BRL-K14010 part 1B

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Evaluation Guideline

for the Kiwa technical-approval-with product certificate for physical point of entry techniques,

Part 1B: Physical point of use techniques including a management instruction for the product as well as the installation where the product is being installed.

Preface

This evaluation guideline has been accepted by the Kiwa Board of Experts CWK, in which all relevant parties in the field of physical point of entry techniques are represented. The Board of Experts also supervises the certification activities and where necessary requires the evaluation guideline to be revised. 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.

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Validation
This evaluation guideline has been validated by the Director Certification and Inspection of Kiwa on Date

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Contents

1 Introduction

1.1 General

This evaluation guideline includes all relevant requirements which are employed by Kiwa when dealing with applications for the issue and maintenance of a (technical-approval-with-)product certificate used for physical point of use techniques, including a management instruction for the product as well as the installation where the product is being installed.
This evaluation guideline replaces BRL-K14010 part 1 [A1] dated 21-03-2012.
The quality declaration issued based on that evaluation guideline will expire 2 years after this evaluation guideline is declared binding.

For the performance of its certification work, Kiwa is bound to the requirements as included in NEN-EN-ISO/IEC 17065 “Conformity assessment - Requirements for bodies certifying products, processes and services”.

1.2 Field of application / scope

The products are meant for use at the connection point of collective drinking water and warm water tap installations as a physical point-of-use technique for legionella prevention and are considered appropriate for a water pressure of maximum 1 MPa (10 bar) and a water temperature to be specified by the provider.

1.3 Acceptance of test reports provided by the supplier

If the supplier provides reports from test institutions or laboratories to prove that the products meet the requirements of this evaluation guideline, the supplier shall prove that these reports have been drawn up by an institution that complies with the applicable accreditation standards, namely:

- NEN-EN-ISO/IEC 17020 for inspection bodies;
- NEN-EN-ISO/IEC 17021-1 for certification bodies certifying 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.

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 acceptance has been concluded by the RvA. The accreditation shall refer to the examinations as required in this evaluation guideline. When no certificate of accreditation can be shown, Kiwa shall verify whether the accreditation standard is fulfilled.

1.4 Quality declaration

The quality declaration to be issued by Kiwa is described as a Kiwa (technical-approval-with-)product certificate.
A model of the certificate to be issued on the basis of this evaluation guideline has been included for information as Annex.

1.5 Application conditions and processing instructions

The physical technique shall be applied in accordance with the management instructions pertaining to the relevant technique. The supplier’s application conditions and processing instructions will be described in this evaluation guideline as guidelines that shall form part of the management instruction.

2 Terms and definitions

2.1 Definitions

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

Product	the assembled components that comprise the physical technique as described in this evaluation guideline.
Certificate	document that describes the performance of a product when being applied in accordance with the relevant (technical installation) requirements, such as the Drinkwaterbesluit, provided it is employed as prescribed (application conditions) and installed in the drinking water installation (processing method).
Declaration with product certificate	document in which Kiwa declares that a product is considered to perform under the conditions specified in the certificate and which at time of delivery complies with the specifications laid down in the product certificate.
Management concept	denomination of the main group of the physical technique (for example UF, UV-c, Photochemical and Pasteurization).
Management instruction	document that as a declaration constitutes a written and/or digital annex to the product which explains how the functioning of the legionella prevention operation of the product after placement in the tap water installation remains guaranteed.
Management plan	document that includes the management measures regarding the legionella prevention for the entire tap water installation in which the product has been placed.
Drinking water	tap water, intended, or intended as well, as drinking water.
Requirements management instructions	requirements formulated in qualitative terms regarding installation and preconditions for use, maintenance and control of the product.
Filter module	part of the product where the filter is located.
Photochemical technique	Legionella prevention technique without residual effects in which passing tap water is irradiated with ultraviolet light in a titanium environment.
Physical technique	Legionella prevention technique in which no disinfectants are added to the water of an operating installation.
Microfiltration (MF)	technique in which pressurized tap water is pressed through a membrane and suspended solid substances and bacteria are left behind on the membrane. The pore size of

