Certification Scheme

Materials for Plastic Pipe System

Main Part

(Edition: 2025-06)

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Preface

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.

This certification scheme has been prepared with the collaboration of DVGW (Deutscher Verein des Gas- und Wasserfaches e. V.) and Kunststoffrohrverband e.V. It combines all relevant requirements of the the certification schemes Plastic pipe systems (pressure pipes and fittings) 2017-05 and Plastic pipe systems (Sewer tunnel and sewage systems) 2015-03. In addition, requirements of PAS 1031, PAS 1075 and corresponding standard are involved. Particularly, this document summarizes the hygienic suitability requirments of DVGW and of the German Environment Agency (Umweltbundesamt). Thus, this certification scheme constitutes comprehensive work in coordination with all relevant valid standards.

Alongside the General Terms and Conditions and Testing, Registration and Certification Regulation in place at DIN CERTCO, this certification forms the basis for enabling providers of materials for plastic pipe systems to label their products with the “DIN*plus*” quality mark. They document hereby that their products meet all the requirements of the underlying standards and exceed them in several cases.

The “DIN*plus*” quality mark creates customer confidence: they can rest assured that an independent, neutral and specialist institution has carefully investigated and reviewed all the inspection criteria. External quality controls also ensure that product quality is kept at a high level during ongoing manufacture. Thus, customers receives a benefit that they can take into consideration when making purchase decisions.

Materials for plastic pipe systems are awarded the “DIN*plus*” quality mark if they meet the requirements listed in section 4 and in respective annexes in accordance with the procedure described in this certification scheme.

All certificate holders are published on the DIN CERTCO homepage (www.dincertco.tuv.com) which is updated on a daily basis.

Start of validity

See the respective annex.

Changes

The following changes have been made:

Edition 2020-06:
First edition of the scheme by merging of the relevant requirements on materials of the certification schemes Plastic pipe systems (pressure pipes and fittings) 2017-05 and Plastic pipe systems (Sewer tunnel and sewage systems) 2015-03 based on the requirements of PAS 1031, PAS 1075, DVGW working sheets, advices of the German Environment Agency and corresponding standards.

In coordination with the standards, the following changes were taken:

- Adaption of the required MFR interval

- Adaption of the color designations
- Increased requirements on the thermal stability
- Modification of the requirements on the weathering stability
- Revision of the hygienic suitability requirements

Edition 2020-06 Rev. 01:
Annex E (Edition: 2022-05-17) has been newly inserted.

Edition 2025-06:
The certification scheme has been divided into separate documents, namely: main part and the individual annexes A, B, C, D and E, each with its own edition date and revision history. At the same time, the documents have been editorially revised.

Remark

The German version of this certification scheme shall be taken as authoritative. No guarantee can be given to the English translation.

CONTENT

Annex A Materials Polyethylen (PE 80 and PE 100) for the manufacture of pressure pipes and fittings in the fields of gas, drinking water, waste water and industry

Annex B Materials Polyethylen (PE 100-RC) for the manufacture of pressure pipes and fittings for alternative installation techniques according to PAS 1075

Annex C Stripe material Polyethylene (PE 80, PE 100, PE 100-RC) for the manufacture of pressure pipes for gas, drinking water, sewage and industrial applications

Annex D Material plasticizer-free polyamide (PA-U) for the manufacture of high-pressure pipes and fittings for gas supply

Annex E Material Polypropylen (PP-H, PP-B, PP-R, PP-RCT) for the manufacture of pressure pipes and fittings for heating systems, drinking water, sewage, industry

1 Scope of application

This certification scheme applies for materials for plastic pipe systems (materials, pipes, piping fittings, fittings, seals) and contains, in conjunction with the testing specifications listed below, all requirements for the award of the quality mark “DIN*plus*”.

