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(Unauthorised Translation)

Assessment Guideline

For the KOMO® (technical approval with) product certificate of

Thermoplastic inspection chambers for sewage systems

Validated by the BoE on 10-12-2021.

Accepted by KOMO® Quality and Assessment Committee on 13-09-2023.

BRL 2017
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ASSESSMENT GUIDELINE

FOR THE KOMO® (TECHNICAL APPROVAL WITH) PRODUCT CERTIFICATE OF THERMOPLASTIC INSPECTION CHAMBERS FOR SEWAGE SYSTEMS

Validated by the BoE LSK on 10–12–2021.

Accepted by KOMO® Quality and Assessment Committee on 13–09–2023.

Publisher: Kiwa Nederland B.V.

Preface

This KOMO® assessment guideline (BRL) has been drawn up by the Board of Experts “Pipe Systems of Plastic” (LSK), in which interested parties in the field of this BRL are represented. This board also supervises the certification activities based on this BRL and will make any necessary adjustments. All references to the “Board of Experts” in this BRL pertain to the above-mentioned Board of Experts (BoE).

This BRL will be used by certification bodies (CI) who have a license agreement with the KOMO® Foundation in connection with the established certification procedures. This BRL details the requirements an applicant or an existing holder of a KOMO® (technical approval with)-product certificate must comply with, and the method employed by the evaluating CI. The certification procedure established by the CI includes a description of the working method as employed by the CI in the implementation of:

- (pre)certification tests required for granting and renewing a KOMO® (technical approval with) product certificate based on this BRL,
- The periodic assessments for the maintenance of a previously issued KOMO® (technical approval with) product certificate based on this BRL.

In this BRL the following has been revised:

- Chapter 1, In the scope the following requirements in accordance with NEN-EN 13598-2 have been added;
  - A maximum depth of the connecting pipes at the inspection chamber bottom, or the bottom of the pump chamber, up to the maximum groundwater height (H_w) in accordance with NEN-EN 13598-2;
  - A maximum installation depth of the connecting pipes at the inspection chamber bottom, or the bottom of the pump chamber in accordance with NEN-EN 13598-2;
- Chapter 5, the product requirements for inspection chambers have been amended in accordance with NEN-EN 13598-2;
- Chapter 5.1, product requirements for pump chambers have been added;
- Chapter 5, the requirements for welded connections have been revised;
- Chapter 5, Table 3, requirements for welded connections have been added;
- Chapter 5, NEN-EN 13598-2 is required for all inspection chamber parts and connections. This standard has been revised as follows; a resistance to aging (durability test) has been included for all components, all test standards have been revised, the use of recycled material has been simplified and expanded, convex bottom inspection chambers have been added, the requirements have been adjusted to performance requirements (performance based).
- Annex B, only the sketch of the convex bottom inspection chamber has been retained. The other inspection chamber sketches are included in NEN-EN 13598-2.
- Annex C (was annex G) for the bending test setup is included.
- Annexes D, E, F, H, I, J, K, L and M have been deleted.

NOTE: THIS IS AN ENGLISH TRANSLATION OF THE DUTCH VERSION OF THIS ASSESSMENT DIRECTIVE. IN CASE OF A DISPUTE, THE DUTCH VERSION SHALL BE BINDING.

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1. Introduction, general provisions, and general requirements

1.1 Introduction

Based on the regulations laid down in this KOMO® Assessment guideline (BRL) a KOMO® (technical approval with) product certificate is issued for thermoplastic inspection chambers for sewage systems. This (technical approval with) product certificate enables the certificate holder to prove to their clients that an expert, independent organization supervises the certificate holder's production process, the quality of the product and its respective quality control. Thus, it may be assumed that the product has the characteristics as established in the present BRL.

The requirements laid down in this BRL are used by the certification bodies that have been accredited for this purpose by the Dutch Accreditation Council or have applied for this accreditation, and that have a license agreement with the KOMO® Foundation, when processing an application for the issuance and maintenance of a KOMO® (technical approval with) product certificate for Thermoplastic inspection chambers for sewage systems.

In addition to the requirements laid down in this BRL, certification bodies impose additional requirements in the sense of general procedure requirements for certification, as established in their internal certification procedures.

1.2 Subject and scope

1.2.1 Subject

This BRL covers thermoplastic inspection chambers with a concrete base plate that are used in sewage systems whereby the introduction of cleaning and inspection equipment from the surface level is permitted but access for personnel is not provided.

1.2.2 Scope

The inspection chambers are intended to be used under the following conditions:

In pipe systems for the transport of water or normal domestic waste water under gravity in accordance with NEN-EN 476, or as a housing for a pump for a pressure sewer (pump chamber).

The following preconditions apply to the applications:

- Traffic load up to and including D400, heavy traffic load in accordance with NEN-EN 124-1.
- The maximum depth of the connecting pipes at the inspection chamber bottom, or the bottom of the pump chamber, up to the maximum groundwater height (H_w) in accordance with NEN-EN 13598-2.
- The maximum installation depth of the connecting pipes at the inspection chamber bottom, or the bottom of the pump chamber in accordance with NEN-EN 13598-2.

The inspection chambers covered by this BRL are equipped with a load transference construction such that the top load (traffic load) is transferred via the cover/foundation plate to the ground around the inspection chamber shaft.