	microfiltration membranes varies from 0.1 to 1 micron.
Downstream installation	part of the tap water installation located downstream of the product.
Pasteurization	technique in which tap water is heated without interruptions to a temperature of at least 70°C during at least 5 minutes and afterwards is cooled down to the desired distribution temperature.
Point of entry	(gatekeeper concept) physical technique for legionella prevention that separates the downstream installation from the rest of the installation.
Performance requirements	requirements concretized in numbers focused on the performance of the employed product which specify a value to be achieved that can be calculated or measured unequivocally.
Priority organization	organization as named in article 35 of the Drinkwaterbesluit.
Product	the assembled components that comprise the Physical technique as described in this evaluation guideline.
Employment of disinfectant	continuous or not continuous measured addition of a disinfectant or disinfectants to the water in an operating installation.
Employment of cleansing agent	continuous or not continuous measured addition of a cleansing agent and/or disinfectant or disinfectants to the water of an installation that has been put out of order and is cleaned with tap water before being put it back into operation.
Ultrafiltration (UF)	technique in which pressurized tap water is pressed through a membrane and suspended solid substances, bacteria, and viruses are left behind on the membrane. The pore size of ultrafiltration membranes varies from 0.01 to 0.1 micron.
UV-c treatment	technique in which passing tap water is irradiated with ultraviolet light at a wavelength of approx. 254 nm.
Downstream installation	part of the tap water installation located downstream of the product.

3 Procedure for granting a (technical-approval-with-)product certificate

3.1 Initial investigation

The initial investigation to be performed are based on the (product) requirements as contained in this evaluation guideline, including the test methods, and comprises the following:

- type testing to determine whether the products comply with the product and/or functional requirements;
- production process assessment;
- assessment of the quality system and the IQC-scheme;
- assessment on the presence and functioning of the remaining procedures.

3.2 Granting the (technical-approval-with-)product certificate

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

3.3 Investigation into the product and/or performance requirements

Kiwa will investigate the to be certified products against the certification requirements as stated in the certification requirements.
The necessary 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 also includes at least:

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

3.5 Contract evaluation

If the supplier is not the manufacturer of the product to be certified, Kiwa will evaluate the agreement between the supplier and the manufacturer.
This written agreement, to be made available to Kiwa, shall at least include:

- the method used by the supplier to control that the manufacturer's is complying with the certification requirements;
- that the supplier may impose upon the manufacturer that the products being manufactured comply with the specifications contained in the certificate;
- that the certification mark may only be affixed to products that are delivered to the supplier;
- that Kiwa is entitled to execute all necessary activities in the frame of certification at both the supplier’s and manufacturer’s premises, which includes taking measures with regard to identified shortcomings;
- that accreditation bodies, scheme managers and Kiwa will have the opportunity to observe certification activities that will be carried out by Kiwa or on behalf of Kiwa at the manufacturer’s premises.

4 Requirements

4.1 General

This chapter contains the requirements that point of entry products for legionella prevention, without residual effects in the downstream installation, shall comply with. It also includes the determination methods for establishing that the requirements are being fulfilled.

The products included in this BRL may be categorized in accordance with the technique employed.[1]
Namely:

- Microfiltration and ultrafiltration
- UV-c treatment with low pressure lamps[2]
- Photochemical

4.2 Regulatory requirements

4.2.1 Requirements to avoid deterioration of the quality of drinking water

Products and materials which (may) come into contact with drinking water or warm tap water, shall not release substances in quantities which can be harmful to the health of the consumer, or negatively affect the quality of the drinking water. Therefore, the products or materials shall meet toxicological, microbiological and organoleptic requirements as laid down in the currently applicable "Ministerial Regulation materials and chemicals drinking water and warm tap water supply", (published in the Government Gazette). Consequently, the procedure for obtaining a recognised quality declaration, as specified in the currently effective Regulation, has to be concluded with positive results.
Products and materials with a quality declaration[3], e.g. issued by a foreign certification institute, are allowed to be used in the Netherlands, provided that the Minister has declared this quality declaration equivalent to the quality declaration as meant in the Regulation.

