

**BRL-K620**

2019-09-15

# Evaluation Guideline

for the Kiwa product certificate for  
Flushing cisterns



**Trust  
Quality  
Progress**

# Preface

This evaluation guideline has been accepted by the Kiwa Board of Experts Watercycle (CWK), in which all relevant parties in the field of Flushing cisterns 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 evaluation guideline are:

- Related to the publication of the European Standard EN 997:2018 because of a revision on the Annex ZA in the format of TF N 687 rev1 of 2015-06-02 was implemented.
- Exclusion of the determination of the flow rate for interrupted flush systems.
- Use of other methods to determine the renewal of the water trap.
- Editorial modifications in the content of the BRL in relation to the quality objective of Kiwa.

## **Kiwa Nederland B.V.**

Sir Winston Churchillaan 273

P.O. Box 70

2280 AB RIJSWIJK

The Netherlands

Tel. +31 88 998 44 00

Fax +31 88 998 44 20

info@kiwa.nl

www.kiwa.nl

© 2019 Kiwa N.V.

All rights reserved. No part of this report may be reproduced, stored in a database or retrieval system, or published, in any form or in any way, electronically, mechanically, by print, photoprint, microfilm or any other means without prior written permission from the publisher.

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 the Director Certification and Inspection of Kiwa on 1 December 2018

# Contents

	<b>Preface</b>	<b>1</b>
	<b>Contents</b>	<b>2</b>
<b>1</b>	<b>Introduction</b>	<b>5</b>
1.1	General	5
1.2	Field of application / scope	5
1.3	Acceptance of test reports provided by the supplier	5
1.4	Quality declaration	6
<b>2</b>	<b>Terms and definitions</b>	<b>7</b>
2.1	Definitions	7
2.2	Types	9
2.3	Designation	9
<b>3</b>	<b>Procedure for granting a product certificate</b>	<b>11</b>
3.1	Initial investigation	11
3.2	Granting the product certificate	11
3.3	Investigation into the product and/or performance requirements	11
3.4	Production process assessment	11
3.5	Contract assessment	11
<b>4</b>	<b>Requirements</b>	<b>12</b>
4.1	General	12
4.2	Regulatory requirements	12
4.2.1	Requirements to avoid deterioration of the quality of drinking water	12
4.3	Product requirements	12
4.3.1	Product	12
4.3.2	Additional requirements	12
4.3.2.1	Hygienic treatment of products in contact with drinking water	12
4.3.2.2	Protection of products during transport and storage	13
4.3.2.3	Materials	13
4.3.2.4	Crystal porcelain and glaze	13
4.3.2.5	Rubber	13
4.3.3	Waterline	13
4.3.4	Flow rate	13
4.3.4.1	Flow rate class 1 flushing cisterns	13
4.3.4.2	Flow rate class 3 flushing cisterns	14
4.3.4.3	Items affecting	14
4.3.5	Float operated valves	14
4.3.6	Cover	15
4.3.7	Flush pipes	15
4.3.8	Holes and openings	15

