



TÜVRheinland®

DIN CERTCO

Genau. Richtig.

Certification Scheme

VDA Small Load Carrier (KLT) System for the Automotive Industry

according to

**VDA Recommendation 4500
for Small Load Carrier (KLT) System
VDA Recommendation 4504
for Electrostatically Dissipative Small Load Container
(KLT) System**

(Edition: June 2018)

Foreword

DIN CERTCO was founded in 1972 by DIN Deutsches Institut für Normung e. V., is now part of the TÜV Rheinland Group and is the certification body for issuing DIN marks and other certification marks for products, persons, services as well as companies based on DIN standards and similar specifications. Due to its independence, neutrality, competence and many years of experience, DIN CERTCO enjoys a high reputation both at home and abroad.

In order to prove the functionality of the system and our competence as a certification body, we have been accredited, certified or recognised by independent domestic and foreign bodies in both the voluntary and legally regulated areas. [Our accreditations.](#)

The certification scheme is based on the VDA Recommendation.

The VDA Recommendations are recommendations that may be freely adopted by anyone. The user must ensure the correct application of the recommendations on a case-by-case basis as required. The recommendations consider the current state of technology at the time of their publication. The application of the VDA Recommendations does not absolve anyone of the responsibility for their own actions. Therefore, all users act at their own risk. Liability of the VDA and those involved in drafting the VDA Recommendations is excluded. Anyone using these VDA Recommendations who notices any errors or the possibility of misinterpretation is asked to notify the VDA immediately in order to rectify any such errors.

Together with the General Terms and Conditions of DIN CERTCO, this certification scheme forms the basis for manufacturers and initial distributors of KLT systems to label their products in accordance with the guidelines specified in the VDA Recommendation. Manufacturers and initial distributors thereby document that their products meet all the requirements of the VDA Recommendation.

To receive the current VDA drawings, please contact DIN CERTCO or the VDA Association of the Automotive Industry (Verband der Automobilindustrie e.V.) at logistik@vda.de

An up-to-date list of all certificate holders can be accessed via the database on the home page of DIN CERTCO <www.dincertco.de>.

Start of validity

This certification scheme will apply starting on 2018-06-01.

Amendments

None (initial version)

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1 Scope

This certification scheme applies to Small Load Carriers (KLT) systems in the automotive industry in accordance with the requirements specified in the VDA Recommendation of the VDA Association of the Automotive Industry (Verband der Automobilindustrie e.V.). In conjunction with the test specifications mentioned below, this certification scheme includes all requirements to identify and marking, the products in accordance with section 2.3 of VDA Recommendation 4500 Part 1 and VDA Recommendation 4504 Part 1.

This certification scheme specifies the requirements for the product itself as well as for its testing, monitoring and certification.

2 Testing and certification specifications

The following documents form the basis for testing and certification. For dated references, only the version referenced shall apply. For undated references, the current version of the referenced document shall apply, including any amendments.

- VDA KLT drawing
- VDA Recommendation 4500 Parts 1 and 2 incl. Appendices
- VDA Recommendation 4504 Parts 1 and 2 incl. Appendices
- VDA Damage Classification for Damaged VDA KLT
- This certification scheme
- The General Terms and Conditions of DIN CERTCO
- The applicable fee schedule of DIN CERTCO

3 Product requirements

The VDA Recommendations 4500 and 4504 specify i.a. the requirements concerning the following aspects:

- System design and abbreviations
- Materials
- Colour
- Nominal dimensions
- Capacity
- Weight
- Filling weight
- Top load
- Marking and identification
- Modular design
- Handling and securing of loading units
- Use and maintenance
- Fire safety
- Transmission of information to the VDA with regard to the annual statement on production figures
- In-process quality assurance
- Technical tests

3.1 Internal in-process quality assurance

In accordance with section 4 of VDA Recommendation 4500 Part 2 "VDA approval, certification and quality assurance system" and VDA Recommendation 4504 Part 2 "Technical recommendation", the following requirements apply to the internal in-process quality assurance

during production in the context of self-monitoring according to section 4.1 of the VDA Recommendation:

Table 1 Internal in-process quality assurance

Quality characteristic	To be found in document
Bending of side panels	VDA KLT drawing
Outside length, top	VDA KLT drawing
Outside width, top	VDA KLT drawing
Overall height	VDA KLT drawing
Outside length along base frame	VDA KLT drawing
Outside width along base frame	VDA KLT drawing
Length inside	VDA KLT drawing
Width inside	VDA KLT drawing
Label frame dimensions	VDA KLT drawing
Base sagging	VDA 4500 / VDA 4504
Weight	VDA 4500 / VDA 4504
Product designation	VDA 4500 / VDA 4504
Material specifications	VDA 4500 / VDA 4504
VDA approval number	Tool approval by the VDA
Date of manufacture	VDA 4500 / VDA 4504

The frequency of tests per production lot is regulated by the manufacturer, if not specified otherwise, whereby a consistent compliance with the specifications must be ensured.

3.1.1 Virgin materials

In addition to the quality requirements laid down in the above table, the products must meet the specified yield load requirements, as this is relevant for safety. For this purpose, the yield load (in a crush test) must be determined at least once per quarter for each production batch. This applies only where the same type of material is used. Products made from different materials must undergo a full testing and inspection procedure.

3.1.2 Recycled raw materials VDA 4500

Products made from recycled materials for which the supplier guarantees certain mechanical properties must undergo the same testing and inspection procedure as products made from new raw materials.

The use of other recycled materials is only permitted, if these were obtained through the recycling of injection moulded products. Such recycled materials must be from an identi-

fiable source (e.g. C-KLTs, or specified container pools) and are of the same composition as the basic material for VDA KLTs (PP copolymers). Crush tests according to VDA 4500 must be performed for each production batch, at any change of material and at least once a week.

3.1.3 Recycled raw materials VDA 4504

Recycled raw materials must not be used in the production of VDA KLT system elements (ESD).

3.2 Tests within the scope of VDA approval and certification

3.2.1 Testing requirements

The following quality tests are carried out with new VDA KLT system elements, which are at least 72 hours old and were stored at room temperature until testing.

Compliance with the dimensional tolerances as specified in the dimension drawing for testing (see Appendix 2.1) must be ensured.

3.2.2 Tests

As part of the certification, the following tests must be conducted by a qualified testing laboratory, and the compliance with the requirements of VDA Recommendation 4500/4504 must be verified:

- Visual appearance
- Colour (VDA 4500)
- Surface resistance test (VDA 4504)
- Dimensions
- Marking and identification
- Weight control

3.2.3 Application-related tests

The application-related tests represent the practical case. The objective of these tests is to obtain reproducible and fast results of quality tests. The following tests are to be carried out in accordance with VDA Recommendation 4500/4504:

- Drop test
- Crush testing
- Base sagging test

4 Testing

4.1 General

To carry out the necessary tests as a basis for the evaluation and certification of the products, DIN CERTCO uses DIN CERTCO qualified testing laboratories.

4.2 Types of tests

4.2.1 Initial test

The initial test is a type examination (type testing) which determines whether the product meets the requirements specified in section 3 of this certification scheme.

If several production sites of a company are covered by the same management system, DIN CERTCO may prepare a sampling plan in consultation with the auditor in charge. This requires the use of a consistent management system and the existence of a legal or contractual relationship between the manufacturers, which enables the implementation of corrective action by a central facility. Under these conditions, the sample size is calculated as \sqrt{n} , with n being the number of manufacturers, or locations, if indicated, with a common management system, rounded to the upper integer. The exception to the rule is the monitoring of OEM manufacturers that only have their own tools and where the production site can vary. In this case, an on-site audit is required each time the tool is moved.

The audit is conducted in accordance with the specifications in section 6.