4.3 Product requirements

Class A

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[1] *For techniques not included in this BRL, the following procedure applies.*
This (new) technique will be presented to the sub commission Legionella Prevention Techniques of the I&W (Dutch Ministry for Infrastructure and Water Management). This commission shall first validate the (new) technique as a recognized legionella prevention technique. In this matter, Kiwa acts as provider for the application to I&W. Validating takes place based on an examination report in which at least the following components of the (new) technique will be tested. Suitability for contact with drinking water, strength and density, performance requirements and possible supplementary requirements, formulated in consultation with Kiwa and the CWK,

[2] *This BRL meant exclusively for UV treatment with low pressure lamps. Considering the relative sensitivity of Legionella to UV light, the employment of medium pressure lamps is not required. This has the advantage that the formation of undesired by-products when employing irradiation of water with UV light does not need to be taken into consideration*

[3] *A quality declaration issued by an independent certification institute in another member state of the European Community or another state party to the agreement to the European Economic Area, is equivalent to a recognized quality declaration, to the extent that, to the judgment of the Minister of the first mentioned quality declaration, is fulfilled the at least equivalent requirements as meant in the Regulation materials and chemicals drinking water- and warm tap water supply.*

Products equipped with an integrated alarm/control function that comply with the requirements of this BRL. The alarm function shall guarantee that the user receives an alert when legionella prevention is not working any longer according to requirements at the water outlet

Class B
Products without an integrated control/alarm function. According to the instruction, these products, are intended for a specific period of use of maximum 3 months. After this period of use, these products shall be removed completely.
A water outlet provided with integrated point of use technology for legionella prevention included in Class B, shall have at least one of the following provisions:

1. The function of the product fails (for example: no water comes out of the shower) when the legionella prevention module has been removed.
2. You may visually notice (for example by using a colour coding system) that the legionella prevention module has been removed.

Physical points of use techniques integrated in aerosol generating water outlets shall satisfy the functional requirements applicable for the type of aerosol generating water outlets.

> *Explication: If the product consists of a shower head equipped with point of use technology, the product shall comply with the requirements laid down in this BRL as far as legionella prevention technology is concerned as well as with the functional requirements included in the BRL for shower heads.*

4.3.1 Alarm function Category A products

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4.3.2 Corrosion protection

Parts that due to their nature are not considered corrosion resistant, shall be provided with a corrosion protection layer.

4.3.3 Connection ends

4.3.3.1 Threaded ends

Threaded end shall satisfy NEN-EN-ISO 228 or NEN-EN 10226.

4.3.3.2 Strength

During testing, the connection ends shall resist a torque of 30 Nm. during 300 s. After this test, the fastening of the connection ends to the products shall not show any cracks and/or changes in shape.

Testing method

a. For testing the resistance against forces and moment on the connecting end, the product shall be mounted in a testing installation which allows for procurement of the required moment of the relevant parts.
b. This test requires a product whose connection ends, if necessary, have been provided with accessories which will allow exerting the required moment on the parts in question.
c. Install the product, if necessary, with an accessory, in the testing installation and apply a radial torque with a value of 30 Nm to the free connection end during 30 s.

4.3.3.3 Fittings

If the connection ends of the products are fittings for direct connection to the tap water installation, these shall comply with the relevant requirements of Kiwa BRL-K623, K639 or K640.

4.3.4 Pre-filters

Filters employed in the downstream installation shall be used in accordance with the provider´s instructions; furthermore, filters shall comply with relevant aspects of the requirements laid down in NEN-EN 13443-2.

4.3.5 Strength and tightness

When tested, the product shell resist the operational pressure stated by the supplier and there should be no leakages, damage or permanent deformation.

Testing method

a. Install the product in a testing installation which allows for procuring the required pressure using water.
b. Flow the product to remove air.
c. Close the outlet opening.
d. During 60s. apply pressure to the product, starting at 0 kPa and gradually increasing to 1,3 times the operational pressure indicated by the supplier and maintain it during 900s.
e. Control if there is any leakage, damage or permanent deformation.

4.3.6 Additional requirements per technique

4.3.6.1 Microfiltration and ultrafiltration

Verification of operation of the product

When verifying the operation of the product, it shall be previously established that at the time of being put into operation the product is functioning as described in the management instructions.

Performance requirements

MF and UF products shall satisfy the requirements mentioned in NEN-EN 14652.
For legionella prevention, the following pore size must be assumed:

- varying from 0.1 to 1 micron in microfiltration membranes;
- varying from 0.01 to 0.1 micron in ultrafiltration membranes.

When complying with the test protocol given in NEN-EN-14652, it will be deemed that any legionella bacteria, present in the water phase, may be reduced continuously with an efficiency of more than 5 log units.
permanently reduce legionella bacteria present in the water phase with a yield of more than 5 log units.

4.3.6.2 UV-c treatment

When employing UV-c treatment, prefiltering is mandatory unless based on the corresponding performance requirements it can be proven that prefiltration is not necessary.