4.3.9	Water supply connection	15
4.3.10	Closing mechanism	15
4.3.10.1	Siphonic systems	15
4.3.11	Inspection hatch concealed cisterns	15
4.3.11.1	Heat resistance of concealed cisterns	15
4.3.12	Fixing and fixing means	16
4.3.12.1	Fixing means	<b>Error! Bookmark not defined.</b>
4.3.13	Finish	16
4.3.14	Delivery	16
4.3.15	Deviating requirements	<b>Error! Bookmark not defined.</b>
Types	<b>Error! Bookmark not defined.</b>	
<b>5</b>	<b>Test methods</b>	<b>17</b>
5.1	Determination of the flow rate	17
5.1.1	Apparatus	17
5.1.2	Sample	17
5.1.3	Procedure	17
5.1.4	Determination of the heat resistance of the concealed flushing cisterns	17
5.1.5	Apparatus	17
5.1.6	Sample	17
5.1.7	Procedure	17
<b>6</b>	<b>Marking</b>	<b>18</b>
6.1	General	18
6.1.1	Certification mark	18
6.1.2	Indication mark for flushing cistern with a low water consumption	18
<b>7</b>	<b>Requirements in respect of the quality system</b>	<b>19</b>
7.1	Manager of the quality system	19
7.2	Internal quality control/quality plan	19
7.3	Control of test and measuring equipment	19
7.4	Procedures and working instructions	19
7.5	Other requirements	19
<b>8</b>	<b>Summary of tests and inspections</b>	<b>20</b>
8.1	Test matrix	20
8.2	Inspection of the quality system of the supplier	21
<b>9</b>	<b>Agreements on the implementation of certification</b>	<b>22</b>
9.1	General	22
9.2	Certification staff	22
9.2.1	Qualification requirements	22
9.2.2	Qualification	23
9.3	Report initial investigation	24
9.4	Decision for granting the certificate	24
9.5	Layout of quality declaration	24
9.6	Nature and frequency of third party audits	24
9.7	Non conformities	25

9.8	Report to the Board of Experts	25
9.9	Interpretation of requirements	25
9.10	Specific rules set by the Board of Experts	25
<b>10</b>	<b>Titles of standards</b>	<b>26</b>
10.1	Public law rules	26
10.2	Standards / normative documents	26
<b>I</b>	<b>Model certificate (informative)</b>	<b>27</b>
<b>II</b>	<b>Model IQC-scheme (informative)</b>	<b>28</b>

# 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 products used for Flushing cisterns..

This guideline replaces the evaluation guideline BRL-K620-06, dated 22-09-2014. 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”.

## 1.2 Field of application / scope

The products are intended to be applied as a flushing device for WC-pans.

The flushing cisterns in combination with a matching WC-pan is designed to be used as a sanitary flushing installation with a nominal flush volume as specified in table 1.

Table 1: overview flush volumes

Nominal flush volume [litres]	Flush volume [litres]			
	Full flush		Interrupted flush	
	minimum	maximum	minimum	maximum
9.0	8.5	9.0	3.0	4.5
7.0	7.0	7.5	3.0	4.0
6.0	6.0	6.5	3.0	4.0
5.0	4.5	5.5	3.0	4.0
4.0	4.0	4.5	2.0	3.0

The cisterns are designed for drinking water installations with a maximum water temperature of 30 °C and a maximum working pressure of 1000 kPa.

## 1.3 Acceptance of test reports provided by the supplier

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

- NEN-EN-ISO/IEC 17020 for inspection bodies;
- NEN-EN-ISO/IEC 17021 for certification bodies certifying systems;
- NEN-EN-ISO/IEC 17024 for certification bodies certifying persons;
- NEN-EN-ISO/IEC 17025 for laboratories;
- NEN-EN-ISO/IEC 17065 for certification bodies certifying products.

### Remark:

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

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

#### **1.4 Quality declaration**

The quality declaration to be issued by Kiwa is described as a Kiwa product certificate.