For clarification, Annex B contains a sketch of a possible convex bottom inspection chamber construction. Examples of the other inspection chamber constructions are included in NEN-EN 13598-2. Only complete inspection chambers can be certified, and this BRL applies to all the relevant inspection chamber components present, such as:

- Inspection chamber bottom;
- Flow profile (can be part of the bottom);
- Shaft;
- Telescopic section (optional);
- Conical section (presence depends on the shaft diameter and the cover);
- Inspection chamber cover;
- Foundation plate (including rubber seal)

Inspection chambers can be of a one-piece construction or be composed of separate parts that are assembled. The following connection techniques can be used for this:

- Mechanical or spigot connection with a sealing ring;
- Welded connection.

Inspection chambers that comply with this BRL can be expected to have a technical lifespan of at least 50 years.

1.3 Validity

This version of the BRL replaces the version dated 24-05-2012, including the amendment dated 09-06-2020.

The KOMO® (technical approval with) product certificates issued based on that version of the BRL will lose their validity 6 months after the publication date of this version of the BRL. New (technical approval with) product certificates may be issued based on the previous version of the BRL up to a maximum of 3 months prior to the issuance of new certificates based on this version of the BRL.

The validity period of the KOMO® (technical approval with) product certificate is unlimited and can only be limited (and/or terminated) by:

- A modification of this BRL,
- Failure of the certificate holder to comply with his obligations.

1.4 Relation with Dutch Legislation and European Rules and Regulations

1.4.1 European Regulation Construction Products (CPR, EU 305/2011)

There are no harmonized European standards applicable to the products referred to in this BRL.

1.4.2 Soil Quality Decree

The Soil Quality Decree may apply to the products covered by this BRL. This pertains to the concrete foundation plate (if supplied by the certificate holder). For the issuance of a NL-BSB product certificate for concrete products, reference is made to BRL 5070.

1.5 Requirements to be imposed on conformity assessing institutions

Regarding the requirements laid down in this assessment guideline, the applicant may submit, in the scope of external inspections, reports issued by conformity assessing institutions to prove that the requirements of this BRL are being satisfied. It must be demonstrated that the respective analysis/inspection/test and/or evaluation reports have been drawn up by a body that complies with the respective applicable accreditation norm with regard to the subject matter, namely:

- NEN-EN-ISO/IEC 17020 for inspection institutions,
- NEN-EN-ISO/IEC 17021-1 for institutions that certify management systems,
- NEN-EN-ISO/IEC 17025 for laboratories,
- NEN-EN-ISO/IEC 17065 for institutions certifying products, processes, and services.

An organization will be considered as compliant with these criteria if an accreditation certificate for the products covered by this BRL can be submitted, issued by the Board of Accreditation (RvA) or another accreditation organization which has been accepted as a member of a multilateral agreement on the subject of mutual recognition and acceptance of accreditation, which have been drawn up within the EA (European accreditation), IAF (International accreditation forum) and ILAC (International laboratory accreditation cooperation). If no accreditation certificate can be submitted, the certification organization itself will assess if compliance is given to the accreditation.

1.6 KOMO® (technical approval with) product certificate

KOMO® (technical approval with) product certificates will be issued based on this BRL. Statements included in these product certificates are based on chapters 3, 4, 5 and 6 of this BRL, whereby the aspects that are included in the (technical approval with) product certificate for each plastic inspection chamber are stipulated as indicated below.

- Product name;
- Material of inspection chamber;
- Inspection chamber components (bottom, flow profile, shaft, telescopic section);
- Shaft diameter;
- Maximum installation depth;
- Maximum groundwater level (H_w);
- Base plate type (optional).

The following aspects will be covered;

- The cover shall comply with BRL 9203 (maximum traffic classification of D400 in accordance with NEN-EN 124-1).
- For the installation of the inspection chambers, reference is made to NEN-EN 1610 + NEN 3218-1:2019nl and the installation instructions of the manufacturer.

The (technical approval with) product certificate to be issued shall correspond to the model (technical approval with) product certificate as published for this version of the BRL on the KOMO® website (www.komo.nl).

1.7 Markings and specifications

The assembled inspection chamber and any separately supplied parts shall, where applicable and as far as possible, be indelibly and clearly marked as follows:

- KOMO® logo or KOMO® word mark;

- Name of certificate holder;
- Manufacturer's name or trademark;
- Material type;
- Nominal diameter of the inspection chamber (shaft diameter);
- Production date or production code;
- Maximum permissible groundwater height (H_w) according to NEN-EN 13598-2 (applies to the soil);
- Maximum installation depth according to NEN-EN 13598-2 (applies to the bottom).

Optional marking:

- BRL 2017;
- Certificate number, without specifying the version, directly behind the KOMO® logo or KOMO® word mark.

The KOMO® logo shall be applied as follows:

The KOMO® word mark shall be applied as follows:

KOMO®

The delivery documents shall detail at least the following:

- The KOMO® logo/KOMO® word mark followed by the certificate number without version indication,
- Name of certificate holder,
- The production location (if applicable),
- The product name (if applicable),
- Production code or production date.

Furthermore, a QR code may be applied which links to the information of the respective product certificate on the KOMO® website.

After issuing the KOMO® product certificate this KOMO® logo/KOMO® word mark may also be used by the certificate holder in public communications regarding their certified activities, as specified in the "Rules and Regulations for the use of the KOMO® marks" as published on the KOMO® website. The use of the KOMO® brand by the customers of the certificate holder shall be in accordance with the “Rules for the use of the KOMO® brands by non-certificate holders”.