Primarily, filtration will be employed as a pre-treatment.
Other types of pre-treatments may also be used, according to the assessment of the certifying body.

The pore size of the filters employed in UV-c equipment shall be maximum 2 micron1[1], absolute, have a removing capacity of 99.98%, be Single open and have 'O'-rings as seals.

Performance requirements

UV-c products shall comply with the requirements of NEN-EN 14897
This implies at least the following:

a. A UV-c system validated with a UV dose of 250 J/m²;
b. With at least 3 transmissions;
c. With at least 3 lamp outputs;
d. With at least 3 capacities;
e. With guaranteed operation until the end of life situation of the system;
f. Monitored by means of a UV-sensor that complies with the O-norm …..
g. In this case, untreated local drinking water is used as input for the situations described under items a through f.

4.3.6.3 Photochemical

Prefiltering is mandatory unless based on the corresponding Ctgb2 processing instructions it can be proven that prefiltration is not necessary.

Performance requirements
The product for the photochemical technique shall comply with the relevant requirements of NEN-EN 14897.

4.3.7 Additional requirements

In addition to the mentioned product requirements the following requirements are to be observed in relation to hygienic operation.

4.3.7.1 Hygienic treatment of products in contact with drinking water

The supplier shall have a procedure in place that protects the products in such way, that the hygiene is ensured during storage and transport.
In addition, the supplier shall inform the customer about the handling of products delivered under the certificate, which come into contact with drinking water and warm tap water, from arriving at the construction site through to the realization and commissioning. The primary reason for providing this the information is to contribute to the awareness of the importance of hygienic work as a 'prevention measure'.

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[1] T*he smallest cysts of protozoa have a diameter of minimum 4 micron (verbal information received from expert). The diameters of the protozoa themselves are larger. Based on this information, a pore diameter of the pre-filters of 2 um will be sufficient to stop protozoa and their cysts.*
As far as vacuoles formed by the protozoa are concerned, the available information is limited. Based on a literature reference [1], it is understood that the size of vacuoles is equal to or greater than 2 micron. Considering the small size of vacuoles that are equal to or smaller than 2 micron, the basic assumption of the CvD for this evaluation guideline is that possible legionella that might be present in the vacuoles, are being suppressed by means of UV equipment.
[1] S.G. Berk et al. Production of respirable vesicles containing live Legionella pneumophila cells by two Acanthamoeba app. (1998) Applied and Environmental Microbiology.64(1), pp. 279 – 286.

[2] *Dutch Board for the Authorisation of Plant Protection Products and Biocides (Ctgb)*

4.3.8 Additional product requirements regarding temporary use of PoU without alarm function.

4.3.8.1 Thermal shock test PoU products type B (without alarm function)

This test is aimed at determining durability. When testing, products shall be able to resist conditions (temperature and pressure) that the PoU product may be exposed to.

To this end, the products shall satisfy the relevant aspects of art. 10.3 of NEN-EN 1112. In this case the warm water temperature during the test shall be 60ºC (instead of 70°C). Both before and after execution of the test, the product shall comply with the performance requirements applicable to the specific legionella prevention technique.

5 Marking

5.1 General

Marking of the products shall be executed by means of engraving or applying stickers.
The durability of the stickers will be verified according to NEN-EN 248 by subjecting them to the salt spray test.
After this testing, legibility and adherence aspects of the stickers shall be verified.

5.2 Compulsory marking

The cartridge shall be provided with the following markings:

- manufacturer's name or mark;
- type coding of the hose;
- digits indicating the month and year of production (MM/YYYY).

Users and supervisors shall be able to notice that the product is certified.

5.3 Certification Mark

After concluding a Kiwa certification agreement, the following certification mark shall be applied legible, indelible and visibly on the product:

The Kiwa Water Mark "**KIWA**  "[1]

5.4 Additional indications per technique

In this article we will describe which additional indications shall be included for each technique.

5.4.1 MF and UF product

- Normalized flux: $l/m^2.\Delta p_{100kPa}.h$;
- Manufacturer's trademark membrane;
- Type of membrane and pore size.

5.4.2 UV-c product

- Manufacturer's trademark/logo on the lamp;
- Type number of the lamp;
- Light intensity.