The certification scheme presented here states the requirements for the product itself as well as for the testing, monitoring and certification of same. In section 1 to 8 of the main part, the certification procedure is described, whereas the application-specific requirements (testing scope etc.) can be found in the respective annexes:

Annex A Materials Polyethylen (PE 80 and PE 100) for the manufacture of pressure pipes and fittings in the fields of gas, drinking water, waste water and industry
Annex B Materials Polyethylen (PE 100-RC) for the manufacture of pressure pipes and fittings for alternative installation techniques according to PAS 1075
Annex C Stripe material Polyethylene (PE 80, PE 100, PE 100-RC) for the manufacture of pressure pipes for gas, drinking water, sewage and industrial applications
Annex D Material plasticizer-free polyamide (PA-U) for the manufacture of high-pressure pipes and fittings for gas supply
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1.1 DIN CERTO quality mark DIN*plus*

Products for which the provider is authorized by a valid certificate to use the DIN CERTCO quality mark “DIN*plus”* are characterized by an increased quality compared to the required resp. standard normative minimum requirements.

The increased quality for each specific scopes of this certification scheme is represented in the corresponding annexes.

1.2 Trademark of the Kunststoffrohrverband e.V. (KRV)

Products that are certified in accordance with this certification scheme can, by adherence to the license rights, also be marked with the trademark of the “Kunststoffrohrverband e.V” (KRV) (Plastic Piping Association) (see section 6.4).

2 Testing and certification specifications

The basis for testing and certification is stated for each scope of application in the corresponding annexes. For dated references, only the edition citied applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

In addition for all products, the following applies:

- this certification scheme
- the general terms of business of DIN CERTCO
- the Testing, Registration and Certification Regulation of DIN CERTCO
- the valid schedule of fees issued by DIN CERTCO
- the testing specifications of each annex

3 Terms, abbreviations and symbols

Type test TT: A test to be performed that renders the demonstration, that the product meets the underlying technical specifications and requirements.

Batch release test BRT: A test to be performed by the manufacturer on a batch of the product in which all requirements of the underlying technical specifications must be met prior to the release of the batch.

Process verification test PVT: A test to be performed by the manufacturer at stated intervals to confirm that products continue to be produced by the production process meet the requirements of the underlying technical specifications.

Factory production control (FPC): A monitoring and control of the production by the manufacturer for each manufacturing plant/production facility with that he ensures, that the manufactured products from him meet the underlying technical specifications. FPC includes BRT and PVT.

Audit test AT: A test to be performed by or on behalf of a certification authority to confirm, that the product continues to meet the requirements of the underlying technical specifications and to provide information for the evaluation of the quality assurance system.

Witness Testing WT: A test conducted by the manufacturer or on behalf of the manufacturer under the supervision of a qualified appointee of the certification authority for the test and is recognized by the certification authority as initial type testing and/or monitoring assessment.

Material type: class of materials of a similar chemical composition (e.g. PE 80).

Material: Polymer with a specific name put on the market and supplied to the pipe manufacturer by the material manufacturer, with or without additives and with a filed composition.

List of approved material: specific list of approved materials for plastic pipe systems issued by the Plastic Piping Association. (KRV).

Moulding compound: well-defined homogeneous composition of a base material (PE) and additives, like antioxidants, pigments, carbon black, UV stabilizers and other additives in a dosage that is needed for the manufacturing and the use of piping parts.

Batch: uniquely identifiable production unit of a certain material or moulding compound defined by its amount, production period and accompanying FPC. Production stops of less than 24 h (e.g. by maintenance) are not deemd an interruption of the production batch.

New material: Material, for example in form of pellets that have not yet been used or in form of a processing technique, except for the one that was needed for manufacturing and that is not mixed with circulating material, external reprocessable material or recyclable.

Material in circulation: Material from rebuffed, clean, unused pipes, piping fittings or fittings plus the blend from the own pipe-,piping fittings- and fitting manufacture of a manufacturer that gets recycled in a plant by the same manufacturer and that, for example, comes from an extrusion or injection moulding dissemination.

External reprocessable material: Material that is present in one of the following types:
Type A material from unused pipes and piping fittings provided with the quality mark for plastic pipes by DIN CERTCO.
Type B material from other unused plastic produce as pipes and piping fittings.

