

**BRL-K645/03**  
01-02-2012

# Evaluation guideline

for the Kiwa product certificate for Water meter  
brackets



# Preface

This evaluation guideline has been accepted by the board of experts CWK of Kiwa, in which the parties concerned in the sector Drinkingwater appliances are being represented. This 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. This regulation details the method employed by Kiwa for conducting the necessary investigations prior to issuing the product certificate and the method of external control.

This evaluation guideline is to be assessed by the Board of Experts at least every 5 years, but at the latests before 1<sup>st</sup> of February 2017.

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The use of this evaluation guideline by third parties, for any purpose whatsoever, is only allowed after a written agreement is made with Kiwa to this end.

#### **Validation**

This evaluation guideline has been validated by Kiwa on 1 February 2012

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# 1 Introduction

## 1.1 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 Watermeter brackets.

This evaluation guideline replaces BRL-K645/03 dated 2 June 2000.

For the performance of its certification work, Kiwa is bound to the requirements as included in the clause 4.6 "conditions and procedures for granting, maintaining, extending, suspending and withdrawing certification" of EN45011.

## 1.2 Field of application / scope

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

## 1.3 Acceptance of test reports provided by the supplier

When by the manufacturer reports from test Institutions or laboratories are produced in order to demonstrate that the product meets the requirements of this evaluation guideline, the institute or laboratory shall meet one of the applicable accreditation norms, being;

- NEN-EN-ISO/IEC 17025 for laboratories;
- NEN-EN-ISO/IEC 17020 for inspection bodies;
- NEN-EN 45011 for certification bodies certifying products;

This requirement is being considered to be fulfilled when a certificate of accreditation can be shown, either issued by the Board of Accreditation (RvA) or one of the institutions with which the RvA an agreement of mutual acceptance has been concluded.

The accreditation shall refer to the examination as required in this BRL. When no certificate of accreditation can be shown, Kiwa will verify whether the accreditation norm is fulfilled.

## 1.4 Quality declaration

The quality declarations to be issued by Kiwa are described as Kiwa product certificate. A model of the certificate to be issued on the basis of this Evaluation Guideline has been included as an Annex.

## 2 Terms and definitions

In this evaluation guideline the following terms and definitions are applicable:

**Evaluation Guideline:** the agreements made within the Board of Experts on the subject of certification.

**Board of Experts:** The Board of Experts "CWK".

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

**IQC scheme:** a description of the quality inspections carried out by the supplier as part of his quality system.

**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 limiting value can be calculated or measured in an unequivocal manner.

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

**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.

### Remark

The test matrix contains a summary showing what tests Kiwa will carry out in the pre-certification stage and in the event of inspections as well as showing the frequency with which the inspection tests will be carried out.

**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.

**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.

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

**Watermeter bracket for 1 watermeter:** Watermeter bracket designed for the installation of one watermeter.

**Watermeter bracket for 2 watermeters:** Watermeter bracket designed for parallel installation of two watermeters.

### Remarks

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

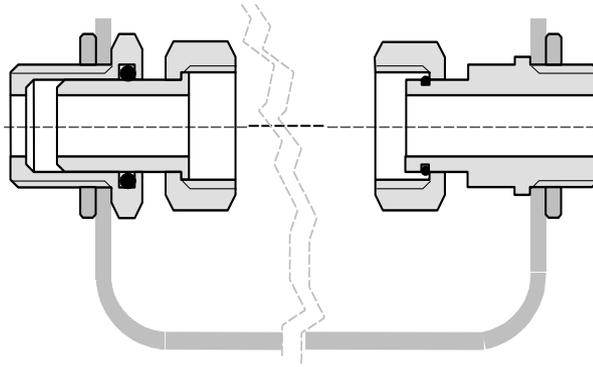


Figure 1  
The drawing gives a general description. Other types are also possible.

# 3 Procedure for granting the quality declaration

## 3.1 Pre certification tests

The pre certification-tests to be performed are based on the (product) requirements as included in this evaluation guideline including the test methods and contain, depending on the nature of the product to be certified:

- 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 procedure

## 3.2 Granting the quality declaration

After finishing the pre-certification tests the results are presented to the person deciding on granting of certificate. This person evaluates the results and decides whether the certificate can be granted or additional data and/or tests are necessary.

