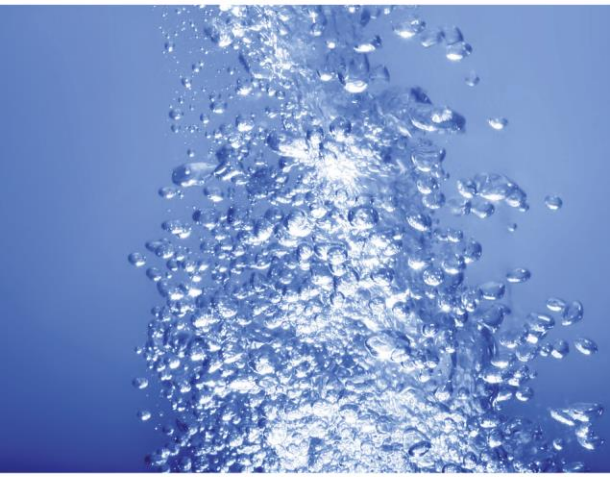
BRL-K645
2019-10-02

Evaluation Guideline

for the Kiwa product certificate for
Water meter brackets



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Preface

This evaluation guideline has been accepted by the Kiwa Board of Experts Watercycle (CWK), in which all relevant parties in the field of Water meter brackets 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 Product Certification.

The main changes compared to the previous version are the editorial modifications in the content of the BRL in relation to the quality objective of Kiwa.

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Validation
This evaluation guideline has been validated by Kiwa on 1 December 2018

Contents

2 Introduction

2.1 General

This evaluation guideline includes all relevant requirements which are adhered to by Kiwa as the basis for the issue and maintenance of a certificate for products used for Water meter brackets.

This guideline replaces the evaluation guideline BRL-K645/03, dated 01-02-2012.
The quality declarations issued and based on that guideline will not lose their validity.

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”.

2.2 Field of application / scope

The products are intended to install water meters according the evaluation guideline BRL-K618. The water meter brackets are intended to used in drinking water installations with a maximum water pressure of 1000 kPa and a maximum temperature 30ºC.

2.3 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 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.

2.4 Quality declaration

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

3 Terms and definitions

3.1 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
- **Drinking water:** water intended or partly intended for drinking, cooking or food preparation or other domestic purposes, but does not include hot water, and is made available by pipeline to consumers or other customers.
- **Drinking water installation:** an installation direct or in-direct connected to the public drinking water distribution network of a drinking water company (source Dutch drinking water act);
- **Evaluation Guideline (BRL)**: the agreements made within the Board of Experts on the subject of certification.
- **Hot tap water:** water intended or partly intended for drinking, cooking or food preparation or other domestic purposes, which is heated before it is made available for those applications.
- **House hold water:** non-potable water that may only be used within premises for flushing toilets (source Dutch drinking water act);
- **Installation:** configuration consisting the pipe work, fittings and appliances;
- **Inspection tests**: 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.
- **IQC scheme (IQCS):** a description of the quality inspections carried out by the supplier as part of his quality system.
- **Pre-certification tests**: tests in order to ascertain that all the requirements recorded in the evaluation guideline are met.
- **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.
- **Product certificate**: a document in which Kiwa declares that a product may, on delivery, be deemed to comply with the product specification recorded in the product certificate.
- **Product requirements**: requirements made specific by means of measures or figures, focussing on (identifiable) characteristics of products and containing a limiting value to be achieved, which can be calculated or measured in an unequivocal manner.

- **Supplier**: the party that is responsible for ensuring that the products meet and continue to meet the requirements on which the certification is based.

- **Pre-certification tests**: tests in order to ascertain that all the requirements recorded in the Evaluation Guideline are met.

- **Tap water** (origin Drinking Water Directive): water intended for drinking, cooking, food preparation or other domestic purposes.

- **Effective pressure (p_e):** the difference between the nominal pressure (p) and the atmospheric pressure (p_{amb}). In formula: $p_e = p - p_{amb}$.
  The pressures are indicated in kPa.

- **Water meter bracket:** is a bracket, including connection fittings and is for use as a support of the Household water meters. The water meters are intended for connection between the connection line and the inhouse installation. We refer to figure 1.

