppliers are too.

1. Objective

**“The right material,
in the right quantity,
at the right time,
for the right price,
at the right place,
with the right information and
with the right quality!”**

2. General requirements

2.1. Area of validity

This “Knott Group Purchasing/Quality Management Guideline” (KNOTT PQG) applies to supplies of production materials (including electronic components) and, where applicable, to supplies of software for KNOTT Group sites throughout the world.

The KNOTT PQG is also binding for sites producing components requiring approval as described in the “Contract governing manufacturer properties for vehicles/vehicle parts produced by other companies” (in accordance with the KBA, VCA etc.) and applies to supplies within the KNOTT Group.

Only the German version of the KNOTT PQG is binding.

2.2. Language

The working language is the national language of the ordering plant or, alternatively, German or English.

2.3. Quality

In order to be a supplier for KNOTT, a company must have a functioning quality management system which is based on the ISO 9001 regulations. The effectiveness of the QM system is reflected in:

- continual, verifiable improvements to processes, procedures and products
- supply quality
- supplier reliability
- effectiveness of corrective measures and the speed at which they are implemented
- communication on all levels
- working through new and change projects in terms of content and on time

This quality management system should help to achieve the common aim of “zero errors”.

Requirements

- ➔ As a minimum requirement, a company must demonstrate that it has a quality management system for which senior management is responsible.
- ➔ For suppliers that supply KNOTT in KBA approval areas, certification in accordance with ISO 9001 [01] is required.
- ➔ For suppliers that supply KNOTT with vehicle connecting components made from ductile iron and for other critical applications, the requirements should be agreed in a Quality Assurance Agreement (QAA).
- ➔ If a certificate is due to expire with no plans for recertification, KNOTT must be informed at least three months before the expiry date. (New) certifications must be carried out by accredited certification companies and should be sent to the supplied KNOTT plants without being prompted to do so. If a certificate is revoked, KNOTT must be informed immediately.

Checks

KNOTT reserves the right to carry out audits and assessments relating to the quality management system, processes and products with its customers subject to giving prior notice. KNOTT officers and our common customers should be granted access for this purpose.

2.4. Environmental protection

An effective environmental management system which ensures compliance with the environmental regulations in force and improves the supplier's environmental situation on a continual, efficient basis plays a key part in ensuring reliable supplies. KNOTT is committed to protecting the environment.

- ➔ We therefore expect that our suppliers too commit themselves to protecting the environment.
- ➔ Supplies must comply with the environmental protection regulations in force.
- ➔ If requested to do so, the supplier must demonstrate suitable recycling and disposal concepts for its products, possibly based on ISO 14001 Environmental Management Systems [02].
- ➔ Material compliance refers to compliance with legal, normative and customer-specific requirements for the materials or substances used in a product or production process. The aim is to ensure that no prohibited or regulated substances are used and that limits for certain hazardous substances are not exceeded. Important regulations in this context are, for example, RoHS (Restriction of Hazardous Substances), REACH (Registration, Evaluation, Authorization and Restriction of CHemicals), Conflict Minerals Regulation, etc.. Further information and specifications can be found in our KNOTT company standard listed below:

*See: KNOTT works standard V13 Supplier notification Exclusion of hazardous substances.
Prohibited substances and substances that require declaration*

2.5. Cyber security and information technology

Nowadays, IT is a key infrastructure within the company. In order to ensure that they can deliver supplies and provide key product information, KNOTT expects that its suppliers have in place measures to prevent the failure of IT systems and to protect IT systems against threats from outside.

See: KNOTT works standard Supplier notification Protection of IT systems

2.6. Communication

- ➔ KNOTT expects suppliers to be available to provide technical support during discussions on customers' premises, on their own premises or on KNOTT's premises.

Communication between suppliers and KNOTT customers in connection with KNOTT products may only take place with permission from KNOTT.

2.7. Subcontractors

Requirements

- ➔ The supplier is responsible for the development of its subcontractors. This also applies to requirements relating to quality and environmental protection, *see chapter Quality and environmental protection*.
- ➔ If the supplier awards work to subcontractors, the subcontractors too must comply with the requirements of this guideline.
- ➔ If a supplier changes subcontractors, the Purchasing department at KNOTT must be notified in advance and approve the change. A Production Process and Product Approval (PPA/PPAP) should be carried out.

Evaluation of subcontractors

KNOTT reserves the right to audit subcontractors too with its customers, subject to giving prior notice. However, the supplier shall not be released from its responsibility towards the subcontractor and KNOTT as a result of this.

2.8. Agreements

Confidential agreement

With a secrecy agreement, both parties ensure that all information and data that are exchanged between KNOTT and the supplier are handled confidentially.

See: Form V12 "Mutual Confidential agreement"

Quality assurance agreement

With quality assurance agreements, the parties set out particular quality requirements for special products.

