BRL-K14027
Concept design
2024-10-15

Evaluation Guideline

for the Kiwa product certificate for ductile iron pipes and couplings for wastewater

Trust
Quality
Progress

Preface Kiwa

This Evaluation Guideline (BRL) has been accepted by the Kiwa Board of Experts Watercycle (CWK), in which all relevant parties in the field of [Drinking water appliances] are represented. This Board of Experts also supervises the certification activities and will adjust this BRL if required. All references to Board of Experts in this evaluation guideline pertain to the above mentioned Board of Experts.

This evaluation guideline will be used by Kiwa in conjunction with the Kiwa Regulations for Certification, which include the general rules employed by Kiwa for its certification activities.

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Binding declaration
This evaluation guideline has been declared binding by Kiwa effective [dd month year]

Content

1 Introduction

1.1 General

The requirements included in this evaluation guideline will be employed by Kiwa when dealing with an application and the maintenance of a certificate for product used for float operated valves for flushing cisterns.

This guideline replaces the evaluation guideline BRL-K14027, dated 16-10-2015.
In any case, the quality declarations issued on the basis of the latest BRL will lose/retain their validity three years after its binding declaration.

When carrying out certification activities, Kiwa is bound by the requirements laid down in NEN-EN ISO/IEC 17065.

1.2 Field of application / scope

The products are intended to be used as piping systems for transportation of waste water with a:

- Nominal diameter of DN 40 till DN 2000 and:
- Nominal pressures of PN 10, PN 16, PN 25, or PN 40;
- Maximum water temperature of 45°C in diameters smaller than or equal to DN 200 and 35°C in those that are larger than DN 200.

1.3 Acceptance of tests reports provided by the supplier

With regard to the requirements included in this evaluation guideline, the applicant, in the view of third party assessments, can submit conformity reports issued by evaluation bodies to prove that the requirements of this BRL are being met. It will have to be demonstrated that the relevant inspection, analysis, test, and/or evaluation reports have been prepared by an institution that meets the corresponding applicable accreditation standard, namely:

- NEN-EN-ISO/IEC 17020 for inspection bodies,
- NEN-EN-ISO/IEC 17021-1 for certification bodies certifying management systems,
- NEN-EN-ISO/IEC 17024 for certification bodies certifying persons,
- NEN-EN-ISO/IEC 17025 for laboratories,
- NEN-EN-ISO/IEC 17065 for certification bodies certifying products, processes, and services.

Remark:
This requirement is considered to be fulfilled when a certificate of accreditation can be shown, issued either by the Board of Accreditation (RvA) or by one of the institutions with which an agreement of mutual recognition and acceptance of accreditation has been concluded by the Board of Accreditation. If no certificate of accreditation can be submitted, the certification institution itself will verify if the accreditation criteria have been met.
This accreditation must concern the required investigations drawn up for this BRL. In the case that no accreditation certificate can be shown, the certification body will verify whether the requirements of the accreditation norm are met, or will execute said investigation again by itself.

1.4 Quality declaration

The quality declarations to be issued by Kiwa based on this evaluation guideline will be referred to as Kiwa product certificate.

A model of the certificate to be issued on the basis of this evaluation guideline has been included for information purposes as Annex.

2 Terminology

2.1 Definitions

In this evaluation guideline, the following terms and definitions apply:

- **Board of Experts:** the Board of Experts Water Cycle (CWK);
- **Certification mark**: a protected trademark of which the authorization of the use is granted by Kiwa to the supplier whose products can be considered to comply on delivery with the applicable requirements and possibly with quality information on the application of the product is added by a specially designed label which is based on the result. As stated in the report issued by Kiwa on the inspection of the prototype.
- **Evaluation Guideline (BRL):** the agreements made by the Boead of Experts on the subject of certification;
- **Follow-up investigation:** the investigation carried out after granting the certificate to determine that the certified products and/or approved quality related processes continue to be in compliance with the requirements laid down in the evaluation guideline;
- **House hold water:** non-potable water that may only be used within premises for flushing toilets (source Dutch drinking water act);
- **Initial investigation:** the initial evaluation of the supplier and the investigation of the relevant products for the first issuance of a certificate.
- **Installation:** configuration consisting the pipe work, fittings and appliances;
- **IQC scheme**: a description of the quality inspections carried out by the supplier as part of his quality system;
- **Product certificate**: a document in which Kiwa declares that a product may be deemed, on delivery, to comply with the product specification recorded in the product certificate;
- **Product requirements**: requirements made specific by means of measures or figures, focusing on (identifiable) characteristics of products and containing a limiting value to be achieved, which can be calculated or measured in an unequivocal manner.
- **Private Label Certificate:** a certificate that only pertains to products that are also included in the certificate of a supplier that has been certified by Kiwa, the only difference being that the products and product information of the private label holder bear a brand name that belongs to the private label holder.
- **Supplier**: the party that is responsible for ensuring that the products meet and continue to meet the requirements on which the certification is based.
- **Waste Water[1]:** all water, including atmospheric precipitation, which the holder disposes of, intends to dispose of, or must dispose of;