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

## 2 Terms and definitions

### 2.1 Definitions

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

- **Board of Experts:** the Board of Experts “Water Cycle” (CWK).
- **Certification mark:** a protected trademark of which the authorization of the use is granted by Kiwa, to the supplier whose products can be considered to comply on delivery with the applicable requirements and possibly with quality information on the application of the product is added by a specially designed label which is based on the result, as stated in the report issued by Kiwa on the inspection of the prototype.
- **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.
- **Tap water** (origin Drinking Water Directive NEN 1006): water intended for drinking, cooking, food preparation or other domestic purposes.
- **Working pressure ( $p_w$ ):** The maximum pressure occurring under normal circumstances in drinking water installations or their parts.
- **Effective pressure ( $p_e$ ):** The difference between absolute pressure ( $p$ ) and ambient pressure ( $p_{amb}$ )
- The formula:  $p_e = p - p_{amb}$ .
- **Service pressure:** The pressure directly before the connection point of an appliance in use.
- **Flush volume:** The volume of water which is flushed on operation of the cistern. During delivery of the water volume, no refilling occurs.
- **Complete flush (full flush):** A flush in which the entire water volume is delivered on operation of the cistern.
- **Interrupted flush:** A flush in which, on operation of the cistern, the delivery is interrupted so that a smaller water volume than the complete flush volume is delivered.
- **High level cisterns:** A cistern that is connected to a flush pipe having a length of at least 1.5 m above the WC-pan to be flushed.
- **Low level cisterns:** A cistern connected to a flush pipe having a length of at least 0.5 m above the WC-pan to be flushed.
- **Concealed flushing cistern:** Concealed cisterns which are intended for mounting in or behind walls, or integrated in so-called pre-fabricated building elements.
- **Float operated valve (inlet valve):** Flow control device, through which a flushing cistern is filled after flushing to a pre-set water level. The objective of the float operated valve is to open directly after the cistern is flushed and to close to water inlet directly after the required water level in the cistern is reached.
- **Drinking water**  
Water designated to be used for drinking, cooking or preparation of meals or other household use, with the exception of warm tap water, which is provided through transport pipes to consumers and other designations.

## 2.2 Types

The following types of flushing cisterns are available. This dependent on the manner, in which the cistern is connected to the WC-pan.

differentiated as follows:

- high level cisterns;
- low level cisterns;
- concealed flushing cistern.

## 2.3 Designation

WC-pans in this BRL-K are designated by there:

Use of water:

- Flushing cisterns with a nominal flushing volume of 4 Litres <sup>1</sup>.
- Flushing cisterns with a nominal flushing volume of 5 Litres <sup>1</sup>.
- Flushing cisterns with a nominal flushing volume of 6 Litres.
- Flushing cisterns with a nominal flushing volume of 7 Litres.
- Flushing cisterns with a nominal flushing volume of 9 Litres.

The way of mounting:

- Flushing cisterns for wall mounting;
- Concealed flushing cistern with or without metal frame for installation in building elements;

Classification

In general classes are defined and the mentioned classes are divided in types in relation the flush volume:

- Type 1** : Flushing cistern tested and designated to be used in combination with a WC-pan (according to BRL-K619) at a nominal flush volume according to article 3 of the European Standard EN 14055.
- Type 2** : Flushing cisterns designated to be used with a matching WC-pan, which are deemed to comply with the legal, market requirements and application in the United Kingdom.
- Type 3** : Flushing cistern for use in combination with an urinal tested with and for use at a nominal flush volume < 5 litres according to article 7 of the European Standard EN 14055.

The classes are then categorised on the basis of type and nominal flush volume to be used.

**Note**

Designated Type 2 products are referred to in the Kiwa guideline BRL-K621 "Close coupled suites".

---

<sup>1</sup> See remarks

*Remarks*

The Dutch law has no binding law describing the class and types of Flushing cisterns, however there are regulations stipulated by law for drainage systems inside buildings. In the Dutch Building Regulations reference is given to the NEN 3215 “*Drainage systems inside buildings – Requirements and determination methods*” in which clause 4.1.7 is specified that:

*For a good function of the drainage systems inside buildings the use of a flush volume of at least 6 litres is required.*

At the moment of publication of the EN 14055 is the use of flush volume less than 6 litres not advised, unless it is proven that no problems occur to the drainage system when using of a less flush volume.

The Dutch sewage system is not designed for the application and use of ceramic sanitary appliances using a flush volume less than 6 litres. Without adapted measures the use of less flush volumes can cause problems to the sewage waste systems.

# 3 Procedure for granting a product certificate

## 3.1 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.

## 3.2 Granting the product certificate

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

## 3.3 Investigation into the product and/or performance requirements

Kiwa will investigate the to be certified products against the certification requirements as stated in the certification requirements.

The necessary samples will be drawn by or on behalf of Kiwa.