# 4 Requirements and test methods

## 4.1 General

This chapter contains the requirements the Watermeter brackets have to fulfil. These requirements will make part of the technical specification of the products, as included in the certificate.

## 4.2 Materials

### 4.2.1 *Requirements to avoid deterioration of the quality of the 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 the toxicological, microbiological and organoleptic requirements as laid down in the valid "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 valid Regulation, has to be concluded with positive results.

Products and materials with a quality declaration\*, 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.

### 4.2.2 *Corrosion resistance*

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

### 4.2.3 *Chemical and mechanical requirements*

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

#### 4.2.3.1 *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.

#### 4.2.3.2 *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.

#### 4.2.3.3 *Solder- and solder flux*

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

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 Phosporus 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.

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\* A quality declaration issued by an independent certification institute in another member state of the European Community than the Netherlands 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.

#### 4.2.3.4 *Other materials*

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

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

### 4.3 **Design and execution**

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

#### 4.3.1 **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.

#### 4.3.2 **Adjustability**

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

#### 4.3.3 **Dimensions for pressure surface**

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

#### 4.3.4 **Connection ends**

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

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

#### 4.3.5 **Brackets designed for two watermeters**

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

#### **Remarks**

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

#### 4.3.6 **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.

#### 4.3.7 **Wrench flats**

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

#### 4.3.8 **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**

DN	Threaded connection ends		Thread ends for wrench flats	External diameter of the copper pipes mm
	Internal thread	External thread		
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

**4.3.9 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 watermeter 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.

**4.3.10 Thread coupling/ sliding piece**

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

**4.3.11 Seal**

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

**4.4 Functional requirements****4.4.1 Resistance against forces and moments****4.4.1.1 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.

**4.4.1.2 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.

**4.4.1.3 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.

#### **4.4.2 Closure and water tightness**

The water supply part of the watermeter bracket shall show no leakage when tested at a water pressure of 0 kPa up to and including 1600 kPa. The watermeter 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.

#### **4.4.3 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 Marking

## 5.1 General

The products have to 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

## 5.2 Certification mark

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

# 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 watermeter 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 watermeter 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  $23 \pm 2$  °C.)

#### 6.2.1.4 Method

- a. vent the installation properly;
- b. Apply a water pressure of  $(1600 \pm 50)$ kPa;
- c. Increase gradually the tensile force on the supply pipe up to  $(1000 \pm 50)$ 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 watermeter 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 watermeter bracket is fitted in a testing installation, capable of supplying water at the given pressures. Instead of the watermeter, 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.

### 6.2.2.3 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  $(1600 \pm 50)$  kPa and maintain the test pressure;
- d. Apply during  $(60 \pm 5)$  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 watermeters. 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 watermeter bracket to a surface with enough rigidity and install a dummy with sufficient strength;
- b. Bring to the water supply part a pressure increasing to  $(1600 \pm 50)$  kPa;
- c. Apply to the meter fit piece a moment force of  $(1000 \pm 50)$  N, perpendicular to the middle, so that both connection ends receives equal force moment;
- d. Keep the moment force of point "c" during  $(300 \pm 10)$  seconds aligned to the installation plane;
- e. Keep the moment force of point "c" during  $(300 \pm 10)$  seconds perpendicular to the installation plane
- f. Only for brackets designated for 2 watermeters. Repeat "a" to "e", in which the meter test piece is mounted to the connection ends of the 2nd watermeter.

### 6.3 Determination of closure and water tightness

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

### 6.4 Determination of endurance

#### 6.4.1 Test piece

For this test a new sample of the watermeter bracket is required. On the position of the watermeter a dummy is installed with a size equal to that of the watermeter 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 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 must have been appointed who is in charge of managing the supplier's quality system.

## 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 must have been demonstrably recorded in this IQC scheme:

- what aspects are checked by the producer;
- 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 included in the addendum.

## 7.3 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 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:

- Pre-certification tests;
- Inspection test as to toxicological requirements and product requirements;
- Inspection of the quality system.

The frequency with which Kiwa will carry out inspection tests is also stated in the summary.