- **Water meter bracket for 1 water meter:** Water meter bracket designed for the installation of one water meter.

- **Water meter bracket for 2 water meters**: Water meter bracket designed for parallel installation of two water meters.

  Remarks
  In household installations some times a second water supply is added, for example grey water or rain water, etc.

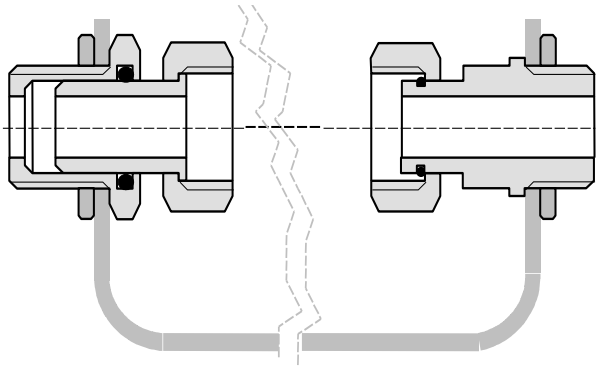

Figure 1
The drawing gives a general description. Other types are also possible.

4 Procedure for granting a product certificate

4.1 Initial investigation

The pre-certification tests 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.

4.2 Granting the product certificate

After finishing the pre-certification tests, the results are presented to the Decision maker (see 10.2) 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.

4.3 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.

4.4 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.

4.5 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 for Kiwa, includes at least:
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.

5 Requirements

5.1 General

This chapter contains the requirements that the Water meter brackets have to fulfil.

5.2 Regulatory requirements

5.2.1 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[1], 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.

5.3 Product requirements

5.3.1 Product

The requirements of the product are specified below.

5.3.2 Corrosion resistance

The materials shall be corrosion resistant or protected against corrosion. The materials used may not have an adverse effect on each other.

5.3.3 Chemical and mechanical requirements

For the parts that are not in contact with drinking water the following is required.

5.3.3.1 Rubber

The manufacturer shall present to the certification institute which rubber compound and type is applied, including the hardness and the dimension of the parts.

5.3.3.2 Metallic protection layers

The following types of layers are permitted:

a. Protection layer of plastic
   The protection layer are to be in accordance with:
   - EN 248 in relation to corrosion resistance;
   - ISO 2409, table 1, Class 0 or 1 in relation to the adhesion.

b. Nickle -chrome protection layers
   Nickle-chrome protection layers are to be in accordance with EN 248.

5.3.3.3 Solder- and solder flux

The solder shall be lead and cadmium free, when in contact with drinking water.

[1] 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.

The solder types shall comply with the actual standards:

- Hard solder, NEN 1113, S-Cu80 AgP or S-Cu93P.
- Hard solder types are to be Phosphorus contained.
- Soft solder, NEN-EN 29453, table 2, alloy number 24 or 29.

The applied soldering flux for soldering shall comply with the Kiwa guideline BRL-K624.

5.3.3.4 Other materials

Materials which are not in contact with drinking water shall be:

- Fit for it's purpose;
- Corrosion resistant;
- Resistance against influence of drinking water;
- In compliance with article 4.2 of this guideline.

5.4 Design and execution

The construction and design of the water meter bracket is free, taking in to account the following.

5.4.1 Application of attachment holes

The holes for the fixation of the bracket shall be designed in such a way that the installation in each and every position is possible.

5.4.2 Adjustability

Parts that are intended for the adjustment of the bracket shall be fixed to the bracket at all times.

5.4.3 Dimensions for pressure surface

The dimensions of the pressure surface for the sealing rings shall comply with the values for the pressure surface on water meters, stipulated in the Kiwa Guideline BRL-K618.

5.4.4 Connection ends

The water meter brackets can be configured with two of the following connection ends:

- internal (female) thread;
- external (male) dread;
- press-, compression- or push-in joints for metal or plastic pipes;
- secured union nut.

5.4.5 Brackets designed for two watermeters

The water meter bracket shall be suitable for the installation of two water meters according to BRL-K618. The free space between the two water meters should be enough to ensure the mounting, demounting and free reading of the water meters.

Note
Upon the date of the preparation of this guideline experience was gathered for the implementation of two water meters. The specific requirements will be included in this guideline, when and if the experience results in the normalization of the specific dimensions.