Recyclable: (recyclable material) Material that exists in the following types:

Type A material made from used pipes and fittings, provided with the quality mark by DIN CERTCO for plastic pipes that were cleaned and hackled or milled.
Type B material made from other used plastic products than pipes and fittings that was cleaned and hackled or milled.

Reclaim: Material that exists in the following types:
Type A circulating material, external reprocessable material Type A and/or recyclable Type A manufactured through compounding while adding additives.
Type B external reprocessable material Type B and/or recyclable Type B manufactured through compounding while adding additives.

Abbreviations:
DN nominal diameter; numeric ratio for the size of a piping part, that is another, as through the size of a thread, termed piping part that has the approximate manufacturing measure, in mm.
LPL foretold lower prediction limit
SDR standard dimension ratio
FM moulding compound
PS manufacturing site
EG product group
FS fitting
FG manufacturing group (also dimension group)

4 Product requirements

The requirements for materials for plastic pipe systems are elucidated for every scope in the corresponding Annex.

5 Testing

5.1 General Information

The certification is based on the assessment and examination of the product as well as of the appropriate quality management system within a fatory inspection (see 8.2).

For the performance of the tests required as the basis for the assessment and certification of the products, DIN CERTCO avails itself of the testing laboratories to which it has awarded recognition.

The testing scope for particular materials can be found in the respective annexes.

5.2 Types of tests

5.2.1 Initial test (Type test TT)

The initial test is a type test (design test, type test), which serves to determine whether the product meets the requirements laid down in section 4 of this certification scheme.

The initial test is the condition to the certification of a new product.

The testing scope is determined in the respective annex or the corresponding testing and certification specifications. The classification of groups shall be taken into account.

The initial test is to be conducted by an accredited or DIN CERTCO recognized testing laboratory. The samples for the initial inspection can be obtained by the manufacturer.

Besides the product specific intial testing, a factory inspection (see paragraph 8.2) is required. Within this initial inspection, evidence shall be given that the factory production control (see paragraph 7.1) is in line with the requirements of this certification scheme. If there is no existing type of tests of the product, the sample for the initial inspection can be sampled wihtin the initial inspection. The transport of the samples to the testing laboratory is the responsibility of the manufacturer.

5.2.2 Supplementary test

A supplementary test shall take place when additions, extensions or modifications (see section 6.10) are made to the certified product, which may influence the product’s conformity with the pertinent, fundamental requirements.

5.2.3 Surveillance test (Audit test AT)

The surveillance test is carried out at regular, fixed intervals and is designed to establish whether the certified product correspondes to the type-tested product during the production phase.

In addition to the product-specific audit tests, the surveillance test includes an inspection of the factory facility (see paragraph 8.2), by which it will be determined, if the manufacturing and organizational requirement for an ongoing conformity of the products in the respective factory with the requirements according to paragraph 4 given.

The surveillance test will be commissioned or realized through DIN CERTCO. Foundation therefore is a monitoring contract between the certificate owner, DIN CERTCO and, if applicable, a recognized testing laboratory.

Type, scope and frequency of the surveillance tests are determined in the annexes.

If negative test results are detected during the surveillance test, a repeat test shall follow (see 5.2.4).

With positive outcome of the tests, the samples can be blighted immediately, with negative outcome of the tests, the affected samples shall be kept up to three months after issuing of a test report.

5.2.4 Repeat test

A repeat test occurs after negative result of a surveillance test. The repeat test is to be introduced 5 weeks after obtaining the test result at the latest. The test report has to be present 3 weeks after completion of the test.

The certificate holder receives a deviation report with the corrective actions that need to be conducted and the corresponding deadlines for the implementation.

The type and scope of repeat test is determined in line with the particular requirement on a case-by-case basis following consultation between DIN CERTCO and the testing laboratory.

If the mentioned deadlines for technical or other basis from the certificate holder do not comply with those of DIN CERTCO, a new binding date shall be proposed for the repeat test by naming the reasons.

If the repeat test is not passed, the certification is suspended until a special test according to section 5.2.5.