See: Form V01 "Quality assurance agreement"

2.9. Retention periods

The supplier should set and comply with retention periods for required documentation, drawings and reference samples. The minimum requirements set out in VDA Volume 1 must be met. Some examples of recommended retention periods:

Development: Documentation of the series product/end product including approvals:

30 years from the event

Procurement: Documentation regarding logistics and production control:

10 years from the event

Procurement: Order documentation:

15 years from the event

Production: Documentation regarding the ongoing production process:

30 years from the event

Production documentation for quality assurance in production planning: 30 years from the event

Documented information regarding critical features should be archived separately. These rules do not replace the statutory requirements.

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3. Special characteristics (Besondere Merkmale BM) and risk classes

All parts are categorized separately according to their risk potential. Depending on their use, the products are subdivided into risk classes and/or special characteristics (BM) subject to special regulations are marked on the drawing.

These classifications and identifications have a significant impact on vehicle safety and/or compliance with legal requirements.

In light of product liability, a corresponding risk is to be expected here.

Special characteristics (Besondere Merkmale BM)

Special attention must be paid to special characteristics (BM) as deviations in these features can have a particular effect on

- product safety,
- service life,
- assembly,
- function or
- quality and reliability
- subsequent production operations
- and legal regulations.

They are defined by KNOTT and/or are identified from the supplier's risk analysis, e.g. from the product and/or process FMEA.

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

Special characteristics (BM) are generally subdivided as follows based on the VDA process description for particular features (BM):

- critical features (features requiring special verification)
 - BM S: safety requirement
 - BM Z: legal and official requirements requiring approval
- important features for function and process
 - PF F

Requirements

- ➔ KNOTT and the supplier should work together to identify special characteristics and flag them in all relevant product and process documents, e.g. drawing, FMEA, risk analyses and work, test and production steering plans.
- ➔ As part of quality planning, the supplier must agree the requirements with KNOTT and make special arrangements for process safety, testing and verification.

Verification

- ➔ The supplier must set up a verification system for products with critical features.
- ➔ In terms of content, the verification system must comply with the requirements of VDA Volume 1 [04].

Risk classes

In addition to the special characteristics on the drawings, all parts at KNOTT are assigned to a risk class in accordance with standard sheet NB 830 for articles and products. These are based on the same criteria as the ones for special characteristics (BM). The classification is shown on the order documents. Depending

on their influence on product safety and compliance with legal requirements, the risk classes should be observed in the same way as special characteristics (BM).

Labeling

Where KNOTT is responsible for design:

If KNOTT is responsible for design, the risk class of products and their features are labeled in the technical documents:

- risk classes are specified in the order documents.
- special characteristics are labeled in KNOTT drawings e.g. as a check gage (Prüfmaß). These are placed in a frame with semicircles.

We also require our supply partners to mark the risk classes on all other accompanying documents (delivery note, order confirmations, test certificates etc.).

Where the supplier is responsible for design:

If the supplier is responsible for design, special characteristics (BM) and, in case, risk classes must be determined by the supplier as part of the design process. KNOTT rules should be observed here.