5.4.6 Threaded connection ends

The brackets with threaded connection ends shall comply with ISO228-1.
The thread length and the total length of the connection end with external thread shall comply with the Kiwa guideline BRL623. Connection ends with external thread shall be configured with wrench flats directly after the threaded end.
Table 1 gives an overview of the applicable thread configurations.

5.4.7 Wrench flats

The height of the wrench flats shall satisfy the minimum values outlined in the evaluation guidelines BRL-K623.

5.4.8 Compression press or push in ends

Connecting ends provided with press-, compression- or push-in joints shall meet the requirements as specified in the Kiwa evaluation guideline BRL-K640.
Table 1 gives the values of the external diameter of the copper pipe to be fitted.

Table1- Configuration of the connection ends

	Threaded connection ends		Thread ends for wrench flats	External diameter of the copper pipes
DN	Internal thread	External thread		mm
15	G ½	G ¾	G ¾	15
20	G ¾	G 1	G 1	22
25	G 1	G 1¼	G 1¼	28
32	G 1¼	G 1½	G 1½	35
40	G 1½	G 2	G 2	42

5.4.9 Installing the watermeter(s)

The bracket shall be equipped with a sliding piece or a fitting, which can move in axial direction
The connection ends for the water meter shall be configured with secured union nut.
The thread configuration shall comply with NEN176, tolerance A according to NEN1141.
The thread length shall comply with the requirements stipulated in BRL-K623.

5.4.10 Thread coupling/ sliding piece

For the surface roughness, the specification of the O-ring supplier should be taken into account.

5.4.11 Seal

If requested by the user, the water meter bracket can be provided with means to seal.

5.5 Functional requirements

5.5.1 Resistance against forces and moments

5.5.1.1 Pressing force of the connection

The bracket shall be capable to withstand a pull out force of 1000 N at the connection end, without loosening, showing leakage and with no signs of damage or distortion. The test should be conducted according to article 6.2.1 of this guideline.

5.5.1.2 Resistance to forces and moments on the end joints

In case the bracket is configured with connection ends suitable for connection to metal pipes, the tests as described in 6.2.2, shall not reveal any leaking, permanent distortion or damage. After concluding the test according to article 6.2.2 the bracket shall comply with the requirements of article 4.4.2 in relation to closure and water tightness.

5.5.1.3 Resistance to external forces

The bracket shall be capable to withstand the forces applied during practical use.
The bracket shall be examined according to article 6.2.3 of the guideline. During and after the examination the bracket shall not show signs of permanent distortion and/or leakage.

5.5.2 Closure and water tightness

The water supply part of the water meter bracket shall show no leakage when tested at a water pressure of 0 kPa up to and including 1600 kPa. The water meter bracket shall not include any special aids.
The examination shall be conducted according to article 6.3,. During the examination no signs of damage or/and leakage shall be visible.

5.5.3 Endurance

The bracket shall be put to an endurance test according to article 6.4 of the guideline.
After the endurance test the bracket shall comply with article 4.4.2 of the guideline.

5.5.4 Additional requirements

5.5.4.1 *Hygienic treatment of products in contact with drinking water*

The supplier must 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’

5.5.4.2 Protection of products during transport and storage

For the purpose of hygienic handling, products shall be protected against contamination. This is in regards to the surfaces of the product that come into contact with drinking water during the application.

Precautions to protect the product against contamination shall be agreed upon between the supplier and the client and shall be recorded in the quality management system of the supplier.

5.5.5 deviating requirements

6 Test methods

6.1 General

6.2 Testing resistance to forces and moments

6.2.1 Determination of the press force of the connection

6.2.1.1 Apparatus

For this test a pull direction is required to which the samples will be tested in axial direction to an equal increasing pull force.

6.2.1.2 Sample

For this test, a water meter bracket furnished with a supply and drain connection, installed on a flat surface with enough strength according to the specifications of the manufacturer is to be provided.
Instead of a water meter a fit piece with equal nominal diameter can be fitted. The sample should be vented. The water pressure is to be measured using a pressure gauge conforming with NEN927.

6.2.1.3 Test conditions

The test shall be conducted at ambient conditions (room temperature 23 ± 2 ºC.)