5.2.5 Special test

A special test is conducted if

– defects are detected
– the production has been suspended for a period of more than 6 months
– required by DIN CERTCO - reasons to be specified
– requested in writing by a third party if a particular interest in the maintenance of proper conduct of market procedures in relation to competition or quality is involved.

The type and scope of the special test shall be laid down in accordance with the specific, respective purpose on a case by case basis by DIN CERTCO in conjunction with the testing laboratory.

Generally, it contains the scope of a monitoring test. DIN CERTCO shall be provided with the report of the special test no later than 3 weeks after completion of the test.

If deficiencies are established during a special audit, or if a special audit is performed due to a production stop, then the certificate holder must cover the costs of the special audit.

If no defects are detected during special test that has been carried out at the request of a third party, the costs will be charged to the third party in question.

5.3 Sampling

The samples for type are usually taken by the manufacturer. Samples for surveillance testing are collected within a factory surveillance and from market and the pipe manufacturers. Materials that could not be sampled will be requested from the manufacturer.

The number of samples required for product inspections is agreed between DIN CERTCO and the tesing laboratory unless not specified in the respectice testing specifications or in the annexes.

The cost of sampling and sending the samples to the testing laboratory are born by the certificate holder.

5.4 Test procedure

The scope and procedure of the tests is carried out in accordance with the annexes and the normative requirements of the relevant certification specifications of section 2 unless otherwise stated.

5.5 Test report

The testing laboratory shall inform the principal of the test and examination results in the form of a test report. This must be submitted to DIN CERTCO in the original form.

As a rule, the test report may not be older than 6 months on submitting the application. In individual cases, older test reports can be recognized if the testing laboratory provides written confirmation of the current validity of the information given in said test report.

The test report must be in conformity with DIN EN ISO/IEC 17025, Section 5.10 and contain at least the following information:

– Name and address of the manufacturer
– Name and address of the applicant (if not the manufacturer)
– Test basis with date of issue (standards and certification scheme)

- Type of test (e.g. type test, surveillance test etc.)
- surveillance period
- Type, batch, registration number of the tested material
- Date and place of sampling
- Date/Time of test
- test results and assessment
- Name and signature of the person responsible for the examination

6 Certification

Certification in the sense of this certification scheme relates to the assessment of conformity of a product by DIN CERTCO on the basis of test reports submitted by testing laboratories recognized by DIN CERTCO. To this end, the products to be certified are examined and subsequently monitored in respect of conformity with the requirements laid down in section 4.

The right to use the the quality mark “DIN*plus*” will be granted by the issuing of the respective certificate.

6.1 Application for certification

Both manufacturers according to the German Product Liability Act (ProdHaftG) and distributors who, with the written consent of the certificate holder, bring the products onto the market under their own responsibility in the sense of the Product Liability Act, may apply.

The applicant must submit the following documents to DIN CERTCO:

- The original application for certification with a legally binding signature.
- Current test report according to section 5.5 on an initial test (see section 5.2.1), if the test was not ordered by DIN CERTCO.
- Report of the initial inspection of each affected manufacturering site
- Technical Data Sheet

The applicant shall receive from DIN CERTCO, following receipt of the application, a confirmation of order with a process number and notes regarding the further course of the procedure and, as applicable, queries concerning any missing documents.

6.2 Definition of Types

Materials that are distinguishable on the basis of certification-relevant characteristics, trade name or manufacturing site shall be defined as type. For each type an independent certificate shall be issued. Also, separate certificates are issued for materials that apply to different annexes. Further details can be found in the annexes for each application scope.

6.3 Conformity Assessment

On the basis of the documents submitted, DIN CERTCO conducts the conformity examination. To this end, an assessment is made with the aid of the examination report as to whether the product meets the requirements of the certification scheme and of the standard. The applicant shall receive written notification from DIN CERTCO in the event of any possible deviations.