5.4.3 Photochemical

- Ctgb admission number

[1] *A product that shows compliance with the present requirements but is not assessed with according to the HA requirements is allowed to be marked with KIWA.*

6 Requirements management instructions for point of entry

The product shall be provided with at least a management instruction formulated (in writing) in the Dutch language aimed at informing the client about:

1. Application conditions;
2. General information on the specific technique;
3. Installation instructions and commissioning;
4. Operations and maintenance instructions.

6.1 Application conditions

The management instruction shall contain the following information:

- priority organizations will have a risk analysis and management plan from a certified BRL 6010 company for the downstream installation;
  For non-priority organisations it is preferred but not required.
- information on the method on the downstream installation shall have been implemented so that it may be expected that the physical technique functions optimally;
- the condition that at the time of placing, the downstream installation shall demonstrably contain less than 100 KvE Legionella. If this would not be the case, instructions shall be included indicating that the downstream installation shall be cleaned and disinfected according to **Error! Reference source not found.** "Preparation".
- Supplier's instructions shall be followed.

6.2 General information about the physical technique

The management instruction shall contain:

- a description of the physical technique with relevant (technical) drawings;
- a checklist that serves as a guide for the owner of the product, who, based on this guide, is informed on the risks with regard to the functioning of the system in ordinary usage situations and what actions shall be taken in case of product failure (for example, in case of a power outage).

6.3 Installation instructions (PoU)

The following aspects shall be included in the installation instructions.

6.3.1 Installation of the products

The products shall be installed in accordance with the relevant Waterwerkbladen.

6.3.2 Supporting equipment

Supporting equipment shall be accessible for operation and maintenance. The supporting equipment shall be installed in accordance with the relevant Waterwerkbladen and the instructions of the supplier shall be followed.

6.4 Maintenance and operation instructions

It shall be clear for the user that how and to which level certain maintenance and operating instructions are influencing the performance of the equipment and the upstream installation.

6.4.1 General

- For class A; How malfunctions are signalled. It shall be clear what the function is of each alarm.

6.4.2 Alarms

For class A products the management instruction shall embody:

- which alarms (type alarm, audio/ visual, on the spot or on distance) are installed and:
- which action shall be taken on alarms;
- what are the consequences of the different alarms;
- the necessity of taken water samples, e.g. after failure or malfunction of the alternative technique.

6.4.3 Protocols

The following protocols are laid down in the management instruction:

- that to do upon a failure of the physical technique;
- that corrective action shall be taken when an exceeding of occurs in the water installation concerning the requirements on the number of legionella's counted.

6.5 Additional requirements per technique

6.5.1 Preparation

6.5.1.1 Ultrafiltration

The management instruction shall include the procedure to verify the integrity of the membranes, how to spot membrane ruptures, which alarm function shall be used in this situation and the required response.

Furthermore, the management instruction shall include the:

- required frequency for the integrity test of the ultrafiltration module (at least 4 times per year);
- which action shall be taken if the ultrafiltration module is not in compliance with the integrity criteria;
- instruction that all relevant information from the maintenance program will be part of the monitoring file.

6.5.1.2 UV-behandeling

The management instruction shall include:

- the downstream installation shall be cleaned and/or disinfected;
- employed disinfectants must have acceptance of the Dutch Board for the Authorisation of Plant Protection Products and Biocides [(Ctgb) College Toelating Gewasbeschermings-middelen en Biociden] (and be included on the ECHA95-list) and be suitable for use in drinking and hot water tap installations;

Remark: If cleaning/disinfecting is done by a company certified by Kiwa guideline BRL14032, the abovementioned requirement is deemed to have been met.

- commissioning of the product;
- washing out chemicals with treated water;
- start of the physical technique based on the management instruction.

* The installation instructions shall include a description of the measures to be taken to avoid that tap water is supplied directly to the downstream installation if it has not passed through the physical technique previously (bypass is not allowed).

6.5.2 Installation of the product

The technique and relevant components shall be installed in accordance with the supplier's instructions and the relevant *Waterwerkbladen*.

6.6 Maintenance and operation instructions

The instructions shall clearly explain to the user of the product how and in what measure certain maintenance and operational aspects directly affect the performance of the product.

6.6.1 General

The management instruction shall deal with the following aspects:

- how to control the adequate functioning of the product;
- the way failures are indicated. A clear description shall be given of the alarm function to be used;
- that the management of the product (process adjustments, alarms, failures, maintenance, etc.) be registered in a journal;
- which parameters of the technique shall be verified, as well as the criteria and the frequency to be used for verification of these parameters;
- based on which criteria periodical cleaning and disinfection shall be carried out;
- frequency of taking samples (at least the ones required by law and possibly additional ones, as per the supplier's recommendations).