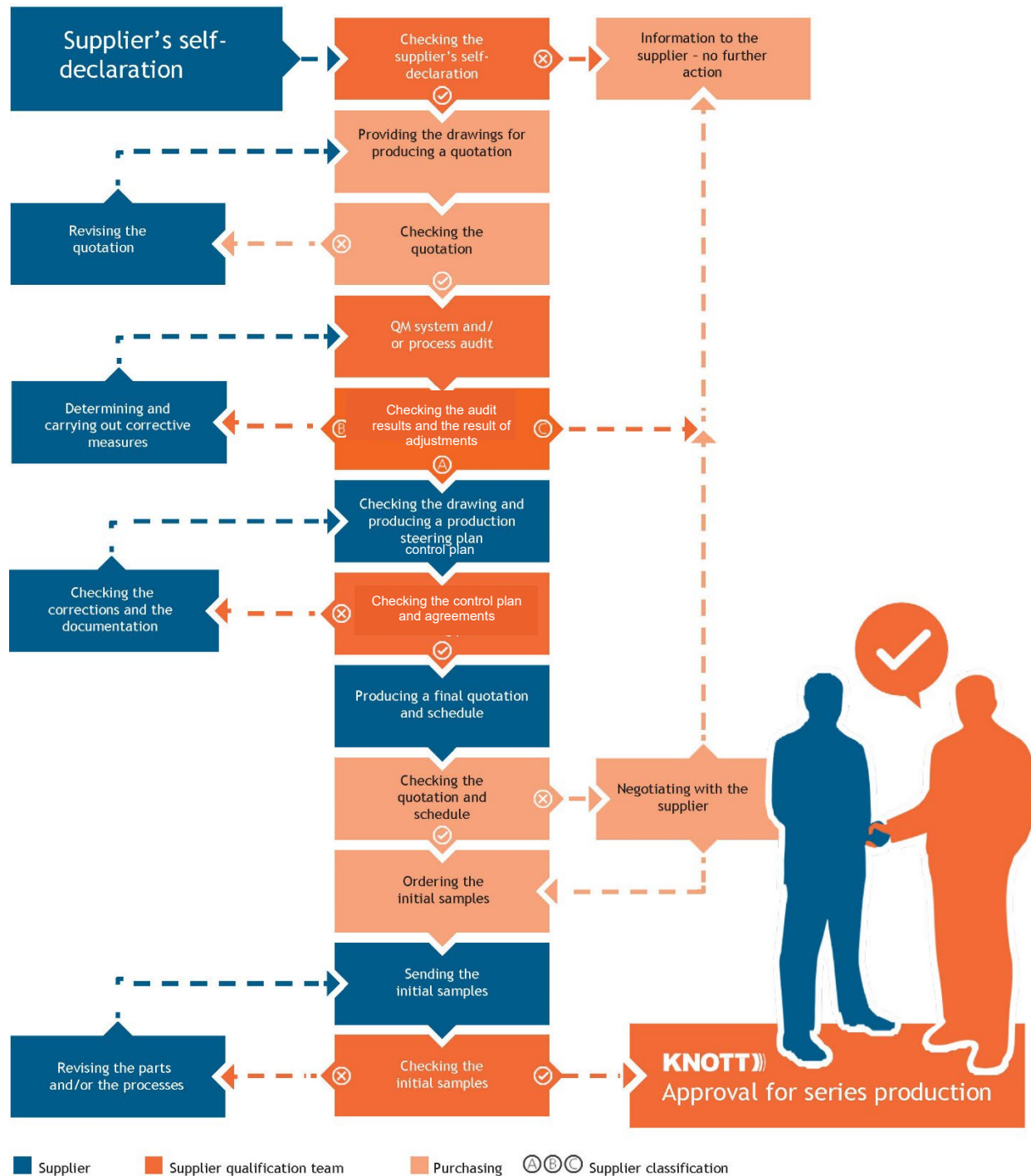
Traceability

- ➔ A degree of traceability must be put in place so that anything from supply data to production and test batches can be clearly assigned. End-to-end documentation as far as the subcontractor must be ensured.

4. Preparations and planning

4.1. Overview: From the provision of personal information to series production

For potential suppliers:



Definition: The supplier qualification team is made up of employees from Purchasing, Quality Assurance and Design.

4.2. Feasibility analysis

The feasibility analysis gives the supplier an opportunity to contribute its experience and make suggestions for the benefit of both sides.

Requirements

- ➔ Technical documents (e.g. drawings, specifications, requirements document...) which were drawn up by KNOTT Development must be analyzed by suppliers as part of the contract checking process.
- ➔ The feasibility analysis should be presented to Purchasing when a quotation is submitted and is a requirement for the placement of an order. A reply is given using the Form V02 "Feasibility analysis"

Planning the process flow

- ➔ The supplier draws up a **process flowchart** for production and testing steps which must be verified by or presented to KNOTT when the initial samples are provided. /
If the supplier does not have a form of its own, Form V03 "Process flowchart" can be used. /
- ➔ The supplier draws up a **control plan** covering the entire process chain. If requested by KNOTT, this control plan should be presented for joint approval before the start of series production.
See chapter 6.2 Production
See Form V04 "Control plan"

4.3. Risk analysis for product and process

Risk analysis when suppliers are responsible for development

A product FMEA or similar should be carried out for all components when the supplier is responsible for their development.

Risk analysis for production process

Risk analysis (e.g. FMEA) is an important procedure for avoiding errors. This must be carried out in good time so that results can be incorporated into process and test planning and measures implemented before the start of production. It must take into account all phases of the product life cycle such as design, production, assembly, packaging, transport and use by the customer.

4.4. Scheduling

On the basis of the deadlines set by KNOTT, the supplier must produce a project-related schedule and make this available to KNOTT. This schedule should also set out when the supplier should report on the individual project steps, possibly using the aforementioned forms.

4.5. Product description

Any dimensions (e.g. cutting points, mold partition seams, grinding areas) which are required for manufacturing purposes but are not shown on drawings or 3D data models should be determined and set by the supplier. In order to avoid processing and collision problems, they should be agreed with KNOTT.

5. Initial sampling

5.1. Initial sample

Objective

By carrying out initial sampling, the supplier demonstrates that it possesses the capabilities required for series production, e.g.:

- quality,
- meeting the requirements shown in the drawings
- and other specifications.

Definition

Initial samples are products which are manufactured and tested under series production conditions (machines, systems, operating and testing equipment, processing conditions).

Where KNOTT is responsible for development:

- ➔ Products and modules which are manufactured in accordance with a KNOTT design should undergo initial sample testing (including individual parts and primary materials) and be presented to KNOTT.

Where the supplier is responsible for development:

- ➔ For products developed by the supplier itself, the supplier must provide samples of the module and present these to KNOTT.

If there are any deviations from the specification which were not identified when the production process and product were approved, KNOTT will be entitled to make a complaint about these later on.