2. Terminology

For an explanation of the terminology used in this BRL for certification, please go the glossary on the website of the KOMO® Foundation (www.komo.nl).

For the terminology, the definitions in NEN-EN 13598-2, chapter 3 apply. The symbols and abbreviations of the terms in NEN-EN 13598-2, chapter 4 apply.

The terms listed below supplement the definitions in NEN-EN 13598-2:

1. **Connection**: spigot or sleeve that is attached to the inspection chamber to connect it to the sewer system.
2. **Cover**: Inspection chamber frame with cover/grid (see NEN-EN 124-1).
3. **Bottom (base):** see the definition in NEN-EN 13598-2, § 3.3.
4. **Cone piece (Cone)**: see the definition in NEN 13598-2, § 3.8.
5. **Foundation plate:** Rigid (concrete) plate with a passage for the shaft with a rubber sealing element. A base plate is also used when a telescopic part is installed.
6. **Inspection chamber:** see the definition in NEN-EN 13598-2, § 3.2. In addition to the requirement of NEN-EN 13598-2, § 3.2, larger diameters are permitted.
7. **Supplier:** Company that supplies the inspection chamber to the customer. The supplier does not have to be the producer.
8. **Maximum groundwater height (H_w):** see the definition in NEN-EN 13598-2, § 3.12.
9. **Pump chamber:** Inspection chamber with extra space intended for an installation for pumping sewage water, for example (does not contain a flow profile). This type of inspection chamber is not included in NEN-EN 13598-2.
10. **Producer**: Company where the inspection chamber and/or inspection chamber parts are produced.
11. **Inspection chamber:** The assembly of inspection chamber parts consisting of:
    bottom, flow profile, shaft, cone piece, telescopic part, base plate, cover.
    Not all the parts mentioned above are used in all cases.
12. **Inspection chamber record:** A specification detailing, among other things, the assembly, drawings, dimensions and parts of the inspection chamber.
13. **Shaft (riser):** see the definition in NEN-EN 13598-2, § 3.6.
14. **Telescopic part (telescopic adaptor):** see the definition in NEN-EN 13598-2, § 3.7.

2.1 General abbreviations

The following general abbreviations apply in this BRL.

- **BoE:** Board of Experts
- **BRL:** Assessment Directive
- **CI:** Certification Body

3. Requirements for products and/or materials to be processed

3.1 General

The raw materials, products and/or materials (including semi-finished products) used in production shall comply with NEN-EN 13598-2.

Regarding the technical approval section of this BRL, a one-off assessment of the performance of the product in its application shall be required. This is based on an assessment of the design/type of the inspection chamber. For this design/type, the continuous certified value of the performance depends on the quality of the raw materials, the materials and products used in the design/type, as well as on the way in which they are assembled (assembly, formulation and the production and final inspection process). For this reason, these aspects are further defined below, as are the validation methods and the tolerances applicable to determine that these requirements are met.

Any intended change in the specified parameters shall be reported to the CI who shall then assess whether the change may affect the certified performance(s), which may require reassessment of the performance(s) in question.

3.1.1 Cover

The covers shall comply with BRL 9203. If the product is delivered under an (technical approval with) product certificate based on the aforementioned BRL, the certificate holder can assume that this requirement has been met.

3.1.2 Foundation plate

A concrete foundation plate is usually used for the inspection chambers, which transmits the load to the ground. The dimensions of this foundation plate shall be matched to the dimensions of the shaft/cone piece including sealing elements. The concrete quality shall demonstrably meet the requirements stated in BRL 9202 and the Soil Quality Decree (see § 4.2). The specifications of the foundation plate, including sealing elements, shall be included in the installation instructions of the manufacturer or supplier.

If the product is delivered under an (technical approval with) product certificate based on the aforementioned BRL, the certificate holder may assume that this requirement is met.

3.1.3 Rubber sealing

Rubber sealing shall comply with the technical requirements stipulated in BRL 2013 or BRL 2020-2.

If the product is delivered under an (technical approval with) product certificate based on the aforementioned BRL, the certificate holder may assume that this requirement is met.

3.2 Installation instructions

The raw materials, materials, and semi-finished products to be used shall be processed in accordance with the corresponding installation instructions.

The installation instructions of the certificate holder's product shall be drawn up in such a way that, if followed correctly, they contribute to achieving the declared performance in the application. This concerns at least the following:

- The installation instructions according to NEN-EN 13598-2;
- The requirements for ground conditions such as soil type and compaction;
- A specification of the cover assembly;
- A construction drawing/inspection chamber record of the assembled inspection chamber with cover.

4. Performance requirements for this application

This chapter defines the requirements for the performance of the product for sewage systems as well as the validation methods to ascertain that these requirements are met.

4.1 Dutch regulations requirements

This BRL requires the building part/structure of the products shall comply with the Building Environment Decree or the Soil Quality Decree.

4.2 Soil Quality Decree requirements

Requirements for product characteristics

The environmental hygiene aspects of the materials that may come into contact with rainwater/surface water/groundwater shall, where applicable, be such that they cannot cause damage to soil quality.

Validation method

To the extent applicable, the certificate holder shall confirm that the products supplied meet the requirements of the 'Soil Quality Decree'. To this end, he must determine whether an environmental hygiene declaration is required for the products in question and, if so, whether it is present.

