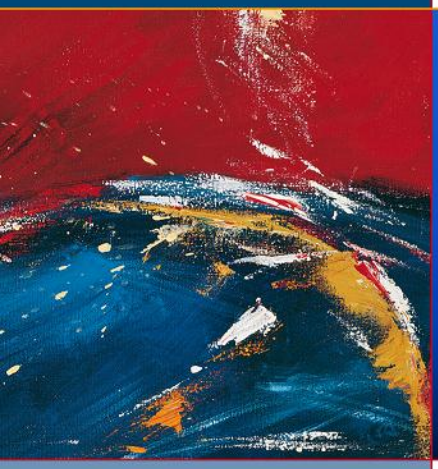
BRL-K669/02
01-02-2012

Evaluation guideline

for the Kiwa product certificate for Sanitary Tapware “Automatic shut-off (mixing)valves”



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 February 2017.

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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 Automatic shut-off (mixing)valves.

This evaluation guideline replaces BRL-K669/01, dated 12 January 1999.

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 Automatic shut-off (mixing)valves are intended for application in drinking water installations with a static water pressure of maximum 1000 kPa and a maximum water temperature of 90°C.

The recommended limits for correct operation are a dynamic pressure between 100 kPa and 500 kPa and a water temperature of maximum 65°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.

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, de pending 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 Automatic shut-off (mixing)valves have to fulfil. These requirements will make part of the technical specification of the products, as included in the certificate.

4.2 Product requirements and test methods

The requirements the product shall meet, with the exception of those included in article 4.4 and 4.4, have been laid down in the following standard:

EN 816 "Sanitary tapware – automatic shut-off valves (PN 10)"

4.3 Materials

4.3.1 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.

4.3.2 Chemical and mechanical requirements

4.3.2.1 Zinc-aluminium alloys

Zinc-aluminium alloys may only be used for control handles and shall be provided with a corrosion resistant protection layer. When this is a metallic protection layer it shall comply with the requirements stated in EN248.

4.3.2.2 Plastic coatings

The thickness of the layer shall be at least 25 μm. After a test according to 6.1 the coating shall meet;

- EN 248, article 7.1.1. in relation to the corrosion resistance,
- ISO 2409, table 1, class 0 or 1 for the adhesion.

4.3.2.3 Rubber

Rubber shall comply with the requirements of BRL-K17504 in respect of the influence on drinking water and the physical and mechanical aspects.
For sealing elements such discs or membranes, made of rubber, the BRL-K17504 does not apply.
Natural rubber (NR) and isoprene rubber (IR) are not allowed.

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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 recognised 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.

4.3.2.4 Corrosion resistance

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

4.3.2.5 Heat resistance

The materials as applied shall be resistant against water with a maximum temperature of 90°C.

4.4 Additional requirements

In addition to what has been mentioned in 4.2 the following applies.

4.4.1 Flexible connecting hoses

Flexible connecting hoses shall be in accordance with Kiwa evaluation guideline BRL-K622, with the exception of the requirements for dimensions and connecting ends.
Threaded connecting ends to the mixer body shall be conform international standards.

4.4.2 Aerators

Aerators shall comply with the Kiwa evaluation guideline BRL-K617.

4.4.3 Swivel spout

Valves provided with a swivel spout shall comply with the mechanical endurance test as described in clause 12.3 of the EN200. During the test the valve shall be installed in such a way that is will not close after being opened.

5 Marking

5.1 General

The products have to be marked with following indelible marks and indications:

- name or logo of the manufacturer,
- hydraulic class,
- acoustic group, if applicable

5.2 Certification mark

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

The packaging may be provided with the following mark

6 Test methods

6.1 Determination of the adherence and the durability of plastic coatings

6.1.1 Test installation and appliances

For the determination of the adherence and the durability of the plastic coating, first the test pieces have to be conditioned in a bath of which the water is automatically maintained at the temperature required.
The appliances used for the determination of the adherence are to be according to ISO 2409.

6.1.2 Test piece

At least two mixer bodies or two control elements, but the number of test pieces must be such that the surface to be tested is at least 10 000 mm².

6.1.3 Test requirements

During the conditioning of the test pieces:

- the water in the bath shall be 90 ± 3°C:
- the ambient temperature shall be 20 ± 10°C.

6.1.4 Procedure

a. Put the test pieces in the water bath for 1 hour.
b. Cool the test pieces down to ambient temperature.
c. Determine the adherence of one test piece according to NEN 5337-6.2.
d. with the remaining test pieces it is to be determined whether they comply with EN 248.

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	Tests within the scope of		
		Pre-certification	Supervision by Kiwa after granting of certificate[1)]	
			inspection[2)]	frequency (no./year)
Material	**BRL-K669**			
toxicological requirements	4.3.1	X	X	2
chemical and mechanical requirements	4.3.2	X	X	2
Design	**EN 816**			
marking and identification	5	X	X	1
dimensions	8	X	X	1
Functional requirements	**EN 816**			
protection against pollution	7	X	X	1
leak tightness characteristics	9	X	X	1
pressure resistance characteristics	10	X	X	1
hydraulic characteristics	11	X	X	1
mechanical properties	12	X	X	1
mechanical endurance or wear resistance characteristics	13	X	X	1
acoustic characteristics	14	X	X	1/3 year
Additional requirements	**BRL-K669**			
flexible connecting hoses	4.4.1	X	X	2
aerators	4.4.2	X	X	2
swivel spout	4.4.3	X	X	2
Marking	**BRL-K669**			
general	5.1	X	X	2
certification mark	5.2	X	X	2

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

2) 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
Education - general	• Technical higher-level professional education • Internal training certification and Kiwa policy • Training auditing	• Intermediate-level professional education • Internal training certification and Kiwa policy • Training auditing	• Higher level professional education • Internal training certification and Kiwa policy • Training auditing
Education - specific	• for BRL relevant technical education • specific studies and training (know-how and skills)	• for BRL relevant technical education • specific studies and training (know-how and skills)	• not applicable unless specific requirements have been specified by the BoE
Experience - general	• 1 year of relevant work experience with at least 4 pre certification tests of which one carried out independent under supervision.	• 1 year of relevant work experience with at least 4 inspections of which one carried out independent under supervision	• 4 year of relevant work experience with at least 1 year in certification

EN45011	Certification Expert	Inspector	Decision maker
Experience - specific	• Detailed knowledge of the BRL and 4 certification tests carried out on the basis of the BRL or one related.	• Detailed knowledge of the BRL and 4 inspections carried out on the basis of the BRL or one related.	• general knowledge of the BRL

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

Number	Title
EN200	Sanitary tapware – Single taps and mixing taps (PN 10) - General technical specifications, July 2008
EN 248	Sanitary tapware. General technical specifications for electrodeposited nickel chrome coatings
EN 816	Sanitary tapware – automatic shut-off valves (PN 10)
ISO 2409	Paints and varnishes. Cross cut test
BRL-K617	Aerators
BRL-K622	Flexible connecting hoses

I Model certificate

Certificate

Product certificate
KXXXXXX/0X

kiwa
Partner for progress

Issued

Replaces

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Sanitary Tapware “Automatic shut-off (mixing)valves”

STATEMENT BY KIWA
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

Name supplier

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-K669/02 “Sanitary Tapware “Automatic shut-off (mixing)valves”.

B. Meekma

Bouke Meekma
Kiwa

Publication of the certificate is allowed.

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

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Supplier

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

II Model IQC-scheme

Subjects	Aspects	Method	Frequency	Registration
Raw materials or materials supplied: • Recipe sheets • Incoming inspection raw materials				
Production process, production equipment, material: • procedures • work 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				