[1] Article 1.1 Wet milieubeheer (Law environmental management)

3 Procedure for obtaining a quality declaration

3.1 Initial investigation

The initial investigation to be performed based on the (product) requirements as contained in this evaluation guideline, including the test methods, depending on the type of product be certified:

- a (type) testing to determine whether the products comply with the product and/or performance requirements;
- production process assessment;
- assessment of the quality system and the IQC scheme;
- verification on the presence and functioning of the further required procedures.

3.2 Granting the certificate

After completing the initial investigation, the results are presented to the Decision maker (see §9.2). This person evaluates the results and decides whether the certificate can be granted or if additional data and/or tests are necessary before the certificate can be granted.

3.3 Investigation into the product and/or performance requirements

Kiwa will investigate the products to be certified against the certification requirements as stated in this evaluation guideline or will have them investigated on its behalf.
The required samples will be drawn by or on behalf of Kiwa.

3.4 Production process assessment

When assessing the production process, it is investigated whether the producer is capable of continuously producing products that meet the certification requirements
The evaluation of the production process takes place during the ongoing work at the producer.
The assessment will at least include:

- The quality of raw materials, semi-finished products, and end products;
- Internal transport and storage.

3.5 Contract assessment

If the supplier is not the producer of the products to be certified, Kiwa will assess the agreement between the supplier and the producer.
This written agreement, which is available to Kiwa, must at least include:
That accreditation bodies, scheme managers and Kiwa will be given the opportunity to observe the certification activities carried out by Kiwa or on behalf of Kiwa at the producer.

4 Product requirements

4.1 General

This chapter describes the requirements Product shall meet, as well as the determination methods to establish that the requirements are being met.

4.2 Regulatory requirements

4.2.1 Product requirements

The requirements which the products must adhere to are established in the following norm, with exception of those articles for which requirements are given in 4.2.2 and 4.3.3:

NEN-EN 598	Ductile iron pipes, fittings, accessories and their joints for sewerage applications - Requirements and test methods

4.2.2 Additional product requirements

In addition to the mentioned requirements in 4.2.1, the following apply:

4.2.2.1 Rubber gaskets and flange packings

In addition to par. 4.1.3.1 of the EN 598, rubber gaskets must meet the requirements of BRL 2013[1].

4.2.2.2 Flanges

In addition to par. 4.1.3.2 of the EN 598, non-normalized flanges are permitted as type tests, as long as the necessary fitting pipes and gaskets are available.

4.2.2.3 Outer surface protective coating of the pipes

When the outer layer of the pipes is provided with a protective layer, other than those mentioned in the EN 598, article B.1.1, alloyed zinc and aluminum, with or without other metals, with a minimum mass of 400 g/m2, with a finish coating, it must adhere to BRL-K767: External cladding for metal pipes.

4.2.2.4 Outer surface protective coating of the accessories

When the outer layer of the pipes is provided with a protective layer, other than those mentioned in the EN 598, article 4.5.2, epoxy coating, it must adhere to BRL-K767: External cladding for metal pipes.

[1] Encompasses type WC or WG according to the EN 681-1

5 Testing methods

5.1 Testing methods

There are no additional testing methods for this BRL.

6 Markings

6.1 General

The products shall be marked with following indelible marks and indications, on every product according to article 4.6 of the EN 598:

- DN;
- PN;
- Identification of the application;
- Factory name and/or trade mark;
- Production date or coding;
- Type designation;
- Material;
- Reference to EN 598.

6.2 Certification mark

After entering into a Kiwa certification agreement, the certified products shall be clearly and indelibly marked with the certification mark.