Pre-certification tests and periodic assessment

The CI shall ensure that the certificate holder determines whether a declaration is required and, if so, whether it is available.

4.3 Private requirements for performance in the application

Based on this BRL, the following private requirements have been set (see Table 1) for the performance of the product in this application.

Table 1: Private requirements for performance in the application

Description of private requirement	NEN-EN 13598-2	Declaration on certificate
Durability of all components	§ 5	Max. allowable groundwater height and installation depth
Structural integrity of the base	§ 8	Max. allowable groundwater height and installation depth
Tightness of sealing elements of the base-pipe connections	§ 10	Max. allowable groundwater height and installation depth
Tightness of sealing elements of the base-riser connection	§ 10	Max. allowable groundwater height and installation depth
Tightness of sealing elements of the riser-riser connection	§ 10	Max. allowable groundwater height and installation depth
Tightness of sealing elements of all other components except the bases and risers	§ 10	Max. allowable groundwater height and installation depth
Resistance to top load on just the cone piece and everything above it (NEN-EN-ISO 13266 Class D, 100 kN).	§ 10	Max. allowable load bearing capacity

5. Product requirements

This chapter details the product requirements for "Thermoplastic inspection chambers for sewage systems" as well as the test methods and the threshold values applicable.

5.1 Product characteristics

All inspection chambers shall comply with the requirements of NEN-EN 13598-2 and this BRL.

Pump chambers shall also comply with the requirements of NEN-EN 13598-2 with the exception of the flow profile.

5.1.1 Weld joints

General appearance of welds

There shall be no cracks, contamination or other damage in the welding area. The weld beads shall not show any signs of degradation. The welds must meet the requirements of DVS 2202-1.

Leak tightness

The weld shall be leak tight when tested in accordance with NEN-EN 13598-2 § 9.2.

Butt welding: Welders and Welding equipment

The welders and welding equipment shall be certified in accordance with DVS 2207-1 and DVS 2212-1, or NEN-EN 13067 by an independent inspection body in accordance with NEN-EN-ISO/IEC 17020, Type A.

The qualification shall be repeated periodically in accordance with DVS 2207-1 Table 5.1 or NEN-EN 13067.

Welding quality PE butt welds

The weld shall comply with the requirements of NEN 7200.

Note: Instead of a cut-out of a welded joint, a test weld manufactured under similar conditions can also be used. In this context, similar conditions are defined as: a test weld made with identical raw materials, welding equipment, welding parameters, welding position and welder.

Welding quality PP butt welds

When tested in accordance with DVS 2203-2 the weld shall comply with the requirements of DVS 2203-1.

Note: Instead of a cut-out of a welded joint, a test weld manufactured under similar conditions can also be used. In this context, similar conditions are defined as: a test weld made with identical raw materials, welding equipment, welding parameters, welding position and welder.

Extrusion welding, Welders and Welding equipment

The welders shall be certified in accordance with DVS 2207-4, or NEN-EN 13067 by an independent inspection body in accordance with NEN-EN-ISO/IEC 17020, Type A.

The equipment shall be checked regularly to ensure that the temperature and the amount of air emitted are in accordance with DVS 2207-4 requirements.

Welding quality of extrusion welds

A pre-certification test shall be carried out, based on DVS 2202-1, by an independent inspection body in accordance with NEN-EN-ISO/IEC 17020, Type A.

Note: Instead of a cut-out of a welded joint, a test weld manufactured under similar conditions can also be used. In this context, similar conditions are defined as: a test weld made with identical raw materials, welding equipment, welding parameters, welding position and welder.

5.1.2 Flow profile

All inspection chambers, except pump chambers, shall be provided with a flow profile as defined in NEN-EN 13598-2.

Note: This means that the bottom of the inspection chamber can consist of a bottom with an integrated flow profile, a flat bottom with an associated additional flow profile or a convex bottom that functions as a flow profile. Annex B contains an example of a inspection chamber with a convex bottom that also serves as a flow profile.

5.1.3 Provision to prevent floatation

The installation shall be protected against floatation.

If an inspection chamber is installed in groundwater, a buoyant force is created. The construction of the inspection chamber shall be such, either through the design of the inspection chamber or through an additional provision, that the inspection chamber, when installed in accordance with the manufacturer's installation instructions, will be protected against floatation.

5.1.4 Mechanical properties

The additional requirements in relation to NEN-EN 13598-2 for the components of the inspection chamber, the connections and the assembled inspection chamber are, along with the test methods, specified in Table 2 and Table 3.

Table 2 – Additional requirements and test methods for the inspection chamber components

Aspect	Requirement	Test parameter	Test method
General			
Dimensions	Tolerances as stated in the product drawings or as a minimum the requirements stated in NEN-EN 476.	Dimension	NEN-EN-ISO 3126
Corners	Maximum deviation of 2° (on a scale of 360°).	Dimension	NEN-EN-ISO 3126
Connection [1)]			
Execution	The connections to the shaft or the bottom shall be over the entire circumference of the connection.	Dimension	NEN-EN-ISO 3126
Bottom			
Flexural strength [2)]	No breakage	Angular displacement and moment	NEN 7146 on a base with 180° connection - See Annex C

1) An elbow as a connection is not permitted.

2) If a flexible connection construction is used, this requirement does not apply.