When priority organizations use the management instructions, these shall pay particular attention to the consequences that might arise when a physical technique is being used in management plans that have been formulated based on thermal management.

6.6.2 Alarms

The management instruction shall include:

- what alarms (type of alarm visual/audio, on site or distance) are in place;
- expected response in case of alarm;
- the consequences of the different alarms (for example, repetition of **Error! Reference source not found.** "Preparation" and taking of water samples).

6.6.3 Protocol

The management instruction shall contain a protocol with instructions regarding the procedures to be followed in case of a failure (breakdown) of the physical technique.

6.7 Additional requirements per technique

6.7.1 Ultrafiltration

The management instruction shall include the procedure to verify the integrity of the membranes, how to spot membrane ruptures, which alarm function shall be used in this situation and the required response.

The management protocol shall include:

- the required frequency for the integrity test of the ultrafiltration module (at least 1 time per 3 months).
- Which actions shall be taken if the UF module is not in compliance with the criteria of integrity.
- Which components need to be undergo maintenance with the related time frame.
- All related information from the maintenance program shall be list in the monitoring files.

6.7.2 UV treatment

The management instruction shall include the procedure to verify the failure of the lamp and the degree of contamination of the quartz glass, which alarm function shall be used in this situation and what response is required.

Furthermore, the management instruction shall include:
- replacement of the downstream filters (if installed);
- replacement of the UV-c lamps;
- periodic cleansing of quartz tubes;
- cleansing/replacement of UV sensor.

6.7.3 Photochemical treatment

Preparation

The management instruction shall include the procedure to handle failures and to monitor the degree of contamination, how this is spotted, which alarm function shall be used in this situation and what response is required.

Furthermore, the management instruction shall include information on:
- Ctgb-admission and instructions for use and processing;
- replacement of the downstream filters (if installed);
- replacement of the UV-c lamps;
- periodic cleansing of quartz tubes;
- cleansing of UV-sensor (if applicable).

7 Requirements in respect of the quality system

This chapter contains the requirements which 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 shall 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 him.

The following shall be demonstrably recorded in this IQC scheme:

- which aspects are checked 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 Control 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.
When required the equipment shall be kept calibrated (e.g recalibration at interval).
The status of actual calibration of each equipment shall be demonstrated by traceability through an unique ID.
The supplier shall keep records of the calibration results.
The supplier shall review the validity of measuring data when it is established at calibration that the equipment is not suitable anymore.

7.4 Procedures and working instructions

The supplier shall be able to submit the following:

- procedures for:
  - dealing with products showing deviations;
  - corrective actions to be taken if non-conformities are found;
  - dealing with complaints about products 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 a summary of the following tests and inspections to be carried out in the event of certification:

- **initial investigation:** tests in order to ascertain that all the requirements recorded in the evaluation guideline are met;
- **inspection test:** tests carried out after the certificate has been granted in order to ascertain whether the certified products continue to meet the requirements recorded in the evaluation guideline;
- **inspection of the quality system of the supplier:** monitoring compliance of the IQC scheme and procedures.

8.1 Test matrix

Description of requirement	**Article no. of BRL**	**Tests within the scope of:**		
		Pre-certification	**Inspection by Kiwa after granting of certificate[1]**	
			inspection[2]	**frequency**
Material				
Requirements to avoid deterioration of the quality of drinking water	4.2.1	X	X	
Product requirements				
Alarm function Category A products	**Error! Reference source not found.**	X	X	
Corrosion protection	**Error! Reference source not found.**	X	X	
Connection ends	4.3.2	X	X	
Pre-filters	4.3.3	X	X	
Strength and tightness	**Error! Reference source not found.**	X	X	
Additional requirements per technique	4.3.6	X	X	
Additional requirements	4.3.7	X	X	
Additional product requirements regarding temporary use of PoU without alarm function.	4.3.8	X	X	
Marking				

[1] In case the product or production process changes, it shall be determined whether the performance requirements are still met

[2] All product characteristics that can be determined within the visiting time (maximum 1 day) are determined by the inspector or by the supplier in the presence of the inspector. In case this is not possible, an agreement will be made between the certification body and the supplier about how the inspection will take place. The frequency of inspection visits is defined in chapter 10.6 of this evaluation guideline