### 8.1 Test matrix

Description of requirement	Article BRL	Tests within the scope of		
		Pre-certification	Supervision by Kiwa after granting of certificate <sup>1)</sup>	frequency (no./year)
		inspection <sup>2)</sup>		
<b>Material</b>				
Toxicological requirements	4.2.1	X	X	2/1
Corrosion resistance	4.2.2	X	X	1/3
Chemical and mechanical requirements	4.2.3	X	X	1/1
<b>Design and execution</b>				
Application attachment holes	4.3.1	X	X	1/3
Adjustability	4.3.2	X	X	1/3
Dimensions pressure surface	4.3.3	X	X	1/3
Connection ends	4.3.4	X	X	1/3
Watermeter brackets for 2 watermeters	4.3.5	X	X	1/3
Threaded connection ends	4.3.6	X	X	1/3
Wrench flats	4.3.7	X	X	1/3
Compression, press or push in ends	4.3.8	X	X	1/3
Installing the watermeter	4.3.9	X	X	1/3
Thread coupler / slide piece	4.3.10	X	X	1/3
Sealing	4.3.11	X	X	1/3
<b>Functional requirements</b>				
Resistance against forces and moments	4.4.1	X	X	1/3
Closure and water tightness	4.4.2	X	X	1/3
Endurance	4.4.3	X	X	1/3
<b>Marking</b>				
General	5.1	X	X	1/1
Certification mark	5.2	X	X	1/1

<sup>1)</sup> In case of significant changes of the product or production process, compliance of the product to the performance requirements shall be determined

<sup>2)</sup> Inspections as indicated are to be conducted by the inspector or by the manufacturer, whether or not in presence of the inspector.

## **8.2 Inspection of the quality system**

The quality system 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.

# 9 Agreements on the implementation of certification

## 9.1 General

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

These rules are in particular

- The general rules for conducting the pre-certification tests, to be distinguished in:
  - the way suppliers are to be informed about 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 directions for conducting inspections and the aspects to be audited,
- The measurements to be taken by Kiwa in case of Non Conformities,
- Measurements 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 measurements taken by Kiwa.

## 9.2 Certification staff

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

- certification experts: they are in charge of carrying out the pre-certification tests and assessing the inspectors' reports;
- inspectors: they are in charge of carrying out external inspections at the supplier's works;
- decision-makers: they are 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 following qualification requirements have been set by the Board of Experts for the subject matter of this Evaluation Guideline:

EN45011	Certification Expert	Inspector	Decision maker
<b>Education - general</b>	<ul style="list-style-type: none"> <li>• Technical higher-level professional education</li> <li>• Internal training certification and Kiwa policy</li> <li>• Training auditing</li> </ul>	<ul style="list-style-type: none"> <li>• Intermediate-level professional education</li> <li>• Internal training certification and Kiwa policy</li> <li>• Training auditing</li> </ul>	<ul style="list-style-type: none"> <li>• Higher level professional education</li> <li>• Internal training certification and Kiwa policy</li> <li>• Training auditing</li> </ul>
<b>Education - specific</b>	<ul style="list-style-type: none"> <li>• for BRL relevant technical education</li> <li>• specific studies and training (know-how and skills)</li> </ul>	<ul style="list-style-type: none"> <li>• for BRL relevant technical education</li> <li>• specific studies and training (know-how and skills)</li> </ul>	<ul style="list-style-type: none"> <li>• not applicable unless specific requirements have been specified by the BoE</li> </ul>
<b>Experience - general</b>	<ul style="list-style-type: none"> <li>• 1 year of relevant work experience with at least 4 pre certification tests of which one carried out independent under supervision.</li> </ul>	<ul style="list-style-type: none"> <li>• 1 year of relevant work experience with at least 4 inspections of which one carried out independent under supervision</li> </ul>	<ul style="list-style-type: none"> <li>• 4 year of relevant work experience with at least 1 year in certification</li> </ul>

EN45011	Certification Expert	Inspector	Decision maker
<b>Experience - specific</b>	<ul style="list-style-type: none"> <li>Detailed knowledge of the BRL and 4 certification tests carried out on the basis of the BRL or one related.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed knowledge of the BRL and 4 inspections carried out on the basis of the BRL or one related.</li> </ul>	<ul style="list-style-type: none"> <li>general knowledge of the BRL</li> </ul>

The level of education and the experience of the certification staff involved should be demonstrably recorded.