4.2.2 Surveillance test

The on-site audit verifies whether the in-process quality assurance in accordance with section 3.1 of the certification scheme continues to be performed and whether the compliance with the product requirements is maintained.

The surveillance audit is carried out 3 years after issuing the certificate. Surveillance takes place in the form of on-site audits on a sample to be determined by DIN CERTCO in consultation with the auditor, if indicated.

Under these conditions, the sample size is calculated as \sqrt{n} , with n being the number of production sites, or locations, if indicated, with a common management system, rounded to the upper integer. The exception to the rule is the monitoring of OEM manufacturers that only have their own tools and where the production site can vary. In this case, an on-site audit is required each time the tool is moved.

The audit is conducted in accordance with the specifications in section 6.

4.2.3 Supplementary test

A supplementary test will be conducted if any additions, enhancements or changes (see section 5.9) have been made to the certified product that affect its conformity with the underlying requirements.

The type and scope of the supplementary test will be determined by DIN CERTCO on a case-by-case basis in consultation with the VDA and the testing laboratory.

4.2.4 Special test

Special test will take place if:

- Defects were identified
- The production site was changed
- Production was resting over a period of more than 6 months
- DIN CERTCO has a justified reason

- It was requested in writing by third parties, if these third parties have a particular interest in maintaining an orderly market activity in a competitive or qualitative manner

The type and scope of a special test are determined by DIN CERTCO on a case-by-case basis for the intended purpose, in consultation with the VDA and the testing laboratory.

If deficiencies are found during a special test or if the special test was carried out due to the suspension of production, the certificate holder must bear the costs of the special test procedure.

If no deficiencies are found in special test that were conducted at the request of third parties, the costs shall be borne by the requesting third party.

In addition, provisions in section 4.2 of VDA Recommendation 4500 Part 2 and VDA Recommendation 4504 Part 2 apply.

4.3 Sampling

The samples for the initial sample testing and, if applicable, for the repeat test are usually submitted by the manufacturer to the test laboratory that was commissioned to perform the tests. The costs are borne by the manufacturer.

The number of samples for the product testing is agreed upon between DIN CERTCO and the testing laboratory, unless it is regulated in the applicable test specifications.

4.4 Test methodology

Testing is carried out according to section 3.2 of the certification scheme.

4.5 Test report

The testing laboratory informs the client of the result of the tests by means of a test report. The original test report must be submitted to DIN CERTCO.

The test report must not be older than 6 months at the time of application. In individual cases, older test reports may also be accepted if the test laboratory confirms in writing the validity of the information stated in the test report.

The test report must comply with DIN EN ISO/IEC17025, section 5.10 and contain at least the following information:

- Name and address of the manufacturer
- Name and address of the applicant (if different from the manufacturer)
- Test specifications, including date of publication
- Type of test (e.g. type examination, supplementary test, etc.)
- Date of testing
- Results and evaluation of the test
- Name and signature of the person responsible for testing
- Further required items specified by standards, if applicable

5 Certification

Certification for the purpose of this certification scheme is the conformity assessment of a product by DIN CERTCO based on test reports prepared by qualified test laboratories and on

the result of the on-site audit conducted by DIN CERTCO personnel or by qualified external auditors. The products to be certified are inspected for conformity with the requirements stated in section 3 and are subsequently monitored.

The certificate verifies the conformity with the requirements of VDA Recommendation 4500 and VDA Recommendation 4504 and the certification scheme. The certificate authorizes the labeling of KLT containers in accordance with VDA Recommendation 4500/4504.

5.1 Application for certification

The applicant may be a manufacturer according to § 4 Product Liability Act (ProdHaftG) or an initial distributor who, upon written agreement with the certificate holder, places the products on the market at their sole responsibility within the meaning of the Product Liability Act.

The applicant must submit the following documents to DIN CERTCO:

- Application for certification in the original and with a legally binding signature
- Current test report according to section 4.5 for an initial test (see section 4.2.1), unless the test was commissioned by DIN CERTCO
- Proof of valid certification in accordance with DIN EN ISO 9001 or with a quality management system released by the VDA

Upon receipt of the application, the applicant receives an order confirmation from DIN CERTCO with a procedure number and instructions on the further course of the procedure and information about missing application documents, if any.