## 3.4 Production process assessment

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

The assessment also includes at least:

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

## 3.5 Contract 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.

# 4 Requirements

## 4.1 General

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

## 4.2 Regulatory requirements

### 4.2.1 *Requirements to avoid deterioration of the quality of drinking water*

Products and materials which (may) come into contact with drinking water or warm tap water, shall not release substances in quantities which can be harmful to the health of the consumer, or negatively affect the quality of the drinking water. Therefore, the products or materials shall meet toxicological, microbiological and organoleptic requirements as laid down in the currently applicable "Ministerial Regulation materials and chemicals drinking water and warm tap water supply", (published in the Government Gazette). Consequently, the procedure for obtaining a recognised quality declaration, as specified in the currently effective Regulation, has to be concluded with positive results.

Products and materials with a quality declaration<sup>1</sup>, 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.

Minister has declared this quality declaration equivalent to the quality declaration as meant in the Regulation.

## 4.3 Product requirements

The requirements of the product are specified in:

EN 14055      WC and urinal flushing cisterns

### 4.3.1 *Product*

The requirements of the product are specified in standard EN14055 with exception of the aspects where requirements are specified in clause 4.3.2 and 4.3.3.

### 4.3.2 *Additional requirements*

#### 4.3.2.1 *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

---

<sup>1</sup> 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.

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'.

#### 4.3.2.2 *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.

### 4.3.3 **Deviating requirements**

#### 4.3.3.1 *Materials*

Cisterns shall be manufactured from crystal porcelain or plastic. The visible portion of the crystal porcelain cistern must be glazed.

Other materials than specified can be used; these however shall comply with following requirement:

- be of at least comparable quality;
- be corrosion proof or be protected against corrosion;
- not give rise to Electro-chemical corrosion (contact corrosion);
- be impervious to water.

#### 4.3.3.2 *Crystal porcelain and glaze*

Crystal porcelain and glaze shall satisfy the requirements for resistance of the glaze as specified in KIWA evaluation guideline BRL-K 619 "WC-pans".

#### 4.3.3.3 *Rubber*

Within the scope of this evaluation guideline the choice is free for which type of material for the seal mechanism is to be used. With the exception of Natural rubber (NR) and isoprene rubber (IR), which is not permitted.

The material chosen for the seal mechanism shall be suitable for the intended purpose.

The design, the type of material selected and the construction shall be such that, with regard to the type of application, a good (non-leaking) sealing under normal circumstances is assured.

#### 4.3.3.4 *Waterline*

The cistern has to be provided with a clearly visible, irremovable waterline.

The highest indicated waterline shall be at least 20 mm below the over flow level.

The flush volume resulting from the indicated waterline must meet the values given in EN14055. Besides the highest indicated waterline other waterlines are permissible.

#### 4.3.3.5 *Flow rate*

The flow rates of the flushing cistern shall be determined for each delivered flush pipe. The flush rate is determined at all flush volumes.

##### (a) *Flow rate class 1 flushing cisterns*

The flushing cistern shall meet the flow rate values as specified in table 4 of the European Standard EN14055. In addition to the requirements outlined in EN14055 clause 5.2.3 the required flow rates for the following types of cisterns and must comply with the following.

*Flushing cistern with a nominal flush volume of 4 and 5 litres*

The volume flow of the delivered water from the cistern shall reach at least 2.0 l/s within 1 second of operation of the flush.

With a complete flush, the volume flow shall remain at the minimum required flow level for at least 1.0 seconds after initiation of the flush without the supply of additional water to the cistern. This to be established according to clause 6.1.

*Flushing cistern with a nominal flush volume of 6 litres*

The volume flow of the delivered water from the cistern shall reach at least 2.0 l/s within 1 second of operation of the flush.

With a complete flush, the volume flow shall remain at the minimum required flow level for at least 1.5 seconds after initiation of the flush without the supply of additional water to the cistern. This to be established according to clause 5.1.

*Flushing cisterns with a nominal flush volume of 7 and 9 litres*

The volume flow of the delivered water from cistern shall reach at least 2.0 l/s within 1.5 seconds of operation of the flush.