For products not intended for contact with drinking water.

KIWA

NL-BRL-K14027

7 Requirements in respect of the quality system

This chapter contains the requirements that have to be met by the supplier's quality system.

7.1 Manager of the quality system

Within the supplier's organizational structure, an employee who will be in charge of managing the supplier's quality system must have been appointed.

7.2 Internal quality control/quality plan

The supplier shall have an internal quality control scheme (IQC scheme) which is applied by them.

The following must be demonstrably recorded in this IQC scheme:

- which aspects must be inspected by the supplier;
- according to what methods such inspections are carried out;
- how often these inspections are carried out;
- in what way the inspection results are recorded and kept.

This IQC scheme should at least be an equivalent derivative of the model IQC scheme as shown in the Annex.

7.3 Management of test and measuring equipment

The supplier shall verify the availability of necessary test and measuring equipment for demonstrating product conformity with the requirements in this evaluation guideline.
If and when required, the test and measuring equipment shall be calibrated at specified intervals.
The supplier shall record and evaluate the validity of the previous measuring data if at the time of calibration it is established that the equipment is not functioning properly.
The measuring equipment in question must carry an identification that allows for determining the calibration status.
The supplier shall record the results of the calibration.

7.4 Procedures and working instructions

The supplier shall be able to submit the following:

- procedures for:
  - dealing with product showing deviations;
  - corrective actions to be taken if non-conformities are found;
  - dealing with complaints about product and/or services delivered;
- the working instructions and inspection forms used.

7.5 Other requirements

The supplier shall be able to submit the following:

- the organisation’s organogram;
- qualification requirements of the personnel concerned.

8 Summary of tests and inspections

This chapter contains an overview of the steps required for certification:

- **initial investigation**: the investigation to determine that compliance is given to all the requirements laid down in the evaluation guideline;
- **follow-up investigation:** the investigation carried out after granting the certificate to determine that the certified product continue to be in compliance with the requirements laid down in the evaluation guideline; the required frequency for the follow-up investigation by the certification body (CI) is also specified;
- **inspection of the quality system of the supplier:** monitoring compliance of the IQC scheme and procedures.

8.1 Test matrix

Description of requirement	Article BRL EN norm	Investigation within the scope of	
		Pre-certification	Supervision after certificate is granted [a) b)]
BRL-K14027			
Material requirements			
Product requirements	4.2.1	X	X
Rubber gaskets and flange packings	4.2.2.1	X	X
Flanges	4.2.2.2	X	X
Outer surface protective coating of the pipes	4.2.2.3	X	X
Outer surface protective coating of the accessories	4.2.2.4	X	X
Marking			
General	6.1	X	X
Certification mark	6.2	X	X
EN 598			
Types of joints and interconnection	4.1.3	X	X
Colour identification	4.1.4	X	X
Dimensional requirements	4.2	X	X
Material characteristics	4.3	X	X
Coatings and linings for pipes	4.4	X	X
Coatings for fittings and accessories	4.5	X	X
	See BRL-K14027, 6.1 and 6.2		
Leak tightness	4.7	X	X
Longitudinal bending of pipes	5.2	X	
Diametral stiffness of pipes	5.3	X	
Leak tightness of components for gravity pipelines[1]	5.4	X	
Leak tightness of flexible joints	5.5	X	X
Flanged joints	5.6	X	X
Pipes with screwed or welded flanges	5.7	X	X
Chemical resistance to effluents	5.8	X	
Abrasion resistance	5.9	X	
Strength of the cement mortar lining	5.10	X	

[1] When applicable

a) In case of process or production process changes, it shall be determined again in consultation between the supplier and Kiwa, if the product complies with the performance requirements.
b) During the follow-up investigation, the inspector will inspect the product by means of a selection of the above mentioned marked product requirements. The frequency of the follow-up visits is defined in §9.5 of this BRL.

8.2 Inspection of the quality system

The supplier's quality system will be assessed by Kiwa based on the IQC scheme. The inspection contains at least those aspects mentioned in chapter 7.

9 Agreements on the implementation of certification

9.1 General

The certification body must have a procedure in place in which the general regulations used for certification are established.