5.2 Classification of the types

KLT systems that differ from each other in critical certification-relevant characteristics are defined as type or model. Certification-relevant features include properties that significantly affect the safety, function or handling and are therefore sold under a separate short designation. A depiction of the VDA KLT system can be found in section 2.2 of VDA Recommendation 4500/4504.

A separate certificate is issued for each type/model and tool.

5.3 Conformity assessment

DIN CERTCO carries out the conformity assessment based on the submitted application documents. In particular, based on the test report and the audit report, it will be assessed whether the product meets the requirements of VDA Recommendation 4500/4504 and of the certification scheme.

DIN CERTCO will notify the applicant of any deviations in writing.

5.4 Certificate

After a successful review and conformity assessment of the submitted application documents, DIN CERTCO issues a certificate with an approval number to the applicant.

VDA approval numbers may only be used for the type/model for which the certificate was issued and which corresponds to the type-tested product.

A separate certificate is issued for each type/model and tool. Each certificate is assigned its own approval number.

In addition, the General Terms and Conditions of DIN CERTCO apply.

5.5 Publications

An up-to-date list of all certificate holders can be accessed via the DIN CERTCO homepage www.dincertco.de under <certificate holders>. Manufacturers, users and consumers use this list to research certified products.

In addition to the contact information of the certificate holder (telephone, fax, email, website), the technical data of the certified product can also be accessed here.

5.6 Certificate validity

The certificate is valid for 6 years. The validity period is specified in the certificate. Upon expiration of the certificate, a notification is sent to the VDA Association of the Automotive Industry (Verband der Automobilindustrie e.V.).

5.7 Certificate renewal

If the certification is to be maintained beyond the date specified in the certificate, an application for renewal must be submitted to DIN CERTCO in due time before the validity period expires. DIN CERTCO carries out the conformity assessment based on the submitted application documents.

Proof of compliance with the requirements of the testing and certification principles in accordance with section 2 is provided by a surveillance test in accordance with section 4.2.2, which is evaluated by DIN CERTCO.

5.8 Expiration of the certificate

If the re-testing for product conformity according to section 4 of the certification scheme did not take place in due time before the validity period expired, the certificate will expire without the need for any explicit notification from DIN CERTCO. A notification to that effect is sent to the VDA Association of the Automotive Industry (Verband der Automobilindustrie e.V.).

In addition, the certificate can also expire if:

- The surveillance measures specified under section 6.2 are not carried out on time or are carried out in an incomplete manner,
- The certificate holder misuses the certificate or the VDA approval number,
- The requirements arising from this certification scheme or its accompanying documents are not met,
- The incurred certification fees are not paid in due time,
- The conditions for issuing the certificate no longer exist.

In addition, provisions in section 4.2 of VDA Recommendation 4500 Part 2 and VDA Recommendation 4504 Part 2 apply.

5.9 Changes/amendments

5.9.1 Changes/amendments to the product

The certificate holder is under obligation to notify DIN CERTCO immediately of any changes to the product. In coordination with the testing laboratory and the VDA, DIN CERTCO decides to what extent a test according to section 4.2.3 is to be conducted and whether the change is significant. The testing laboratory forwards the respective test report to DIN CERTCO.

If DIN CERTCO determines the change to be significant, the certificate with the corresponding approval number will expire. The certificate holder can apply for an initial certification for the changed product.

Furthermore, the certificate holder is under obligation to report any changes to formal information (e.g. certificate holder or his address).

5.9.2 Change of test specifications

If the testing specifications of the certification change, an application for modification of the certification must be submitted within 6 months after the notification by DIN CERTCO and, as a rule, compliance with the revised test specifications must be demonstrated after 12 months by submitting a positive test report (see section 4.2.3).