5.2. Reasons for initial sampling in accordance with the Production Process and Product Approval (Produktionsprozess und Produktfreigabe PPF)

The PPF procedure is used for:

- new parts and
- changes which must be reported in accordance with the PPF trigger matrix in VDA Volume 2 Annex 2). These include:
 - changes to products
 - changes to production processes

Initial samples are required:

- when a product is ordered for the first time
- after a change to the drawing index for all features affected
- after a product change for all features affected
- when production procedures/processes are changed
- if the supplier changes a subcontractor
- following use of new/altered forming equipment (e.g. molding, stamping, rolling, forging or pressing tools, with several molds or multiple molds for each cluster)
- following a move to a different production site, use of new or moved machines and/or operating equipment
- following use of alternative materials and designs
- following a delivery block

Exceptions as regards procedures and scope are only possible in consultation with the KNOTT contact person for quality in the following cases for example:

- very small production runs, customer service parts
- prototypes

5.3. Initial sample inspection

Unless KNOTT has imposed other requirements or written agreements have been reached, the regulations set out in VDA Volume 2 apply to initial sampling.

The test results for all features should be documented in an Initial Sample Inspection Report. Form V05 “Initial Sample Inspection Report” or similar documents provided by the supplier should be used for this.

The number of parts to be documented should be agreed with KNOTT. However, there should be at least one part per cluster.

In order to identify the features, identical numbers should be used in the Initial Sample Test Report and in the current drawing approved by KNOTT which is to be provided at the same time.

Initial sampling measurements:

- ➔ Measurements must be carried out using the valid 2D drawings. The number of measuring points chosen should ensure that all geometries are reliably determined. The strategy and measurement details should be agreed with the KNOTT “Quality Assurance” department which is responsible for the approval process. Customer requirements should be documented along with the initial sampling.
- ➔ Measurements based on the 3D data model are permitted only if a separate agreement has been reached.

5.4. Requalification test (COP Inspection)

Products with legal requirements (genehmigungsrelevanten Anforderungen GRA):

Unless otherwise agreed with KNOTT, all KNOTT products with legal requirements (GRA) must undergo an annual requalification test as part of a COP inspection. The KNOTT products in question are trailer system products, (e.g. vehicle connecting parts such as ball couplings). Reference to the legal requirements (GRA) has to be made in the order by classification to risk class ([see standard sheet NB830](#)).

In order to simplify the verification process, the COP inspection for similar parts can, following prior consultation with KNOTT, be carried out for a product group (“family”) or the results of recent series production tests can be taken into account. These include:

- cyclical series approvals
- product audits (units, modules, components, parts etc.)
- records of first and last-piece tests
- SPC evaluations (Statistical Process Control)
- Initial sampling
- Checks on incoming goods

The specifications in force are the basis for the COP test and requalification. Generally speaking, the COP test includes the following:

- Documents
- Dimensions
- Material
- Function
- Labeling with approval data

The COP inspection covers the entire process from the customer order and production to the procurement of components.

The results of the COP inspection should be documented with Form V06 “COP inspection report”.

In the event of negative test results, the supplier must contact KNOTT immediately.

5.5. Request for/scope of initial sampling

The scope of the initial sampling and the documentation is **based on VDA Volume 2** and is complemented by the **request sheet for initial sampling**.

Generally speaking, level 2 applies, unless other agreements were reached with KNOTT and through the ISIR request sheet.

Together with the initial sample order, you will receive the request sheet which is to be filled in as well as the current order drawing set which must be approved, confirmed, signed and returned to KNOTT before the sampling process begins.

Any deviations in or supplements to the scope of the documents should be agreed with KNOTT in advance. Wrong or incomplete documents will result in the initial sampling being approved on a conditional basis or a rejection of the initial sampling.

5.6. Material data verification in accordance with DIN 10204 (Inspection report 3.1)

If material properties represent “Special Characteristics”, end-to-end certificates (DIN EN 10204) which go back as far as the material manufacturer (caster, rolling mill etc.) must be provided before the production process and the product can be approved. This applies especially to unmachined parts and components with a high risk and legal requirements.

Failure to provide this verification will result in initial samples being approved on a conditional basis or rejected.

5.7. Delivery and initial sample documentation

The initial samples along with the Initial Sample Inspection Report and the documents as specified in the ISIR request sheet should be submitted to the customer on time. They should be labeled as “initial samples”.

If no initial sample documentation is provided or it is incomplete or inadequate, this will lead to a negative supplier evaluation and the initial samples will not be processed. The supplier may then be billed for any resulting costs.

5.8. Deviations in initial samples

In the event of deviations, the supplier should obtain written concession from KNOTT through a “deviation request” (e.g. Form V07 “Deviation Request”) and attach the form.

Initial samples with deviations which were not approved will not be processed by KNOTT or will be rejected immediately.

6. Production

6.1. Approval

The Production Process and Product Approval is carried out in accordance with VDA Volume 2 (PPF) [05] or, for the American market, in accordance with the AIAG Production Part Approval Process (PPAP) [18].

KNOTT reserves the right to stipulate one of these two procedures or an equivalent procedure.

Before the Production Process and Product Approval (ISIR/PPA) begins, it should be ensured that all process and quality planning activities have been completed.

Suppliers with responsibility for development:

The supplier must assess and document its approvals for the individual stages of product and process development.