6.4 The Certificate and the Right to Use the Mark

After successful testing and conformity assessment of the submitted documents, DIN CERTCO issues a certificate to the applicant and awards the right to use the quality mark “DIN*plus* in conjunction with a corresponding registration number.
Certificate holders with a valid right to use the quality label "DIN*plus*" are, by adherence to the license rights, also authorized to use the trademark of KRV.

and/or

Format of the registration number: **P1W0000**

Material for which the right to use the quality mark “DIN*plus*” has been awarded must be marked with the respective quality mark "DIN*plus*" and the respective registration number.

The mark and the registration number may only be used for the type for which the certificate has been issued and which corresponds to the type-tested product. For each respective type, a registration number shall be issued.

In addition to this, the General Terms and Conditions of DIN CERTCO and the Testing, Registration and Certification Regulation of DIN CERTCO shall apply.

6.5 Sublicenses

According to DINCERTCO´s General Terms and Conditions sublicenses are necessary if certified products are intended to be brought onto the market on behalf of companies other than the main certificate holder.
It´s possible to issue sublicences for all products in the name of this certification scheme. They give the possibility bring products onto the market in the name of sublicense holder. Sub-licences are dependent upon the validity of the main certificate. Products may not be chanced by sublicence holders.

The following documents must be submitted by the applicant to DIN CERTCO:

- The original application for certification with a legally binding signature.
- Declaration of the sublicence holder that the products of the main certificate holder unchanged reach the markt.
- Declaration of understanding by the main certificate holder to issuing of sublicences.

The issuance of a sublicence certificate can be done

- with own registration number
- with registration number of the main certificate holder.

6.6 Publications

All certificate holders can be viewed under <Certificate Holders> on the DIN CERTCO homepage www.dincertco.tuv.com, which is updated on a daily basis. Manufacturers, users and consumers can use this research feature in order to learn more about certified products.

In addition to the contact details of the certificate holder (phone, fax, email, Home page), the technical data of certified material can be viewed.

6.7 Validity of the Certificate

The certificate is valid for 5 years. The period of validity is shown on the certificate. On expiry of the certificate, the right to use the mark also expires.

6.8 Renewal of the Certificate

If the certification shall continue to apply beyond the date shown on the certificate, a positive assessment of the extension is required. Based on the past periods of surveillance, the conformity assessment is performed by DIN CERTCO.

6.9 Expiry of the Certificate

In the event that the new standard conformity examination according to section 5 has not been completed before expiry of the validity period, the right to use the quality mark "DIN*plus*" and the registration number expires without the necessity for explicit notification from DIN CERTCO.

Furthermore, the certificate can also expire if:

- The surveillance according to section 8 is not performed punctually or completely,
- The quality mark "DIN*plus*" is misused by the certificate holder,
- The requirements laid down in the certification scheme or its accompanying documents are not fulfilled,
- The certification fees are not paid on the due date
- The prerequisites for the issuing of the certificate are no longer fulfilled

6.10 Alterations/Amendments

6.10.1 Alterations/Amendments to the Product

The certificate holder is obliged to inform DIN CERTCO immediately of all changes made to the product. The testing laboratory and DIN CERTCO will together decide the extent of the supplementary examination required in accordance with section 5.2.2 and whether this comprises a significant change. The testing laboratory sends the associated test report to DIN CERTCO.

If DIN CERTCO decides that a significant change has been made, the certificate and associated registration number are rendered invalid. A new application for initial certification and the utility right for the “DIN*plus*” quality mark can be submitted for the modified product.

The certificate holder is also obliged to provide information about all changes relating to formal information (e.g., relating to the certificate holder or its address).

6.10.2 Alterations to the Basic Test Specifications

If the basic test specifications for the certification is modified, an application for the alteration of the certification shall be submitted within 6 months of receiving notification from DIN CERTCO and, as a rule, after 12 months, proof of conformity with the modified examination specifications shall be submitted in the form of a positive test report (see section 5.5).

Provided a positive assessment, DIN CERTCO issues a modified certificate.

6.11 Product defects

If defects are identified in a product that has been certified once it is on the market, the certificate holder will receive a written notification from DIN CERTCO to rectify the defect.
DIN CERTCO will consult with the testing laboratory to determine whether the defect in question is classified as a minor or major defect.