5.10 Product defects

If defects are detected on a certified product on the market, the certificate holder is asked in writing by DIN CERTCO to correct the defect.

In consultation with the testing laboratory and the VDA, DIN CERTCO decides whether it is a serious or a minor defect.

For defects that have a direct or indirect influence on the safety or functionality (serious defects), the manufacturer must ensure that the products are no longer marked with the certification mark until the defects have been remedied.

These defects must also be remedied immediately on all installed products or products in stock. Within 3 months, the manufacturer must prove to DIN CERTCO that the defects have been remedied and that the faulty product again meets the specified requirements. This is done by submitting a test report for a special test in accordance with section 4.2.4.

For defects that have no influence on the safety or functionality (minor defects), the manufacturer must prove to DIN CERTCO within 3 months and in a suitable manner that the defects in the faulty product have been corrected.

If the manufacturer does not comply with these deadlines, the certificate will be withdrawn from him and from the distributor, and the VDA will be notified accordingly.

If there is still reason for the complaint, DIN CERTCO will suspend the certificate and at the same time will grant a final deadline to correct the defects. If the certificate holder fails to comply with that request, or if he fails to do so within the set time limit, or if the defect is again not corrected, the certificate will expire.

In addition, provisions in section 2.4 and 4.2 of VDA Recommendation 4500 Part 2 and VDA Recommendation 4504 Part 2 and in the Damage Classification for Damaged VDA KLT apply.

6 Monitoring

6.1 Self-monitoring by the manufacturer

The manufacturer must take appropriate quality assurance measures to ensure that the product qualities verified during certification are maintained. This can be ensured by means of an in-factory production control directly aimed at the product or the production and, apart from that, by measures within the framework of a quality management system (QM system) in accordance with the DIN EN ISO 9000 et seq. standard series (see also section 3.1 of the certification scheme).

6.1.1 In-process quality assurance

The in-factory production control is the continuous monitoring of the production process by the manufacturer. It ensures the conformity of the manufactured products with the specified requirements.

Relevant documents shall be provided upon request to DIN CERTCO or its agents. They must contain at least the following information:

- Name of the test object
- Date of manufacture
- Date of testing
- Test result and comparison with the specified requirements, if applicable
- Signature of the person responsible for testing
- Date of record

If the result of a test is negative, the manufacturer must immediately take measures to remedy the defect. Defective products must be marked and discarded. The test must be repeated periodically to see if the defect has been rectified.

6.1.2 Quality management system

DIN CERTCO recommends the establishment and certification of a quality management system in accordance with the DIN EN ISO 9000 et seq. series of standards.

6.2 External monitoring by DIN CERTCO

6.2.1 General

An essential part of the certification is the continuous monitoring of the certified product during the entire term of the certificate. The monitoring takes place at specified regular intervals.

DIN CERTCO reviews and evaluates the conformity of the product with the requirements specified in the certification scheme in surveillance tests and, if necessary, conducts on-site audits to verify the effectiveness of in-production quality assurance in accordance with section 6.1.

6.2.2 On-site audit

During an on-site audit, DIN CERTCO or a third party commissioned by DIN CERTCO inspects the production facilities and testing facilities as well as the quality assurance measures (QA measures) to determine whether they are suitable for a production that conforms to the specifications.

During the audit it is also determined whether the manufacturing conditions ensure a consistent conformity of the products with the requirements specified in section 3. A separate audit report will be issued for this audit.

If the results of the audit are insufficient, the applicant/certificate holder must be informed immediately. The scope of any additional measures that need to be taken in order to fulfill all requirements must then be specified by the certification body together with the applicant/certificate holder. If the applicant/certificate holder is unable to implement the necessary measures, the procedure will be terminated.

7 Certification process small load carrier (KLT) system

The certification process for small load carriers (KLT) system, as shown in Figure 1, was developed by the VDA work group "Quality Control Process Model" on 14/09/2017.