With a complete flush, the volume flow shall remain at the minimum required flow level for at least 2 seconds after initiation of the flush, without the supply of additional water to the cistern.

At a full flush sequence shall the flow rate of the flushing cisterns with a nominal:

- Flush volume of 7 litres remain at the minimum required flow rate for at least 2 seconds after initiation of the flush, without the supply of additional water to the cistern.
- Flush volume of 9 litres remain at the minimum required flow level for at least 2.5 seconds after initiation of the flush, without the supply of additional water to the cistern.

This to be established according to clause 5.1.

*High level Flushing cisterns with a flush volume of 7 to 9 litres*

The flow rate of the delivered water from cistern shall reach at least 2.0 l/s within 1.5 seconds of operation of the flush.

With a complete flush, the volume flow shall remain at the minimum required flow level for at least

2 seconds after initiation of the flush, without the supply of additional water to the cistern.

This to be established according to clause 5.1.

*(b) Flow rate class 3 flushing cisterns*

The flow rate of the class 3 flushing cisterns shall comply with the clause 5.2.3 of EN 14055.

**4.3.3.6** *Items affecting*

Components that are supplied loose and components which are not an integral part of the cistern, and whose purpose is to affect the volume flow, are not permitted.

**4.3.3.7** *Float operated valves*

Float valves shall satisfy Kiwa Evaluation guideline BRL K 615 "Float operated valves for cisterns".

It shall be possible to install the float operated valve, without causing difficulty in functioning of the flush mechanism. It shall be possible to adjust the shut off level of the float operated valve to all indicated waterlines of the cistern.

#### 4.3.3.8 Cover

Low level cisterns shall be provided with a cover, which attaches in an efficient manner to the cistern.

#### 4.3.3.9 Flush pipes

The matching flush pipe(s) shall be delivered with the flushing cistern. Also the flush pipes for which the dimension or the method of installation differs from what is required in EN14055.

#### 4.3.3.10 Holes and openings

With the exception of the overflow device, other holes and openings shall be positioned at such a height that, with a water level, which is 20 mm above overflow level, no leakage occurs from the cistern. This requirement also applies to the holes needed for the fitting of float operated valves.

#### 4.3.3.11 Water supply connection

The portion of pipe upstream of the float operated valve may come into direct contact with the water in the cistern. The part of the supply piping upstream of the float operated valve however shall:

- not contain any detachable joints on that part, which passes through the water in the cisterns;
- be made of a material, which guarantees a durable protection against the impact of the water in the cisterns;
- A flexible connecting hose upstream of the float operated valve that is in compliance with the Kiwa guideline BRL-K622. The flexible hose may not come in contact with the water in the cistern or be submerged in the water in the cistern;

The use of a connecting cock is permissible if the connecting cock complies with the Kiwa guideline BRL-K604.

#### 4.3.3.12 Closing mechanism

After the complete flush operation of the cisterns, the seal mechanism shall close within 4 seconds of the volume flow finishing.

#### 4.3.3.13 Siphonic systems

The initiation of the flush of cisterns, in which the sealing mechanism is made as a siphon system, must still be operable with a water level, which is 30 mm below the waterline.

#### 4.3.3.14 Inspection hatch concealed cisterns

The concealed cistern shall be furnished with an inspection hatch. This hatch shall be suitable placed and of sufficient size to allow necessary replacements or repairing of parts inside the cistern.

#### 4.3.3.15 Heat resistance of concealed cisterns

In order to judge the heat resistance of concealed cisterns a test shall be executed according to clause 5.2. After this test the good functioning of the cisterns shall show no change.

#### **Note**

*This requirement with respect to the heat resistance is a necessity while concealed cisterns often are mounted in building elements. It is known that these elements are made up of materials which need a thermal process for speeding up the setting or drying. Also during the setting of concrete walls the temperature could rise considerably with respect to the ambient temperature.*



#### 4.3.3.16 *Fixing means*

Flushing cisterns shall be delivered with suitable provisions for wall mounting. If applicable, cisterns must be provided with a fixing construction for the fitting of a flush pipe. All the required fixing items shall be delivered together with the cistern.