In the case of purchased parts:

The activities must be designed so that the Production Process and Product Approval for the purchased parts is completed before the Production Process and Product Approval (PPF/PPAP) for the overall product.

The tool costs should be paid in full after the Production Process and Product Approval.

If necessary and subject to prior notice, KNOTT will carry out process approvals on the supplier's premises.

Work area approval

Before production begins, the supplier must ensure that all production and assembly work areas are approved.

The following should be available, suitable and up to date:

- complete and valid work documents (e.g. work/production steering/test plans...)
- provision of materials with accompanying papers which show the component's change status
- possibly work programs
- test equipment
- transport equipment
- operating equipment
- maintenance plans
- possibly proof of capabilities
- possibly error simulation carried out previously (e.g. verification of automatic test equipment)

All work processes in production and assembly should be included.

6.2. Production control

The production steering plan is a planning tool for preventively safeguarding processes.

See V04 "Control plan"

Via the production control plan the scope and effect of inspection steps are coordinated, (e.g. initial sample requests or complaints).

- ➔ The control plan should be drawn up for the pre-series and series phases of the product creation process.

With particular features:

The process steps should be highlighted for particular features.

6.3. Inspection plan

- ➔ On the basis of the production steering plan, the supplier draws up an inspection plan which shows all the features to be tested with the associated test equipment for each work procedure. The features should be classified according to their particular importance. The test frequency, the way of documenting the result and the reaction plan should also be set out in the test plan.

During planning, the outlay when carrying out tests, training staff and setting up workstations should be taken into account.

With special characteristics (Besondere Merkmale BM):

For Special Characteristics (BM), machine and process capability tests or similar secondary methods should be planned. In the case of small series where it is not possible to prove capabilities, 100% tests should be planned for the critical features.

Details of how to carry out the Machine Capability Analysis (MCA) and the Process Capability Analysis (PCA) are set out in VDA Volume 2 [05] and VDA Volume 4 [07].

Any deviations should be agreed with the KNOTT plant carrying out the approval. Minimum requirements for key capability figures:

- machine capability/short-term process capability C_m/C_{mk} 1.67
- provisional process capability P_p/P_{pk} 1.67
- process capability/long-term process capability C_p/C_{pk} 1.33

6.4. Supplier Evaluation

To evaluate suppliers, key figures are determined from the areas of logistics, procurement, development and quality management. An assessment is made from the respective areas, which is combined into an overall score with different weightings.

Our aim here is to review the performance of our supply partners and the associated classification of A/B/C suppliers in order to identify and track the strengths and weaknesses of our partners.

The supplier evaluation takes place annually and/or in the event of special events.

After receiving the evaluation, the supplier undertakes to comment on the classification as a “B” or “C” supplier and to present suitable corrective measures and opportunities for improvement in the individual points and to implement them within a deadline. The aim is to jointly improve product and process quality and thereby raise the supplier's rating to “A supplier” status.

7. Deviations/changes/complaints

7.1. Changes

Changes to the product or process should be reported to KNOTT in advance and approved by KNOTT.

- ➔ Changes should be documented by the supplier in a product and process CV and, following consultation with KNOTT, possibly sampled again.

7.2. Deviations

- ➔ In the event of deviations from the specification, approval should always be sought using Form V07 "Deviation Request" before delivery is made.
See V07 "Deviation Request"
- ➔ All deliveries made on the basis of a deviation approval must also have labels on all load carriers in accordance with Form V10 "Labeling for deviation request parts".
See V10 "Identification of Deviation Request Parts"

7.3. Complaints

Complaints

Objective:

Quick elimination of the problem at KNOTT. Damage limitation through fault isolation. Finals adjustment of the problem, no repetition of errors.

Procedure:

- KNOTT immediately provides the supplier with detailed information.
- Immediate measures are agreed together.
- The supplier analyzes the problem.
- The supplier documents at least the following
 - problem
 - immediate measure
 - root cause
 - Remedial action/preventive measure

Requirements:

Each time the ordering KNOTT plant makes a complaint, remedial action must be initiated immediately. It must be documented and, if requested by KNOTT, this documentation must be submitted in a timely manner and in a structured form using Form V08 "8-D report" or similar.

See V08 "8-D report"

Immediate measures should be agreed with KNOTT within one working day and, if necessary, should be reported to KNOTT in writing the same day.

- ➔ Other affected KNOTT plants should be informed by the supplier immediately.
- ➔ Statements regarding remedial action and preventive measures should be submitted within 10 working days.
- ➔ Cause analyses should always be carried out using suitable problem solving methods.
- ➔ KNOTT should be informed of the effectiveness of the corrective measures.

In consultation with the supplier, KNOTT reserves the right to take immediate action in urgent cases and to bill the supplier for the costs incurred.

Identification following previous complaint:

- ➔ Unless agreed otherwise, subsequent deliveries from warehouse stock and work in progress which were subjected to a 100% check because of a previous fault must be identified using Form V11 "Identification of checked goods following a complaint" until the fault has been demonstrably rectified.
See V11 "Identification of checked goods after complaint"
- ➔ The transport load carrier and each individual item of loading equipment must also be labeled clearly with this form. The type of labeling for each individual part should be agreed with the receiving KNOTT plant.