Description of requirement	Article no. of BRL	Tests within the scope of:		
		Pre-certification	Inspection by Kiwa after granting of certificate[1]	
			inspection [2]	frequency
General	5.1	X	X	
Compulsory marking	5.2	X	X	
Certification Mark	5.3	X	X	
Additional indications per technique				
MF and UF product	5.4.1	X	X	
Error! Reference source not found.	**Error! Reference source not found.**	X	X	
Photochemical	5.4.3	X	X	
Requirements management instructions for point of entry		X	X	
Application conditions	6.1	X	X	
General information about the physical technique	6.2	X	X	
Installation instructions	6.3	X	X	
Maintenance and operation instructions	6.6	X	X	
Additional requirements per technique	6.7	X	X	

8.2 Inspection of the quality system of the supplier

The quality system of the supplier will be checked by Kiwa on the basis of the IQC scheme.
The inspection contains at least those aspects mentioned in the Kiwa Regulations for Certification.

9 Agreements on the implementation of certification

9.1 General

Beside the requirements included in these evaluation guidelines, the general rules for certification as included in the Kiwa Regulations for Product Certification also apply. These rules are in particular:

- the general rules for conducting the pre-certification tests, in particular:
  - the way suppliers are to be informed about how an application is being handled;
  - how the test are conducted;
  - the decision to be taken as a result of the pre-certification tests.
- the general rules for conducting inspections and the aspects to be audited,
- the measures to be taken by Kiwa in case of Non-Conformities,
- the measures taken by Kiwa in case of improper use of Certificates, Certification Marks, Pictograms and Logos,
- terms for termination of the certificate,
- the possibility to lodge an appeal against decisions of measures taken by Kiwa.

9.2 Certification staff

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

- Certification assessor (**CAS**): in charge of carrying out the pre-certification tests and assessing the inspectors' reports;
- 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 in connection with the inspections carried out and taking decisions on the need to take corrective actions.

9.2.1 Qualification requirements

The qualification requirements consist of:

- qualification requirements for personnel of a certification body which satisfies the requirements EN ISO / IEC 17065, performing certification activities
- qualification requirements for personnel of a certification body performing certification activities set by the Board of Experts for the subject matter of this evaluation guideline

Education and experience of the concerning certification personnel shall be recorded demonstrably.

Basic requirements	**Evaluation criteria**
Knowledge of company processes Requirements for conducting professional audits on products, processes, services, installations, design and management systems.	*Relevant experience: in the field* **SAS, CAS** : 1 year **DM**: 5 years inclusive 1 year with respect to certification Relevant technical knowledge and experience on the level of: **SAS**: High school **CAS, DM** : Bachelor

Basic requirements	Evaluation criteria
Competence for execution of site assessments. Adequate communication skills (e.g. reports, presentation skills and interviewing technique).	**SAS**: Kiwa Audit training or similar and 4 site assessments including 1 autonomic under review.
Execution of initial examination	**CAS**: 3 initial audits under review.
Conducting review	**CAS**: conducting 3 reviews

Technical competences	Evaluation Criteria
Education	**General**: Education in one of the following technical areas: • Civil Enginereing; • Enginering.
Testing skills	**General:** • 1 week laboratory training (general and scheme specific) including measuring techniques and performing tests under supervision ; • Conducting tests (per scheme).
Experience - specific	**CAS** • 2 complete applications (excluding the initial assessment of the production site) under the direction of the **PM** • 1 complete application self-reliant (to be evaluated by **PM**) • 2 initial assessments of the production site under the direction of the **PM** • 1 initial assessment of the production site self-reliant (witnessed by **PM**) **SAS** • 2 inspection visits together with a qualified **SAS** • 1 inspection visits conducted self-reliant (witnessed by **PM**)
Skills in performing witnessing	**PM** Internal training witness testing

Legenda:
- Certification assessor (**CAS**);
- Decision maker (**DM**);
- Product manager (**PM**);
- Site assessor (**SAS**).

9.2.2 Qualification

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 to qualify staff rests with the:
- **PM**: qualification of **CAS** and **SAS**;
- management of the certification body: qualification of **DM**.

9.3 Report 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 his decision on the findings included in the report.

9.4 Decision for granting the certificate

The decision for granting the certificate shall be made by a qualified Decision maker which has not been involved in the pre-certification tests. The decision shall be recorded in a traceable manner.

9.5 Layout of quality declaration

The product certificate shall be in accordance with the model included in the Annex.