Table 3 – Requirements and test methods for the connections and the chamber assembly

Aspect	Requirement	Test parameter	Test method
Welds			
Adhesion of welded joints	Tensile strength > declared value [1)]	Tensile strength (N)	NEN 7200 or DVS 2203-1, -2
Adhesion of welded joints	Elongation > declared value [1)]	Elongation (%)	NEN 7200 or DVS 2203-1, -2

1) The weld strength profile consists of the minimum tensile strength and elongation. This is determined on the basis of four tensile curves (force and displacement) that are initially determined. The 4 test pieces are taken proportionally from the circumference of the inspection chamber (0°, 90°, 180°, 270°). Based on the weld strength profile, the manufacturer declares the minimum values for tensile strength and elongation.

6. Requirements for certificate holders and internal quality control

6.1 General

The management of the certificate holder is responsible at all times for the quality of the production process, internal quality control, and the quality of the product. The internal quality control shall meet the requirements laid down in this chapter.

6.2 Internal quality control scheme

The certificate holder shall have implemented an internal quality control scheme (IQC scheme).

This scheme shall clearly establish:

- Which aspects are subject to inspections carried out by the organization of the certificate holder or an external organization contracted by them,
- Which methods are employed to carry out these inspections,
- The frequency of these inspections,
- How these inspection results are recorded and archived.

The IQC-scheme shall at least include the following main groups:

- Control of measuring equipment,
- Incoming (material) inspection,
- Process control,
- Product inspection,
- Internal transportation and storage,
- Delivery,
- Procedures for:
  - The handling of non-conforming products,
  - Processing of complaints,
  - Processing of non-conformities and the follow-up of corrective measures,
  - Control of the work instructions and inspection forms used.

This IQC scheme shall use the model IQC scheme in Annex A and be detailed to such an extent that the CI has sufficient confidence in that the requirements laid down in this this BRL are being continuously met.

This IQC scheme shall enable the certificate holder to demonstrate continuously that the requirements set in this BRL are being met.

6.3 Temporary suspension of certificate

If no certified products are (temporarily) produced and/or delivered, or in the event of a stop longer than 12 months, the validity of this KOMO® (technical approval with) product certificate can be (temporarily) suspended at the request of the certificate holder. Such suspension may be granted by the CI for a total period of 3 years maximum.

After the suspension has been granted, a certificate holder can request that his suspension be terminated earlier.

In the event of a suspension, prior to the resumption of production and delivery under a KOMO® (technical approval with) product certificate, an additional assessment shall be carried out to determine whether all the requirements in this BRL are still being met and that the suspended status can be converted to a valid status.

7. External conformity assessments

7.1 General

The CI will carry out pre-certification tests for the purpose of granting a KOMO® (technical approval with) product certificate. After issuance of the KOMO® (technical approval with) product certificate, the CI will carry out periodic inspections.

7.2 Pre-certification tests

The applicant for the KOMO® (technical approval with) product certificate shall specify which products shall be included in the KOMO® (technical approval with) product certificate. The applicant will provide all relevant information on these products for the formulation of the product specification and the declaration on the product characteristics, as they will be included in the KOMO® (technical approval with) product certificate.

The CI will perform pre-certification tests for the purpose of issuing a KOMO® (technical approval with) product certificate in which:

- The CI performs an initial assessment of the performance of the product in the application in accordance with Chapter 4,
- The CI will assess if the applicant is able, by means of their internal quality control, to guarantee that the products will continuously have the characteristics and perform as established in chapters 3, 4 and 5 of this BRL. Assessment of the production process and the finished product are part of this evaluation,
- The CI will assess if the operational system of the internal quality control meets the requirements laid down in chapter 6 of this BRL,
- The CI assesses the processing instructions, application conditions and maintenance and installation instructions,

The CI will verify whether documents provided with regard to the product and/or the internal quality control and the results stated therein meet the requirements of this BRL.

A report will be made of the pre-certification tests on the basis of which the (technical approval with) product certificate may or may not be granted.

7.3 Nature and frequency of periodic inspections

After issuing the (technical approval with) product certificate, the CI shall carry out periodic inspections of the certificate holder in order to verify compliance with their obligations. The Board of Experts decides on the nature, scope and frequency of the periodic assessments to be carried out.

At the time this BRL came into effect, the frequency has been set at 4 inspections per year.

If the certificate holder and/or the manufacturer has a certified NEN-EN-ISO 9001 system, the frequency is set at 2 inspections per year.

The audit program includes the nature and frequency of the periodic inspections. These are related to:

- The certificate holder's IQC-scheme,
- The results of the inspections performed by the certificate holder,
- The marking of the certified products,
- Compliance with the required procedures,
- Checking any changes made to the technical specification,

whereby compliance with the requirements of this BRL is verified.

The audit program is included in this BRL.

The results of each assessment carried out, will be recorded in a report drawn up by the CI.

7.4 Test matrix

Table 4 and Table 5 summarize the tests that are to be carried out for certification purposes:

- **Pre-certification tests**: the initial assessment in order to determine that all requirements set in the BRL are met;
- **Periodic inspection**: the assessment that is carried out after the (technical approval with) product certificate has been granted in order to determine that the certified products continue to meet the requirements set in the BRL. Also, the inspection frequency that is to be used by the CI is stipulated.