8. Deliveries/logistics

8.1. Logistics agreement

KNOTT will conclude a logistics agreement with the supplier. The content will serve as guidelines regardless of whether this agreement has been concluded.

Objective

- Minimal transport costs through bundling delivery transport and intelligent transport concepts
- Stock optimization through a coordinated delivery frequency
- Process optimization through standardized container concepts and delivery documents (in accordance with VDA recommendation 4902)

8.2. Transport planning

In order to avoid damage during internal and external transport, suitable transport equipment should be used. The transport equipment should be documented in the work plans.

8.3. Parts control

In order to avoid mixed batches and to ensure traceability, unmachined parts, purchased parts from subcontractors and the company's own parts should be processed and delivered in accordance with the "first in first out" principle.

Traceability

The supplier must ensure traceability from KNOTT as far as its subcontractors. The parts or the containers should therefore be labeled in a suitable manner with batch identifiers and details of the change status. The change status should also be given on the delivery note.

8.4. Packaging

- ➔ The supplier is responsible for packaging its components. The packaging must ensure that the product is not damaged or contaminated from outside during transport.
- ➔ The planned packaging type should be agreed with KNOTT at the initiative of the supplier well before the start of series deliveries. KNOTT's requirements regarding the handling of load carriers and the material must be complied with. Reusable packaging should be used wherever possible.

8.4.1. Load carriers

KNOTT suppliers should deliver their products in one of the following containers:

EURO pallet (perm. transport weight ≤ 1,000 kg)

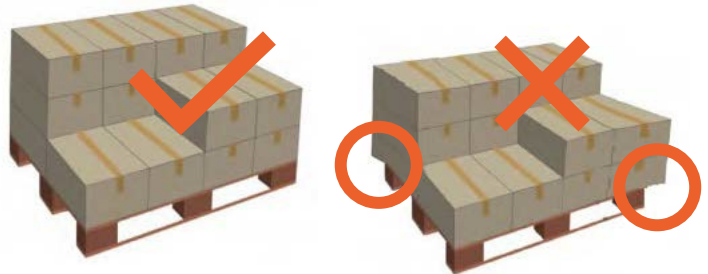
Unless agreed otherwise with KNOTT, goods may only be delivered on pallets which comply with DIN EN 13698 Part 1 (standardized, reusable transport pallets measuring 1200x800x144 mm and weighing 20–24 kg).

To ensure that the EURO pallets are in technically perfect condition, they should be replaced in accordance with the criteria set out by the European Pallet Association EPAL.



Boxes should be fixed on pallets with at least 4 (max. 8) nails. The width of a box must not exceed the width of the pallet. Protruding boxes disrupt conveying and storage systems. They also pose a greater safety risk.

It must be ensured that the pallets can be stacked. This means delivering stable load carriers without cracks, buckling or other damage so that the goods can be transported without being damaged. This also includes avoiding disruptions to conveying systems and minimizing the safety risk.



Pallet cages (perm. transport weight ≤ 1,000 kg)

Goods can be delivered in EURO pallet cages which comply with DIN EN 13626 and UIC 435-3. Dimensions and data:

- Width 835 mm
- Length 1240 mm
- Height 970 mm
- Empty weight approx. 70 kg (up to 2011 approx. 85 kg)
- Useful volume approx. 0.8 m³
- Loading capacity 1,000–1,500 kg
- Bearing capacity 4,400–6,000 kg



The number of stackable units (three to five) differs depending on the manufacturer and the quality.

Protection between the inner wall of the load carrier and the individual parts is required (e.g. by inserting corrugated cardboard). This should help to avoid mechanical damage to the surface owing to sudden impacts, scratches etc., especially during transport.

Specific labels/information must be provided on pallet cages/boxes. These labels/information must be easily legible on the outer sides.



Cardboard pallets (perm. transport weight ≤ 500 kg)

Owing to its construction, a cardboard pallet can be used in four ways. Cardboard pallets are suitable as transport pallets, for roller conveyors and for pallet shelves. The maximum load on a shelf is 500 kg.



8.5. Measures to secure products to be transported

- Product parts on the inside must be secured against slipping during transport too. The supplier must ensure that weight is evenly distributed. By inserting a film, you can prevent small parts slipping through. Delicate products must be protected against moisture and dirt using shrink hoods.
- Empty spaces inside the transport containers should be filled in order to protect the products against mechanical damage. Disposable materials should be used. All packaging materials (polystyrene, FillAir, Packtiger etc.) must be recyclable and free from harmful materials. The IPPC standard in force should also be complied with.
- In order to prevent bulges in the box, edge protectors or other reinforcing items can be used.
- Parts which are labeled on the order according to the KNOTT standard sheet 836 "Regulations regarding technical surface cleanliness" must be checked, packaged and delivered in accordance with the aforementioned standard sheet.

8.6. Cleanliness

The supplier is responsible for the cleanliness of its parts.