Integral flushing cisterns must be furnished with fixing means for connecting the cistern to the WC-pan. Before final attachment of the cistern to the WC-pan takes place, it shall be possible to connect to the cisterns these fixing means on a watertight manner.

After fixing, the connection between cisterns and WC-pans shall be watertight and free of play. The necessary materials must be delivered together the product. The use of sealing kit is not permitted.

#### 4.3.3.17 *Finish*

Flushing cisterns and associated components must be sound, smooth, well cleaned and free from burrs.

#### 4.3.3.18 *Delivery*

The flushing cistern shall be delivered together with the matching flush pipe(s). By delivery cisterns shall be fitted with a seal mechanism.

# 5 Test methods

## 5.1 Determination of the flow rate

### 5.1.1 Apparatus

For the determination of the flow rate of the flushing cistern a test specification is required as specified in EN14055.

### 5.1.2 Sample

For this, a complete cistern (with float valve fitted) is required together with the applicable flush pipe. In the case of a cistern being delivered with components which can be built in, changed or fitted in another manner such that a cistern can be produced with interrupted flush potential, or in such a way that a cistern can be produced in which an interrupted flush potential is no longer present, then for this definition, all versions are required.

### 5.1.3 Procedure

1. Mount the cistern horizontally.
2. Fill the cistern up to the highest waterline and operate the cistern
3. Refill the cistern up to the applicable waterline and record the volume of water necessary for this.

## 5.2 Determination of the heat resistance of the concealed flushing cisterns

### 5.2.1 Apparatus

For this a tank is required filled with water of  $60 \pm 2$  °C.

The tank shall be deep enough to allow complete submerging of the cistern in an upright position and wide enough to prevent the cistern touching the floor or the walls of the tank.

### 5.2.2 Sample

For this, a complete cistern (with float valve fitted) is required together with the applicable flush pipe.

### 5.2.3 Procedure

1. Place the cistern in its frame in the tank for 15 minutes as follows.
  - a) completely submerged in water of  $60 \pm 2$  °C.
  - b) free from the walls and floor of the tank and in an upright position.
2. After 15 minutes remove the cistern and let it cool off in ambient temperature.
3. Establish the good functioning and judge visually if no deformations have occurred.

# 6 Marking

## 6.1 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.

or:

For indications and markings see product standard EN14055

### 6.1.1 Certification mark

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

### 6.1.2 Indication mark for flushing cistern with a low water consumption

Flushing cisterns provided with an interrupted flushing device and cisterns with a flush volume of  $\leq 6$  litres as indicated by the highest waterline, may be marked in relation to this evaluation guideline as "Low water consumption"-Cisterns. This indication mark (sticker lay out) also may be attached to the packaging of the cistern.



# 7 Requirements in respect of the quality system

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

## 7.1 Manager of the quality system

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

## 7.2 Internal quality control/quality plan

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

## 7.3 Control of test and measuring equipment

The supplier shall verify the availability of necessary test and measuring equipment for demonstrating product conformity with the requirements in this evaluation guideline.

When required the equipment shall be kept calibrated ( e.g recalibration at interval).

The status of actual calibration of each equipment shall be demonstrated by traceability through an unique ID.

The supplier 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.

## 7.4 Procedures and working instructions

The supplier shall be able to submit the following:

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

## 7.5 Other requirements

The supplier shall be able to submit the following:

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

## 8 Summary of tests and inspections

This chapter contains a summary of the following tests and inspections to be carried out in the event of certification:

- **Pre-certification tests;** The assessment to verify if all requirements of the BRL is met;
- **Inspection test;** The audit after granting certificate in order to verify if the certified products shows continuous compliance to the requirements of the BRL; Also is indicated to which frequency the surveillance audit is be conducted by the Certification Institute;
- **Inspection of the quality system of the supplier;** Verification of compliance with the IQC scheme and procedures.