6.2.1.4 Method

a. vent the installation properly;
b. Apply a water pressure of (1600 ± 50)kPa;
c. Increase gradually the tensile force on the supply pipe up to (1000 ± 50)N within 30 seconds.
d. The test can be discontinued if determined that the supply piping cannot withstand the force.
e. The results of the test proofs compliance to the requirements;
f. Maintain the tensile force during 60 minutes (the tensile force during the test shall remain constant independent of the length of the sample);
g. Repeat the sequence a up to d, in which the tensile force is applied to the counter side of the sample.

6.2.2 Determination of the resistance forces and moments on the connection end

6.2.2.1 Apparatus

To test the resistance of the resistance against forces and moments on the connection end, the water meter bracket shall be installed in a test apparatus in which the required moment can be exerted on the specified part.

6.2.2.2 Sample

For this test it is required that the water meter bracket is fitted in a testing installation, capable of supplying water at the given pressures. Instead of the water meter, a dummy with matching nominal diameter is mounted. The installation should be free of air. The water pressure is to be measured using a pressure gauge conforming with NEN927.
If necessary the connection ends can be fitted auxiliary fittings to enable the required moments to be exerted on the relevant components.

Remarks
For the threaded connection ends which are not configured with wrench flats a test piece with thread end can be applied.

Method

a. Fit one connection end of the test piece with, if possible using an auxiliary fittings on the test installation and fill the installation with water;
b. Close after removing the air out of the installation, the supply side of the sample;
c. Apply to the test piece a water pressure equally and within 15 seconds increasing to (1600 ± 50)kPa and maintain the test pressure;
d. Apply during (60 ± 5) seconds on the free side of the connection end a bending moment with a value as stipulated in table 2;
e. Repeat the test sequence “a” to “d”, on the other connection end
f. Only applicable for brackets for 2 water meters. Repeat sequence “a” to “e” with the connection ends for the 2nd water meter.

Table 2 – test moment forces

DN	Force on the connection ends (Nm)
	Bending
15	70
20	100
25	150
32	150

6.2.3 Determination of the resistance of external forces

a. Install the water meter bracket to a surface with enough rigidness and install a dummy with sufficient strength;
b. Bring to the water supply part a pressure increasing to (1600 ± 50)kPa;
c. Apply to the meter fit piece a moment force of (1000 ± 50) N, perpendicular to the middle, so that both connection ends receives equal force moment;
d. Keep the moment force of point “c” during (300 ± 10) seconds aligned to the installation plane;
e. Keep the moment force of point “c” during (300 ± 10) seconds perpendicular to the installation plane
f. Only for brackets designated for 2 water meters. Repeat “a”to ”e”, in which the meter test piece is mounted to the connection ends of the 2nd water meter.

6.3 Determination of closure and water tightness

a. Install the water meter bracket to a plane, having enough rigidness.
b. Connect the water meter bracket to the installation for which the test can be executed.
c. Flush the water meter bracket with water, and make sure the bracket is air free
d. Apply to the water supply part a pressure increased to (1600 ±50) kPa and keep the applied pressure during (300 ± 10) seconds.

6.4 Determination of endurance

6.4.1 Test piece

For this test a new sample of the water meter bracket is required. On the position of the water meter a dummy is installed with a size equal to that of the water meter to which the bracket is designed for. The supply side of the test piece is closed after being vented.

6.4.2 Test conditions

The test piece shall be able to apply the required pressure jump values, while free hanging in water or air at ambient temperature.
The test piece should be hung in water or air with room temperature, can be subjected to pressure shocks.

6.4.3 Test method

Apply to the test piece a sinusoidal pressure jumps. The lower limit of the pressure jump shall be 100 kPa and the upper level shall be 1500 kPa. Every 60 seconds there shall be 30 pressure jumps conducted. The total amount of pressure jumps executed shall be 10,000 cycles.

7 Marking

7.1 General

The products shall be marked with following indelible marks and indications:

- name or logo of the manufacturer;
- data or code indicating the date of production;
- type indication.
- Nominal diameter

or:

For indications and markings see product standard <…….>

7.2 Certification mark

After concluding a Kiwa certification agreement, the certified products shall be indelible marked with the certification mark:

For products which come in contact with drinking water:

The Kiwa Water Mark "KIWA", or Kiwa.