9.2 Certification staff

The staff involved in the certification may be sub-divided into:

- Certification assessor/Reviewer **(CAS/RV**): in charge of carrying out the design and documentation evaluations, pre-certification tests, initial investigations, and evaluation of applications and reviewing conformity assessments.
- Site assessor (**SAS**): in charge of carrying out external inspections at the supplier's works;
- Decision maker (**DM**): in charge of taking decisions in connection with the pre-certification tests carried out, continuing the certification based on the inspections carried out and taking decisions on the need to take corrective actions.

9.2.1 Competence criteria certification staff

The competence criteria for the implementing certification staff are laid down in the following table. The competence of the certification staff involved must have been demonstrably recorded.

Basic competences	**Evaluation criteria**
Knowledge of company processes. Skills for conducting professional assessments on products, processes, services, installations, design, and management systems.	*Relevant work experience* **SAS, CAS/RV**: 1 year **DM**: 3 years, including 1 year related to certification Relevant technical knowledge and experience at the level of: **SAS:** High school **CAS/RV, DM**: Bachelor
Skills with regard to site assessments to be performed Adequate communication skills (e.g. writing reports, presentation skills and interviewing skills).	**SAS**: Kiwa Assessment training or equivalent and 3 site assessments including 1 supervised self-reliant assessment.
Execution of Initial Investigation	**CAS**: 3 initial assessments under supervision.
Conducting reviews	**RV**: evaluation of 3 reviews

Technical competences	**Evaluation criteria**
Education	**General:** Education in one of the following technical areas: • Civil Engineering; • Engineering.
Testing skills	**General:** • 1 week laboratory training (general and scheme specific) including measuring techniques and conducting tests under supervision; • Conducting tests (per scheme).

Experience – specific	**CAS** • 1 complete application (excluding the initial assessment of the production site) under the direction of the **PM**. • 1 complete application self-reliant (to be evaluated by **PM**). • 1 initial assessment of the production site under the direction of the **PM**. • 1 initial assessment of the production site self-reliant (witnessed by **PM**) **SAS** • 3 inspection visits together with a qualified **SAS** • 1 inspection visit conducted self-reliant (witnessed by **PM**)
Skills in performing witnessing	**PM** Internal training witness testing

Legenda:

- Product manager: (**PM**)
- Site assessor (**SAS**)
- Certification assessor (**SAS**)
- Reviewer (**RV)**
- Decision maker (**DM**)

9.2.2 Qualifications Certification staff

The qualification of the Certification staff shall be demonstrated by means of assessing the education and experience to the above mentioned requirements. In case staff is to be qualified on the basis of deflecting criteria, written records shall be kept. The authority regarding qualifications shall be recorded in the quality assurance system of the certification body.

9.3 Report on Initial investigation

The certification body records the results of the initial investigation in a report. This report shall comply with the following requirements:

- completeness: the report provides a verdict about all requirements included in the evaluation guideline;
- traceability: the findings on which the verdicts have been based shall be recorded and traceable;
- basis for decision: the DM shall be able to base their decision on the findings included in the report.

9.4 Decision for granting the certificate and/or imposition of measures

The decision for granting the certificate or the imposition of measures with regard to the certificate shall be based on the results recorded in the file.

The results of an initial investigation and a periodic assessment (in case of critical nonconformities) must be assessed by a reviewer.

Based on the performed review, the decision maker will decide if:

- The certificate can be granted,
- Sanctions are imposed,
- The certificate shall be suspended or revoked.

The reviewer and the decision maker shall not have been involved in the preparation of the results based on which the decision is being made.

The decision shall be recorded in a traceable manner.

9.5 Nature and frequency of third party assessments

The certification body shall carry out surveillance assessments on site at the supplier to verify compliance with their obligations. The Board of Experts decides on the frequency of assessments.

At the time this BRL entered into force, the frequency of audits amounts **2** audit(s) on site per year for suppliers with a quality management system in accordance with ISO 9001 for their production, which has been certified by an acknowledged body (in accordance with ISO/IEC 17021) and where the IQC scheme forms an integral part of the quality management system.
In case the supplier is not in possession of any product certificate or quality management system certificate (issued by Kiwa or any other accredited certification body), the frequency is increased to 3 visits for the duration of one year.

The audit program on site shall cover at least:

- the product requirements;
- the production process;
- the suppliers IQC scheme and the results obtained from inspections carried out by the supplier;
- the correct way of marking certified products;
- compliance with required procedures;
- handling complaints about products delivered.