### 8.1 Test matrix

Description of requirement	Article no. EN14055	Tests within the scope of	
		Pre-certification	Inspection by Kiwa after granting of certificate <sup>1), 2)</sup>
<b>Design</b>			
Design and execution	5.1	X	
<b>Hydraulic and mechanical characteristics</b>			
Flush volume	5.2.1	X	X
Water saving devices	5.2.2	X	X
Flush rate and impact force	5.2.3	X	X
Overflow	5.2.4	X	
Inlet valve opening characteristics	5.2.5	X	
Safety margin	5.2.6	X	X
Back flow prevention	5.2.7	X	
Outlet valve leak tightness	5.2.8	X	X
Outlet valve reliability	5.2.9	X	
Operating force	5.2.10	X	
Durability	5.2.11	X	
<b>Requirement class 3 flushing cisterns</b>			
Requirements and test methods	7.1	X	X
Adjustment	7.2	X	X
<b>Acoustic characteristics</b>	8	X	
<b>Marking and product designation</b>	10	X	X

Description of requirement	Article no. BRL	Tests within the scope of	
		Pre-certification	Inspection by Kiwa after granting of certificate <sup>1), 2)</sup>
Requirements to avoid deterioration of the quality of the drinking water	4.2.1.	X	X
<b>Product requirements</b>	4.3.1	X	
EN 14055		X	X
<b>Deviating requirements</b>			
Types	<b>Error! Reference source not found.5</b>	X	
<b>Additional requirements</b>			
Waterline	4.3.3.	X	X
Flow rate (refer also to EN14055)	4.3.3.5.4	X	X
Float operated valve	4.3.5	X	X
Cover	4.3.6	X	
Flush pipes	4.3.7	X	
Holes and openings	4.3.8	X	
Water supply connection	4.3.9	X	
Closing mechanism	4.3.10	X	
Inspection hatch concealed cisterns	4.3.11	X	
Heat resistance concealed cisterns	4.3.3.15	X	X
Fixing and fixing means	4.3.12	X	X
Finish	4.3.13	X	X
Delivery	4.3.14	X	X
<b>Marking</b>			
General	6.1	X	X
Certification mark	6.2	X	X
Low consumption	6.3	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 9.6 of this evaluation guideline.

## 8.2 Inspection of the quality system of the supplier

The quality system of the supplier will be checked by Kiwa on the basis of the IQC scheme.

The inspection contains at least those aspects mentioned in the Kiwa Regulations for Product Certification.

# 9 Agreements on the implementation of certification

## 9.1 General

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

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

## 9.2 Certification staff

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

- Certification assessor (**CAS**): in charge of carrying out the pre-certification tests and assessing the inspectors' reports;
- Site assessor (**SAS**): in charge of carrying out external inspections at the supplier's works;
- Decision maker (**DM**): in charge of taking decisions in connection with the pre-certification tests carried out, continuing the certification in connection with the inspections carried out and taking decisions on the need to take corrective actions.

### 9.2.1 Qualification requirements

The qualification requirements consist of:

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

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

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



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

Technical competences	Evaluation Criteria
Education	<b>General:</b> Education in one of the following technical areas: <ul style="list-style-type: none"> <li>• Civil Engineering;</li> <li>• Engineering.</li> </ul>
Testing skills	<b>General:</b> <ul style="list-style-type: none"> <li>• 1 week laboratory training (general and scheme specific) including measuring techniques and performing tests under supervision ;</li> <li>• Conducting tests (per scheme).</li> </ul>
Experience - specific	<b>CAS</b> <ul style="list-style-type: none"> <li>• 3 complete applications (excluding the initial assessment of the production site) under the direction of the <b>PM</b></li> <li>• 1 complete application self-reliant (to be evaluated by <b>PM</b>)</li> <li>• 3 initial assessments of the production site under the direction of the <b>PM</b></li> <li>• 1 initial assessment of the production site self-reliant (witnessed by <b>PM</b>)</li> </ul> <b>SAS</b> <ul style="list-style-type: none"> <li>• 5 inspection visits together with a qualified <b>SAS</b></li> <li>• 3 inspection visits conducted self-reliant (witnessed by <b>PM</b>)</li> </ul>
Skills in performing witnessing	<b>PM</b> Internal training witness testing

Legenda:

- Certification assessor (**CAS**)
- Decision maker (**DM**)
- Product manager (**PM**)
- Site assessor (**SAS**)

### 9.2.2 Qualification

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

The authority to qualify staff rests with the:

- **PM:** qualification of **CAS** and **SAS**;
- management of the certification body: qualification of **DM**.