For hydraulic components:

The requirements regarding technical cleanliness apply to hydraulic components. These are set out in the KNOTT standard sheet NB836: Regulations regarding technical surface cleanliness.

See standard sheet NB836: Regulations regarding technical surface cleanliness.

8.7. Preservation

All products which could be impaired by the effects of the environment should be protected in an appropriate manner. The planned preservation method (if necessary) should be agreed with KNOTT at the initiative of the supplier well before the start of series deliveries.

8.8. Inadequate packaging

Goods will be rejected if they were damaged as a result of inadequate packaging. In this case, a complaint report with a photo which refers to the inadequate packaging should be drawn up. In addition, the damage to the goods should be noted on the consignment note/delivery note.

8.9. Labeling

8.9.1. Labeling of consignments

The consignment must be clearly labeled. The labels should show the number of packages and the numbering for the load carriers.



8.9.2. Article labeling

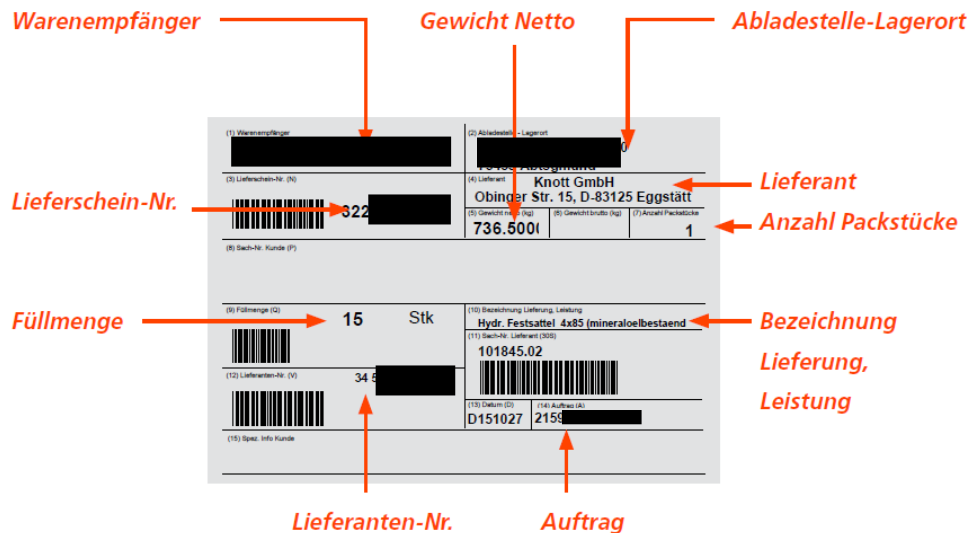
The article must be clearly identified on the label. At least the following data should be shown on the label:

- Article identification with KNOTT article number and/or barcode
- Drawing number and change status/index
- The serial number of a product must be visible on the packaging from the outside
- Quantity (or packaging unit) or weight of the relevant article



8.9.3. Labeling in accordance with the VDA standard 4902

Each load unit should have a machine-readable tag in accordance with the VDA standard 4902. The aim is to automatically record all warehouse-relevant data each time that goods are transferred (accepted etc.) by scanning the barcode on the VDA tag. Individual packages should be labeled with the VDA label 4902 Version 4 (210 mm x 74 mm for single and 210 mm x 148 mm for complete loads).



The diagram shows a VDA 4902 label with various fields and their corresponding annotations:

- Warenempfänger** (Receiver) points to field (1) Warenempfänger.
- Gewicht Netto** (Net Weight) points to field (5) Gewicht netto (kg).
- Abladestelle-Lagerort** (Loading location - Warehouse location) points to field (2) Abladestelle - Lagerort.
- Lieferschein-Nr.** (Delivery note number) points to field (3) Lieferschein-Nr. (N).
- Lieferant** (Supplier) points to field (4) Lieferant.
- Anzahl Packstücke** (Number of packages) points to field (7) Anzahl Packstücke.
- Füllmenge** (Filling quantity) points to field (9) Füllmenge (Q).
- Bezeichnung Lieferung, Leistung** (Description of delivery, service) points to field (10) Bezeichnung Lieferung, Leistung.
- Lieferanten-Nr.** (Supplier number) points to field (12) Lieferanten-Nr. (N).
- Auftrag** (Order) points to field (13) Datum (D).

The label fields contain the following data:

(1) Warenempfänger	(2) Abladestelle - Lagerort
(3) Lieferschein-Nr. (N)	(4) Lieferant
(5) Gewicht netto (kg)	(6) Gewicht brutto (kg)
(7) Anzahl Packstücke	(8) Sach-Nr. Kunde (P)
(9) Füllmenge (Q)	(10) Bezeichnung Lieferung, Leistung
(11) Sach-Nr. Lieferant (S)	(12) Lieferanten-Nr. (N)
(13) Datum (D)	(14) Auftrag (A)

8.10. Accompanying documents

The necessary accompanying documents (delivery note, certificates etc.) must be enclosed with each consignment. The accompanying documents should be attached to the package with a delivery note bag so that they are easily visible. The delivery note bag will protect the documents inside against dirt and moisture.