For suppliers with a private label certificate the frequency of audits amounts to one audit per year. These audits are conducted at the site of the private label certificate holder. The audits are conducted at the site of private label holder and focussed on the aspects inserted in the IQC scheme and the results of the control performed by the private label holder. The IQC scheme of the private label holder shall refer to at least:

- the correct way of marking certified products;
- compliance with required procedures for receiving and final inspection;
- the storage of products and goods;
- handling complaints.

The results of each assessment shall be recorded by Kiwa in a traceable manner in a report.

9.6 Non conformities

When the certification requirements are not met, measures are taken by Kiwa in accordance with the sanctions policy as written in the Kiwa Regulation for Certification. The Kiwa Regulation for Certification and the Sanctions Policy are available page on the Kiwa website.

The following applies with regards to the relevance, follow-up of nonconformities, and the sanctions policy.

9.6.1 Serverty of nonconformities

The severity of the issued nonconformity in relation to the assessment conducted after granting the product certificate by certification body can be differentiated as follows:

- Nonconformities entitled as critical are deviations that can directly affect the quality and/or performance of product and/or process
- Other'' nonconformities (noncritical nonconformities).

9.6.2 Follow-up nonconformities

The follow-up procedure for nonconformities by a certification body is as follows:

- The certification body shall be able to deal with critical nonconformities within the time frame established by the certification body, but shall not exceed the maximum term of 10 business days,
- The certification body shall be able to deal with noncritical nonconformities within the time frame established by the certification body, but shall not exceed the maximum term of 3 months.

9.7 Report to the Board of Experts

The certification body shall report at least annually about the performed certification activities. In this report the following aspects shall be included:

- mutations in number of issued certificates (granted/withdrawn);
- number of executed assessments in relation to the established minimum;
- results of the inspections;
- measures imposed in case of nonconformities;
- complaints received from third parties about certified products.

9.8 Interpretation of requirements

The Board of Experts may record the interpretation of requirements of this evaluation guideline in one or more separate interpretation document(s). This or those interpretation documents will be available to the members of the BoE, the certification bodies, and the certificate holders who are active based on this evaluation guideline. This or those interpretation documents will be published on Kiwa's website.

9.9 Specific rules set by the Board of Experts

The Board of Experts may define the following specific rules. These rules shall be followed by the certification body when performing their certification activities.

10 Titles of standards

10.1 Public law rules

305/2011/EU Regulation Building Products (CPR)

10.2 Standards / normative documents

Number	Title	Version *
BRL 2013	Certification of vulcanised rubber products for cold & hot non-drinking water applications	
NEN-EN 598	Ductile iron pipes, fittings, accessories and their joints for sewerage applications - Requirements and test methods	
BRL-K767	External cladding for metal pipes	
NEN-EN 681-1	Elastomeric seals - Materials requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber	
NEN-EN-ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection	
NEN-EN ISO/IEC 17021-1	Conformity assessment - Requirements for bodies providing audit and certification of management systems	
NEN-EN-ISO/IEC 17024	Conformity assessment - General requirements for bodies operating certification of persons	
NEN-EN-ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories	
NEN-EN-ISO/IEC 17065	Conformity assessment - Requirements for bodies certifying products, processes, and services	

I Model certificate (sample)

CERTIFICATE

Product certificate
KXXXXXX/0X

Issued

Replaces

Page 1 of 1

Name product

STATEMENT BY KIWA
With this product certificate, issued in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the products supplied by

Name customer

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa evaluation guideline

BRL-xxxx "xxxxxxxxxxxxxxxxxxxxxxxxf" dated [dd-mm-yyyy]

inclusive amendment sheet dated dd-mm-yyyy.

Name Director
Kiwa

Publication of this certificate is allowed.
Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

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Company
Name customer
Address customer

Phone number
Fax number
www.
Email

Certification process consists of initial and regular assessment of:
- quality system
- product

II Model IQC Scheme (sample)

Inspection subjects	Inspection aspects.	Inspection method	Inspection frequency	Inspection registration
Raw materials or supplied materials: • Entry inspection raw materials				
Production process, production equipment, other equipment: • Procedures • Working instructions • Equipment • Other equipment				
Finished products • Leak tightness • Coating internal and external				
Measuring and testing equipment • Measuring equipment • Calibration				
Logistics • Traceability				