- 

### 9.3 Report initial investigation

The certification body records the results of the 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.

### 9.4 Decision for granting the certificate

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

### 9.5 Layout of quality declaration

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

### 9.6 Nature and frequency of third party audits

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

At the time this BRL entered into force, the frequency of audits amounts 2 audit(s) on site per year for suppliers with a quality management system in accordance with ISO 9001 for their production, which has been certified by an acknowledged body (in accordance with ISO/IEC 17021) and where the IQC scheme forms an integral part of the quality management system.

In case the supplier is not in possession of any product certificate (issued by Kiwa or any other accredited certification body), the frequency is increased to 3 visits for the duration of one year.

The audit program on site shall cover at least:

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

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

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

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

### **9.7 Non conformities**

When the certification requirements are not met, measures are taken by Kiwa in accordance with the sanctions policy as written in the Kiwa Regulation for Certification.

The Sanctions Policy is available through the "News and Publications" page on the Kiwa website ["Kiwa Regulation for Certification"](#).

### **9.8 Report to the Board of Experts**

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

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

### **9.9 Interpretation of requirements**

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

### **9.10 Specific rules set by the Board of Experts**

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

# 10 Titles of standards

## 10.1 Public law rules

BJZ2011048144  
29 juni 2011

Regeling van de Staatssecretaris van Infrastructuur en  
milieu<sup>1</sup>

## 10.2 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	
EN 14055	WC and urinal flushing cisterns	
NEN 1006	General requirements for water supply installations	
NEN 3215	Drainage system inside and outside buildings - Determination methods for drainage capacity, water and air density and distance for roof mounted outlets	
BRL-K615	Float operated valves	
BRL-K619	WC-pans	
BRL-K621	Close coupled suites	
BRL-K622	Flexible connecting hoses	
BRL-K604	Stop- and connecting cocks	

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

In relation to this guideline, where publication date is mentioned, the actual version of the above mentioned standards and guidelines is valid.

---

<sup>1</sup> Valid from 1 July 2017

# I Model certificate (informative)



Product certificate  
Kxxxxx/xx

Issued            Date  
Replaces        Kxxxxx/xx  
Page             1 of 2

CERTIFICATE

## Flushing cisterns

### 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-K620 "WC-pans" dated 15.09.2024

which covers the requirements of

EN 14055: 2018 "WC and urinal flushing cisterns".

Ronald Karel  
Kiwa

*Publication of this certificate is allowed.*

*Advice: consult [www.kiwa.nl](http://www.kiwa.nl) in order to ensure that this certificate is still valid.*

Kiwa Nederland B.V.  
Sir Winston Churchilllaan 273  
Postbus 70  
2280 AB RIJSWIJK  
The Netherlands  
Tel. +31 88 998 44 00  
Fax +31 88 998 44 20  
info@kiwa.nl  
[www.kiwa.nl](http://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: <ul style="list-style-type: none"> <li>• Recipe sheets</li> <li>• Incoming inspection raw materials</li> </ul>	purchase specifications inlet valve; outlet valve; supply piping; connecting valve status controls registration			
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>	injection moulding process waterline, mounting assembly marking controls registration			
Finished-products	dimension functional requirements marking registrations			
Measuring and testing equipment <ul style="list-style-type: none"> <li>• measuring equipment</li> <li>• calibration</li> </ul>	calibration system measuring equipments calibration period reference registration			
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 semi-finished and finished products</li> </ul>	status traceability storage warehouse			