Language

The delivery and freight papers used to identify the consignment should always be in German and/or English. If legal regulations (e.g. customs regulations) require a different language, a German or English translation should be enclosed.

8.10.1. Delivery note

The delivery note must be attached to the outside of each load carrier. If the delivery note is missing, the goods may be rejected. This rule also applies to shipping companies working on behalf of the supplier or KNOTT.

The following details must be given on the delivery note in a form which complies with DIN 4991 and with content which complies with VDA 4913. The delivery note number should also be shown as a barcode in Code 39 format.

- KNOTT order number
- KNOTT article number
- KNOTT article description
- KNOTT drawing number
- KNOTT drawing index
- Delivery quantity

- Delivery note number
- Supplier number
- Supplier's own article number
- Gross and net weights
- Unloading point
- Contact person

8.10.2. Forwarding

If a consignment delivered to KNOTT Germany is to be forwarded to a KNOTT INTERNATIONAL plant, this must be agreed with the relevant Purchasing departments at the plant before the goods are sent off. Without the approval of the relevant member of Purchasing staff, the consignment will not be accepted and will be returned at the sender's expense.

If approval is granted, the consignment for forwarding must be labeled on the outside on the load carriers and recorded in the delivery note.

8.11. Non-EU Deliveries / import regulations

The import of goods from non-EU countries into the EU is generally permitted without restrictions. By way of derogation from this principle, there are restrictions for certain goods due to international regulations and agreements, EU provisions and national regulations.

The aim is to ensure that all import processes run smoothly so that legal obligations and rules can be applied correctly.

8.11.1. Preferential declarations of origin

The preferential origin of a product is based on unilateral or bilateral preferential agreements that the EU has concluded with individual countries or groups of countries. Customs concessions (preferences) are agreed in these agreements. This means that imports into a country with which such a preferential agreement has been concluded can be duty-free or at least duty-reduced, provided that the goods meet certain rules of origin, which are set out in the form of so-called processing lists in the respective agreement.

Proof of preferential origin is voluntary and not a prerequisite for importing goods. A prerequisite for the granting of customs benefits in the importing country is the presentation of the proof of preference provided for in the respective agreement. Preferential certificates can be:

- Movement certificate EUR.1 or EUR-MED
- Declaration of origin or declaration of origin EUR-MED
- Supplier's declaration in accordance with Implementing Regulation (EU) 2015/2447 to the Union Customs Code
- Certificate of origin form A (for imports from developing countries)
- Movement certificate A.TR (Attention: special case and only applicable for trade with Turkey)

Even if the determination of preferential origin is based on a voluntary basis, it is extremely important for us to find a suitable and practicable solution together with you as a supply partner. Full support from you is required here.

8.11.2. CBAM

The Carbon Border Adjustment Mechanism (CBAM) is an environmental policy instrument that serves to apply the same CO₂ costs to imported products that would be incurred if the corresponding plants were operated in the European Union (EU). In this way, the CBAM reduces the risk of the EU's climate targets being undermined by relocating production to countries with less ambitious decarbonization measures (so-called "carbon leakage").

As an importer, KNOTT must therefore determine and document the direct and indirect emissions generated in the production process of the imported goods. This is only possible with the corresponding data from the foreign manufacturer.

The following data is therefore required from the foreign supplier/manufacturer. In addition to precise details of the production site (e.g. geographical coordinates of the plant), this includes the following information:

- Production process
- Specific grey direct emissions (per CN code, summarized if necessary), information on the methodology
- Indirect grey emissions
- Sector-specific information

All necessary information must be shared here at KNOTT's request and participation in the processing must be provided

8.12. Supplier Code of Conduct

The KNOTT company and all KNOTT Group sites are committed to ecologically and socially responsible corporate management. We expect the same behavior from all our suppliers. We also expect our employees to observe the principles of ecological, social and ethical behavior and to integrate them into the corporate culture. We also strive to continuously optimize our business activities and our products in terms of sustainability and ask our suppliers to contribute to this in the sense of a holistic approach.

The Code of Conduct is based on international conventions such as the UN Civil Pact and the UN Social Pact, the Guidelines on the Rights of the Child and Business Conduct, the United Nations Guiding Principles on Business and Human Rights, the international labor standards of the International Labor Organization and the United Nations Global Compact, as well as on corresponding national laws and regulations to which we are bound.

The following minimum requirements are imposed on us and our suppliers

- Social requirements
- Ecological responsibility
- Ethical business conduct

With regard to supply chains, we expect our suppliers to identify risks within them and to take appropriate measures. Further information and specifications can be found in our Knott standard sheet

See: [KNOTT works standard V14 Supplier Code of Conduct](#)

9. General conditions and closing remarks

The Purchasing/Quality Management Guideline of the KNOTT Group as well as the associated annexes and forms can be downloaded in German and English from the homepage of the ordering plant or, alternatively, from www.knott.de.

This document is binding for all KNOTT business partners.

The General Terms and Conditions of Purchasing form the basis for our business transactions with our suppliers and partners.