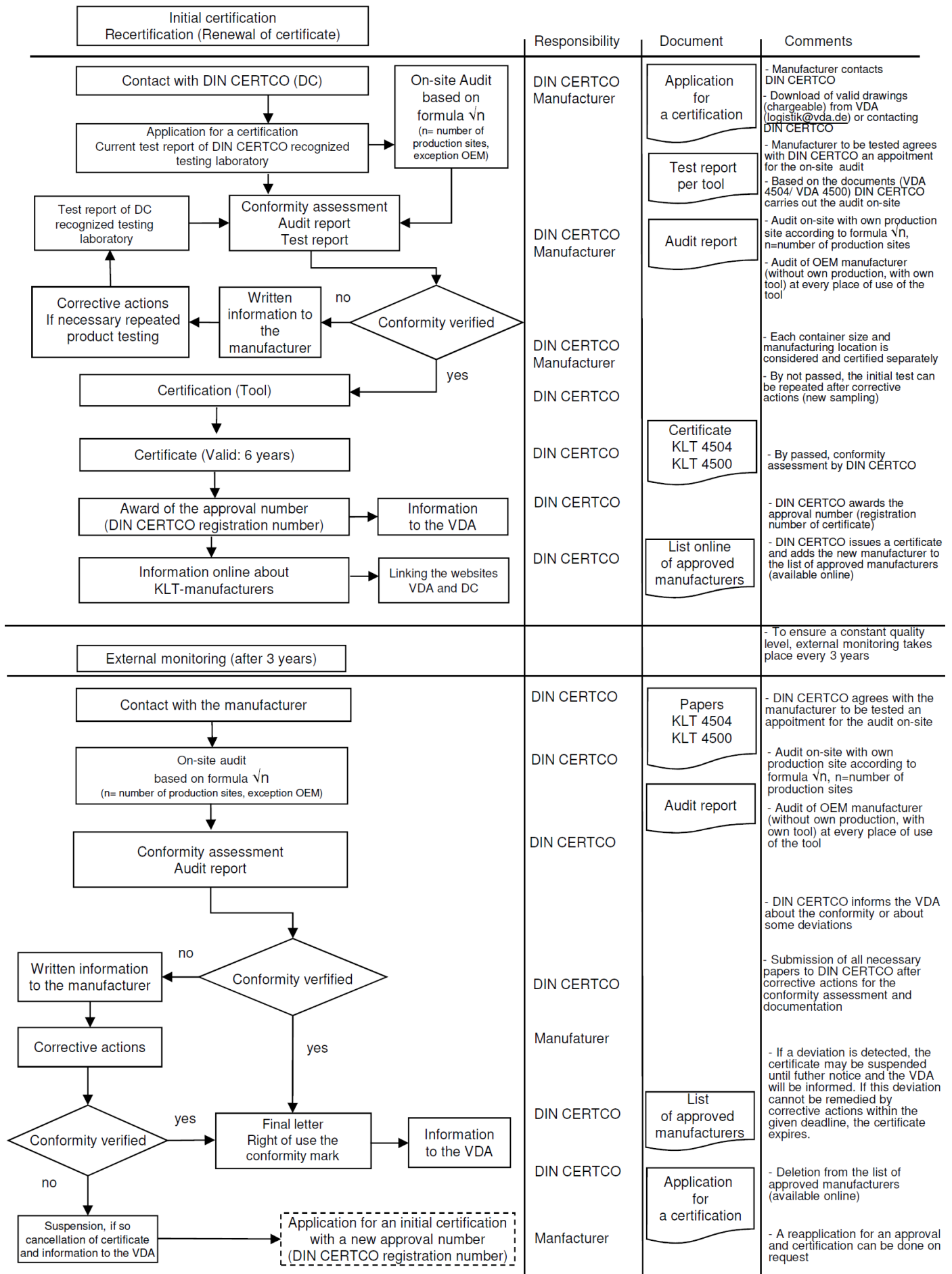


Figure 1. Certification process small load carrier (KLT) system