If defects are identified that have a direct or indirect effect on the safety or correct functioning of the product (major defects), the manufacturer must ensure that the product no longer displays the certification mark until the defect has been rectified.

The flaws in production are to be stopped immediately. Already produced, production batches with detected defects are not to be delivered any longer or to be retrieved from the market feasibly to the technical and commercial extent.

The manufacturer must provide evidence to DIN CERTCO within 3 months by submitting a test report from a special test pursuant to Section 5.2.5 that the deficiencies have been remedied and that the product in question again meets the requirements.

If the defects do not affect the safety or correct functioning of the product (minor defects), the manufacturer must use suitable means to prove to DIN CERTCO within a 3 month period that the defects affecting the product in question have been remedied.

If the manufacturer does not comply with these deadlines, then the certificate and manufacturer's and distributor's right to use the "DIN*plus*" quality mark are revoked.

If there continue to be grounds for objection, the certificate is temporarily revoked by DIN CERTCO and a final deadline for remedying the deficiencies is granted. If the certificate holder fails to comply with the request or does not meet the deadline, or if the manufacturer fails to prove that the defect has been remedied, the certificate is revoked.

7 Surveillance by the Manufacturer

The constant surveillance of the certified product during the entire duration of the certification period is an integral component of the certification itself. The manufacturer shall ensure, by suitable quality management measures, that the product characteristics confirmed by the certification are maintained. This can be accomplished by means of an in-house factory production control (FPC) focussed on the

product itself or on the production and, in addition, can be guaranteed within the framework of a quality management system (QM-System) in accordance with the standard series DIN EN ISO 9000 ff.

7.1 Factory Production Control (FPC)

Factory production control comprises the continual monitoring of the production process by the manufacturer, which guarantees the conformity of the products manufactured with the specified requirements.

Appropriate records shall be submitted to DIN CERTCO or its authorised representative on request. These records must contain at least the following information:

- Designation of the test object
- Date of manufacture
- Date of examination
- Result of the examination and, if envisaged, comparison with the stipulated requirements
- Signature of the person responsible for the examination
- Date of the report

In the event of a negative test result, the manufacturer shall take all necessary steps to rectify the defect. Faulty products are to be marked and set apart. The test shall be repeated regularly to verify whether the defect has been rectified.

Scope and frequency of the FPC control are described in the annexes.

7.2 Quality management system

DIN CERTCO recommends the installation and certification of a quality management system in conformity with the standard series DIN EN ISO 9000ff.

8 Surveillance by DIN CERTCO

8.1 General Information

In addition to the FPC, the quality assurance of the products is supported by the surveillance by DIN CERTCO. DIN CERTCO examines the conformity of the product with the requirements laid down in the certification scheme as well as, where applicable, within the framework of plant inspections, the effectiveness of the FPC according to section 7.1.

After successful type testing, initial inspection and issuance of a certificate, the surveillance shall be performed at regular intervals (section 8.3**Fehler! Verweisquelle konnte nicht gefunden werden.**). The surveillance includes factory inspections (see section 8.2) as well as product-specific audit tests (see annexes).

8.2 Inspections

Within the framework of factory inspections, DIN CERTCO, or one of its authorised representatives, inspects the manufacturing and testing facilities as well as the quality assurance measures (QA measures). The inspection will take place annually.
The factory inspection also serves to determine whether the technical manufacturing pre-requisites are met for the continual conformity of the products with the requirements laid down in section 4.

The result of the inspection shall be communicated to the client in a separate report. This must be presented to DIN CERTCO in original and the requirements correspond to DIN EN ISO/IEC 17020 section 13.

If the results of the inspection are not satisfactory, the applicant shall be informed accordingly without delay. In this case, the scope of additional measures needed to fulfil all requirements shall be determined between the certification body and the applicant. If the applicant is unable to implement the required measures, the procedure shall be terminated.

8.3 Surveillance Tests (Control Tests)

The verification tests shall take place with scope and frequency of the audit testing according to section 5.2.3 and described in the respective annexes.