9.6 Nature and frequency of third party audits

The certification body shall carry out surveillance audits on site at the supplier at regular intervals to check whether the supplier complies with his obligations. The Board of Experts decides on the frequency of audits.

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 (issued by Kiwa or any other accredited certification body), the frequency is increased to 1 visit 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 two years. 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 audit shall be recorded by Kiwa in a traceable manner in a report.

9.7 Non conformities

When the certification requirements are not met, measures are taken by Kiwa in accordance with the sanctions policy as writen in the Kiwa Regulation for Certification.
The Sanctions Policy is available through the “News and Publications” page on the Kiwa website "Kiwa Regulation for Certification".

9.8 Report to the Board of Experts

De certification body shall report annually about the performed certification activities. In this report the following aspects are included:

- mutations in number of issued certificates (granted/withdrawn);
- number of executed audits in relation to the required minimum;
- results of the inspections;
- required measures for established Non-Conformities;
- received complaints about certified products.

9.9 Interpretation of requirements

The Board of Experts may record the interpretation of requirements of this evaluation guideline in one separate interpretation document.

9.10 Specific rules set by the Board of Experts

By the Board of Experts the following specific rules have been defined. These rules shall be followed by the certification body.

10 Titles of standards

10.1 Public law rules

BJZ2011048144 29 juni 2011	Regeling van de Staatssecretaris van Infrastructuur en Milieu[1]

10.2 Standards / normative documents

Number	Title
BRL6010	Legionellarisicoanalyses en – beheersplannen voor collectieve l leidingwaterinstallaties2
BRL-K14011	Kiwa safety certificate for Technical Water Protection for appliances with contamination risk
BRL-K14032	Reiniging en desinfectie van drink- en warm tapwaterinstallaties3
BRL-K17504	Vulcanised rubber products for cold and hot drinking water applications
BRL-K623	Fittings, couplers and components for soldered and screwed joints in copper pipes
BRL-K639	Compression fittings for joining copper pipes
BRL-K640	Compression fittings incorporated into devices for joining copper pipes in drinking water
BRL-K656	Heat exchangers intended for the indirect heating of drinking water
BRL-K746	Application of coating systems
BRL-K759	Coating systems for drinking water installations
NEN 1006	General requirements for water supply installations
NEN-EN 10226	Pipe threads where pressure tight joints are made on the treads - Part1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation
NEN-EN 1092-1	Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges
NEN-EN 1092-3	Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 3: Copper alloy flanges
NEN-EN 1112	Sanitary tapware - Shower outlets for sanitary tapware for water supply systems of type 1 and type 2 - General technical specification
NEN-EN 13443-2	Water conditioning equipment inside buildings - Mechanical filters - Part 2: Particle rating 1 µm less than 80 µm - Requirements for performance, safety and testing
NEN-EN 14652	Water conditioning equipment inside buildings - Membrane separation devices - Requirements for performance, safety and testing
NEN-EN 14897	Water conditioning equipment inside buildings - Devices using mercury low-pressure ultraviolet radiators - Requirements for performance, safety and testing
NEN-EN 248	Sanitary tapware - General specification for electrodeposited coatings of Ni-Cr
NEN-EN-ISO 11731	Water quality - Enumeration of Legionella
NEN-EN ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection

[1] Valid from 1 July 2017
[2] No English title or version
[3] Idem note 2

NEN-EN ISO/IEC 17021	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 (example)

CERTIFICATE

(Technical-approval-with-)product certificate
KXXXXXX/0X

Issued

Replaces

Page *1 of 1*

Name product

STATEMENT BY KIWA
With this (technical-approval-with-)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 (technical-approval-with-)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 "xxxxxxxxxxxxxxxxxxxxxxxxxxf" dated [dd-mm-yyyy]
inclusive amendment sheet dated dd-mm-yyyy.

Within the framework of this (technical-approval-with-)product certificate Kiwa does not impose any inspections with regard to the production of other parts of the (product), nor the manufacturing of the (product) itself.

Luc Leroy
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

140410

II Model IQC-scheme (example)

Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Raw materials or materials supplied: incoming goods inspection raw materials				
Production process, production equipment, plant: • Procedures • working instructions • equipment • release of product				
Finished-products				
Measuring and testing equipment • measuring equipment • calibration				
Logistics • internal transport • storage • packaging • conservation • traecebility for components and products				