For minimized marking (small sized products) the KK in a rectangle is permitted.

8 Requirements in respect of the quality system

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

8.1 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.

8.2 Internal quality control/quality plan

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

The following must 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.

8.3 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 must 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.

8.4 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.

8.5 Other requirements

The supplier shall be able to submit the following:

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

9 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.

9.1 Test matrix

Description of requirement	Article BRL	Tests within the scope of	
		Pre-certification	Inspection by Kiwa after granting of certificate [a,b]
Material			
Requirements to avoid deterioration of the quality of the drinking water	**Fout! Verwijzingsbron niet gevonden.**	X	X
Corrosion resistance	5.3.2	X	X
Chemical and mechanical requirements	5.3.3	X	X
Design and execution			
Application attachment holes	5.4.1	X	X
Adjustability	5.4.2	X	X
Dimensions pressure surface	5.4.3	X	X
Connection ends	5.4.4	X	X
Water meter brackets for 2 watermeters	5.4.5	X	X
Threaded connection ends	5.4.6	X	X
Wrench flats	5.4.7	X	X
Compression, press or push in ends	5.4.8	X	X
Installing the water meter	5.4.9	X	X
Thread coupler / slide piece	5.4.10	X	X
Sealing	5.4.11	X	X
Functional requirements			
Resistance against forces and moments	5.5.1	X	X
Closure and water tightness	5.5.2	X	X
Endurance	5.5.3	X	X
Marking			
General	**Fout! Verwijzingsbron niet gevonden.**	X	X
Certification mark	**Fout! Verwijzingsbron niet gevonden.**	X	X

a) In case the product or production process changes significantly, it must be determined whether the performance requirements are still met.

b) 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.

9.2 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 Product Certification.

10 Agreements on the implementation of certification

10.1 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.

10.2 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.

10.2.1 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
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** • 3 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**) • 3 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** • 5 inspection visits together with a qualified **SAS** • 3 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**)

10.2.2 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**.

10.3 Report initial investigation

The certification body records the results of the pre-certification tests 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.

10.4 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.

10.5 Layout of quality declaration

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

10.6 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 1 audit(s) on site per 3 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 2 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 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.

10.7 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".

10.8 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.

10.9 Interpretation of requirements

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

10.10 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.

11 Titles of standards

11.1 Public law rules

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

11.2 Standards / normative documents

Number	Title	Version*
NEN-EN ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection	
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	
DIN 3770	Runddichtringe	
DIN 3771	O-rings	
ISO 286-2	ISO-passingstelsel, standaard tolerantiekwaliteiten en grensmaatafwijkingen voor gaten en assen	
ISO 272	Fasteners; Hexagon products, widths across flats, second edition	
EN 45011	General requirements for certification bodies operating product certification	
EN 248	Sanitary taps: general technical specifications for electrodeposited nickel chrome coatings	
NPR 3637	Surface roughness – guideline for determination of the function between the sample surface and the roughness value	
NEN 1006	General requirements for water supply installations	
BRL-K760	Copper pipes	
BRL-K618	Cold watermeters	
BRL-K623	Plumbing fittings for capillary soldering and/or thread connections to copper tubes	
BRL-K624	Solder flux and tin paste for solder of capillary solder connection of copper and copper alloys.	
Drinking water Decree	Including, technical, hygienic, medical and administrative execution requirements of the drinking water legislation	

*) When no date of issue has been indicated, the latest version of the document is applicable.

11.3 Bibliography

[1] Valid from 1 July 2017

I Model certificate (informative)

CERTIFICATE

Product certificate
Kxxxxx/xx

Issued	*Date*
Replaces	*Kxxxxx/xx*
Page	*1 of 2*

Water meter brackets

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 supplier

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-K645 "Water meter brackets" dated 15.09.2024

Ronald Karel
Kiwa

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

28/07/15

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www.kiwa.nl

Company
Name supplier
Address
Zip code City
Country
Telephone number
email
internet site

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

II Model IQC-scheme (informative)

Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Raw materials or materials supplied: - recipe sheets - 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 - preservation - packaging - identification or marking of semifinished and finished products				