### 9.2.2 Qualification

The qualification of the Certification staff shall be demonstrated by means of assessing the education and experience to the requirements mentioned before. In case staff is to be qualified on the basis of deflecting criteria, written records shall be kept.

The authority to qualify staff is dedicated to:

- decision makers: qualification of certification experts and inspectors,
- Management of Kiwa: qualification of decision makers.

### 9.3 Report Pre certification tests

Kiwa records the results of the pre certification tests in a report. This report shall comply with the following requirements:

- completeness: the reports verdicts about all requirements included in the evaluation guideline,
- traceability: the findings on which the verdicts have been based shall be recorded traceable,
- basis for decision: the decision maker 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 traceable.

### 9.5 Lay out of quality declaration

The product certificate shall be conform the model included as an annex

### 9.6 Nature and frequency of external inspections

The certification body shall carry out Audits at the supplier at regular intervals to check whether the supplier complies with his obligations. About the frequency of inspections the Board of Experts decides. At the time this Evaluation Guideline took effect, the frequency was set at number of 2 inspection visits per year.

Inspections shall at least refer to:

- The suppliers IQC-scheme and the results obtained from inspections carried out by the supplier,
- The correct way of marking of certified products
- Complying with required procedures.

The results of each inspection shall be traceable recorded in a report.

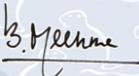
### 9.7 Interpretation of requirements

The Board of Experts may record the interpretation of requirements of these evaluation guidelines in one separate interpretation document.

## 10 Titles of standards

Titles of reference standards and publications:	
Number	Title
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 ISO/IEC 17020	General criteria for the operation of various types of bodies performing inspection
EN ISO/IEC 17021	Conformity assessment – requirements for institutions that execute inspections
EN ISO/IEC 17024	Conformity assessment — General requirements for bodies operating certification of persons
EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
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

# I Model certificate

<b>Certificate</b>	Product certificate <b>KXXXXXXX/OX</b>	 Partner for progress
	Issued	
	Replaces	
	Page	1 of 2
<h2>Watermeter brackets</h2>		
<b>STATEMENT BY KIWA</b> With this product certificate, issued in accordance with the Kiwa Regulations for Product Certification, Kiwa declares that legitimate confidence exists that the products supplied by <b>Name supplier</b> complying with the technical specifications as laid down in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate, on delivery, may be relied upon to comply with Kiwa evaluation guideline BRL-K'', dated 20xx-xx-xx.		
 Bouke Meekma Kiwa		
Publication of the certificate is allowed. Advice: consult <a href="http://www.kiwa.nl">www.kiwa.nl</a> in order to ensure that this certificate is still valid.		
<b>Kiwa Nederland B.V.</b> Sir W. Churchill-laan 273 Postbus 70 2280 AB RIJSWIJK The Netherlands Tel. +31 70 414 44 00 Fax +31 70 414 44 20 E-mail <a href="mailto:info@kiwa.nl">info@kiwa.nl</a> <a href="http://www.kiwa.nl">www.kiwa.nl</a>	<b>Supplier</b>	<b>Certification process consists of initial and regular inspection of:</b> <ul style="list-style-type: none"><li>• quality system</li><li>• product</li></ul>

## II Model IQC-scheme

Subjects	Aspects	Method	Frequency	Registration
Raw materials or materials supplied: <ul style="list-style-type: none"> <li>• Recipe sheets</li> <li>• Incoming inspection raw materials</li> </ul>				
Production process, production equipment, material: <ul style="list-style-type: none"> <li>• procedures</li> <li>• work instructions</li> <li>• equipment</li> <li>• release of product</li> </ul>				
Finished-products				
Measuring and testing equipment <ul style="list-style-type: none"> <li>• measuring equipment</li> <li>• calibration</li> </ul>				
Logistics <ul style="list-style-type: none"> <li>• internal transport</li> <li>• storage</li> <li>• preservation</li> <li>• packaging</li> <li>• identification or marking of semifinished and finished products</li> </ul>				