Table 4 – Test matrix

Requirement	BRL §	Assessment for:			
		Pre-certification	Periodic inspection [1]		
			Inspection [2,3,4]	Test frequency CI	Minimum test frequency manufacturer
Cover	**Error! Reference source not found.**	X	-	-	-
Foundation plate	**Error! Reference source not found.**	X	-	-	-
Rubber sealing	3.1.3	X	X	-	1x/year
Installation instructions	**Error! Reference source not found.**	X	-	-	-
Weld joints - appearance; - leak tightness; - welders en welding equipment; - weld quality.	**Error! Reference source not found.**	X	X	-	1x/year
Flow profile	5.1.2	X	X	-	1x/year
Provision to prevent floatation	5.1.3	X	X	-	1x/year
Dimensions	5.1.4	X	X	-	1x/year
Corners	5.1.4	X	X	-	1x/year
Connections	5.1.4	X	X	-	1x/year
Flexural strength	5.1.4	X	-	-	-
Adhesion of welded joints	5.1.4	X	X	1x/year	1x/year
Leak tightness of connections	5.1.4	X	X	-	1x/year
Documentation	5.1.4	X	X	-	1x/year

[1] In the event of significant changes to the product or production process, the product requirements shall be redetermined at the discretion of the CI.

[2] These requirements are checked by the supplier (IQC). During the inspection visit the results are checked by the inspector.

[3] This requirement is checked against the control parameters established for this requirement during the IQC inspection (indirectly by directly related parameters).

4) There is a separate arrangement for the frequency depending on the material, as detailed in the inspection card and the decisions made by the BoE, namely: the permitted test temperature range is between 15 °C and 30 °C, provided this does not influence the test result.

Table 5 – Tests on inspection chambers in accordance with NEN-EN 13598-2

Requirements	Article NEN-EN 13598-2	Assessment for:			
			Toezicht door CI na verlening certificaat [1]		
		Pre-certification	Inspection [2,3,4]	Test frequency CI	Minimum test frequency manufacturer [6]
Material	5.1/5.2/5.3/ 5.4/5.5	X[5]	X[5]	1x/2 years OIT and MFR	1x/2 years/compound/ formulation used
Recycled material	5.6	X[5]	X[5]	1x/year OIT and MFR	1x/year/compound/ formulation used
Durability requirements	5.1/5.2/5.3/ 5.4/5.5	X[5]	X[5]	1x/2 years	1x/2 years per compound/formulation used
Appearance	6.1	X	X	-	Before production start and 1x/year per size and fitting group
Colour	6.2	X	X	-	Before production start and 1x/year per size and fitting group
Dimensions	7.2/7.3	X	X	-	Before production start and 1x/year per size and fitting group
Characterization of rotational moulded products	10.2	X	X	-	Before production start and 1x/2 years per size group
Structural integrity	8	X[5]	X[5]	1x per 2 years	1x/2 years per size group and compound/formulation
Impact resistance	8	X	X	-	1x/year per size group
Ring stiffness	8	X[5]	X[5]	-	Before production start and 1x/week.
Effect after heating (for PVC only)	9.1	X	X	-	Before production start and every 24uur.
Vicat (for PVC only)	9.1	X[5]	X[5]	1x/year per compound/ formulation used	1x/year per compound/ formulation used
Marking	-	X	X	Every audit	Before production start
Tightness base-pipe connections	10	X	X	-	As stipulated in the IQC scheme
Tightness base-riser connections	10	X	X	-	As stipulated in the IQC scheme
Tightness riser-riser connections	10	X	X	-	As stipulated in the IQC scheme
Tightness of other connections	10	X	X	-	As stipulated in the IQC scheme
Load bearing capacity	10	X	X	-	1x/5 years per size group

1) In the event of significant changes to the product or production process, the product requirements shall be redetermined at the discretion of the CI.

2) These requirements are checked by the manufacturer and/or supplier (IQC). During the inspection visit the results are checked by the inspector.

3) This requirement is checked against the control parameters established for this requirement during the IQC inspection (indirectly by directly related parameters).

4) There is a separate arrangement for the frequency depending on the material, as detailed in the inspection card and the decisions made by the BoE, namely: the permitted test temperature range is between 15 °C and 30 °C, provided this does not influence the test result.

5) IQC control and sampling for testing in the CI laboratory. Sampling OIT and MFR for checking virgin PE/PP material. Sampling density, OIT, MFR, ash content, foreign polymers for checking recycled PE/PP material.

6) This test frequency is a combination of the minimum required “process verification tests” (PVT) and “batch release tests” (BRT). The tests carried out by the CI may be deducted from this frequency.

7.5 Non-conformities

7.5.1 Weighing of non-conformities

When weighing a non-conformity, in the context of supervision after the CI has issued the (technical approval with) product certificate, a distinction is made between:

- non-conformities that can directly affect the quality of the product (critical non-conformity),
- “Other” non-conformities (non-critical non-conformity).

The aspects that are regarded as critical non-conformities are listed in Table 6 below.

Table 6 – Critical non- conformities as determined by the BoE

Description	Article	Critical
	BRL 2017	
Weld joints	**Error! Reference s ource not found.**	X
Flow profile	5.1.2	X
Provision to prevent floatation	5.1.3	X
Adhesion of welded joints	5.1.4	X
	NEN-EN 13598-2	
Material	5.2/5.3/5.4/5.5	X
Recycled material	5.6	X
Durability requirements	5	X
Characterization of rotational moulded products	10.2	X
Structural integrity	8	X
Impact resistance	8	X
Ring stiffness	8	X
Tightness base-pipe connections	10	X
Tightness base-riser connections	10	X
Tightness riser-riser connections	10	X
Tightness of other connections	10	X

7.5.2 Follow-up of non-conformities

The follow-up of non-conformities by a CI is as follows:

- Critical non-conformities: The CI shall be able to resolve these non-conformities within a maximum period of 3 months.
- Non-critical non-conformities: The CI shall be able to resolve these non-conformities within a maximum period of 6 months.

7.5.3 Sanction procedure

The sanction to be imposed by the CI is laid down in the Regulations for (technical approval with) product certification.

8. Requirements for the certification body

8.1 General

The CI shall have a procedure that establishes the general rules employed for certification processes.

8.2 Certification staff

Certification staff involved can be classified as follows:

- **Certification assessor/Reviewer:** in charge of preparing the design and documentation assessments, assessment of applications, and review of the conformity assessments,
- **Location assessor:** in charge of external conformity assessments at the certificate holders' location,
- **Decision maker:** in charge of making decisions with regard to pre-certification tests carried out and about continuity of certification based on performed inspections.

8.2.1 Competency criteria for certification staff

Qualification requirements for the certification staff executing the certification activities are detailed in Table 7. The competency of the certification staff involved shall be demonstrably established.

Table 7 – Competency criteria for certification staff

Competencies	Certification assessor/ Reviewer	Location assessor	Decision maker
Basis competencies			
• Knowledge of business processes • Be able to assess professionally	• Higher Vocational Education • 1 year of relevant work experience	• Secondary Vocational Education • 2 years of relevant work experience	• Higher Vocational Education • 2 years of relevant experience of which at least 1 year in certification activities
Auditing competencies	N.A.	• Training in auditing competencies • Participation in at least 4 periodic inspections, with a minimum of 1 periodic inspection carried out independently under supervision	N.A.
Technical competencies			
Relevant knowledge of: • The technology for the manufacture of the products to be inspected, the execution of the processes and the providing of services. • The way products are applied, processes carried out and services provided. • Existing defects that appear when using the product, during the execution of the processes as well as shortcomings in provision of services.	Knowledge of the discipline: • Cluster Sewage	Knowledge of the discipline: • Cluster Sewage	N.A.
Specific technical competencies	N.A.	N.A.	N.A.

8.2.2 Qualification of certification personnel

Certification personnel shall be demonstrably qualified by testing their knowledge and skills against the abovementioned requirements. If qualification takes place based on other criteria, this shall be documented.

The authority regarding qualification shall be established in the quality system of the CI.

8.3 Communications about the pre-certification test and periodic inspections

The CI shall record the results of the pre-certification tests and periodic inspections in an unequivocal report. Such a report shall satisfy the following requirements:

- ***Completeness***: the report will include a substantiated report of the determined grade of conformity with regard to the requirements laid down in this BRL,
- ***Traceability***: the results on which statements are based shall be recorded in a traceable way.

8.4 Decisions about the KOMO® (technical approval with) product certificate

The decision to grant a (technical approval with) product certificate or imposing measures regarding the (technical approval with) product certificate shall be based on the results laid down in the file.

The results of a pre-certification test and a periodic inspection (in case of a critical non-conformity) shall be assessed by a reviewer.

Based on the review carried out, the decision maker will determine if:

- The (technical approval with) product certificate can be granted,
- Sanctions shall be imposed,
- The (technical approval with) product certificate shall be suspended or withdrawn.

The reviewer and the decision makers shall not have been involved in the process of preparing the results, based on which the decision is being made.

The decision shall be recorded in a traceable manner.

8.5 Reporting to the Board of Experts

The CI will present a report to the BoE annually about the activities carried out and the respective results regarding the (technical approval with) product certificates based on this BRL. This report shall include at least the following matters:

- The number of inspections carried out compared to the specified frequency,
- The number of pre-certification tests carried out,
- Results of assessments,
- Measures imposed in case of non-conformities detected,
- Complaints received from third parties about certified products.

8.6 Interpretation of requirements

The BoE may establish the interpretation of the requirements of this BRL in one or more interpretation document(s). Interpretation documents are available for/from members of the BoE, certification bodies and the certificate holders who carry out activities based on this BRL.

Interpretation documents are published on the website of the CI.

Every CI that makes use of this BRL is under the obligation to employ the interpretations laid down in such documents.

9. List of documents

9.1 Public law and Rules and Regulations

The following public law is applicable:

Besluit bodemkwaliteit From 06-05-2022 till date	The Soil Quality Decree can be accessed using the following link: wetten.nl - Regeling - Besluit bodemkwaliteit - BWBR0022929 (overheid.nl)

9.2 Normative documents

This BRL refers to the following normative documents:

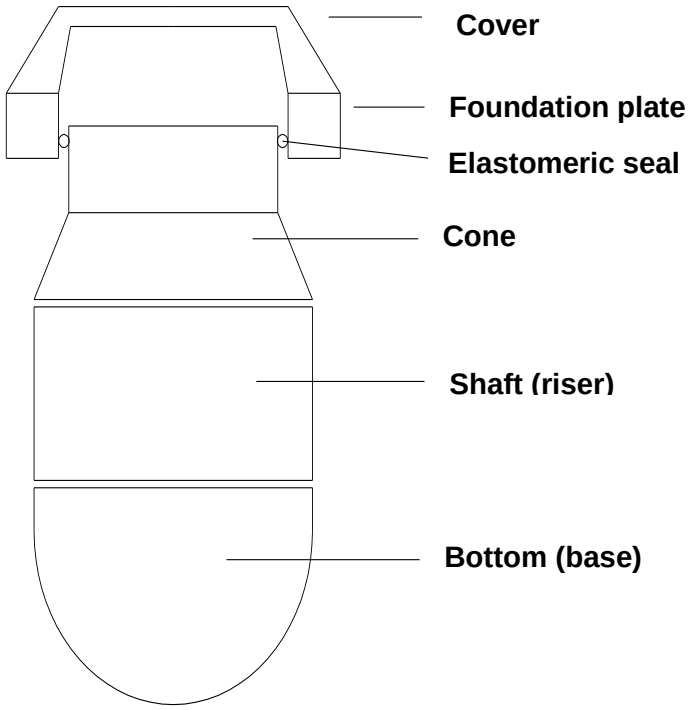
Number	Title
BRL 2013: 2016 incl. amdt. 2018	Vulcanized rubber products for cold and hot non-drinking water applications
BRL 2020-2:2022	TPE pipe joint seals for non-pressure waste water and drainage – Part 2: Seals
BRL 5070:2015	Prefabricated concrete products
BRL 9202:2017	Chambers of unreinforced, reinforced and steel fiber concrete
BRL 9203:2018	Covers for manholes and gullies
DVS 2202-1:2008-01 Incl. Supplement 1, 4 + 5	Imperfections in thermoplastic welding joints – Features, descriptions, evaluation
DVS 2203-1:2014-05	Testing of welded joints between panels and pipes made of thermoplastics – Requirements in the tensile creep test – Tensile creep welding factor f_s
DVS 2203-2:2010-08	Testing of welded joints between panels and pipes made of thermoplastics – Tensile test
DVS 2207-1:2015-09 Incl. Supplement 2	Welding of thermoplastics – Heated element welding of pipes, piping parts and panels made out of polyethylene
DVS 2207-4:2005-04 Incl. Supplement 1,2	Welding of thermoplastic – Extrusion welding of pipes, piping parts and panels – Processes and requirements
DVS 2212-1:2016-12 Incl. Supplement 1	Qualification testing of plastics welders – Qualification Test Groups I and II
NEN 7146:2001	Plastic pipe systems – Bending test for thermoplastic fittings – Requirements and test method
NEN 7200:2017	Plastic pipes for the transport of gas, drinking water and waste water – Butt welding of PE pipes and PE fittings
NEN-EN 124-1:2015	Gully tops and manhole tops for vehicular and pedestrian areas – Part 1: Definitions, classification, general principles of design, performance requirements and test methods
NEN-EN 476:2022	General requirements for components used in drains and sewers
NEN-EN 1610:2015 + NEN 3218-1:2019nl	Sewerage systems outside buildings – Construction and testing of drains and sewers with Dutch supplement
NEN-EN 13067:2020	Plastics welding personnel – Qualification of welders – Thermoplastics welded assemblies
NEN-EN 13598-2:2020	Plastics piping systems for non-pressure underground drainage and sewerage – Unplasticized polyvinyl chloride (PVC-U), polypropylene (PP) and polyethylene (PE) – Part 2: Specifications for manholes and inspection chambers
NEN-EN-ISO 3126:2005	Plastics piping systems – Plastics components – Determination of dimensions
NEN-EN-ISO 9001:2015	Quality management systems – Requirements
NEN-EN-ISO 13266:2023	Thermoplastics piping systems for non-pressure underground drainage and sewerage – Thermoplastics shafts or risers for inspection chambers and manholes – Determination of resistance against surface and traffic loading

Remark: Verification if normative documents are still up to date is carried out annually. Modifications of the applicable normative documents will be published on the services page on the website of the CI which publishes the BRL.

Annex A Model IQC Schedule

Description	Control aspect	Control method	Control frequency	Control registration
Raw materials and/or supplied materials:				
- Formulation	- Formulation according to attachment IQC scheme	- Comparison of certificate with agreement	- Each delivery	- Incoming goods document
- Incoming goods inspection of raw materials	- Vicat	- Certificate of analysis	- Each delivery	- Incoming goods document
Production process, production apparatus, material:				
- Procedures	- Setting parameters	- Machine settings	- Continuous	- "Digitaal"
- Working instructions	- Maintenace aspects	- Maintenance schedule	- Continuous	- Work sheet
- Apparatus	- Dimensions	- Measurement	- Starting up new product	- Work sheet
- Product release	- Unblemished	- Visual check	- Each batch of product	- Control document
Final product				
- Visual	- Unblemished	- Visual	- -Continuous	- Control document
- Dimensions	- Dimensions	- Measurement	- Every 3 hours	- Control document
			- Daily per product per machine	
Measuring en test equipment				
- Measuring equipment	- Proper operation	- During usage	- Continuous	- Control document
- Calibration	- Accuracy within the working area	- Record deviations	- 1x/year	- Calibration report
Logistics				
- Internal transport & Storage - Conservation	- Practical circumstances	- In accordance with procedure	- Continuous	- Logistical procedures
- Packaging - Identification	- Comparison with purchase order	- Visual inspection	- Continuous	- Maintain condition

Annex B Sketch of convex bottom inspection chambers



Convex bottom

Annex C Test setup for bending test

Test setup for bending test