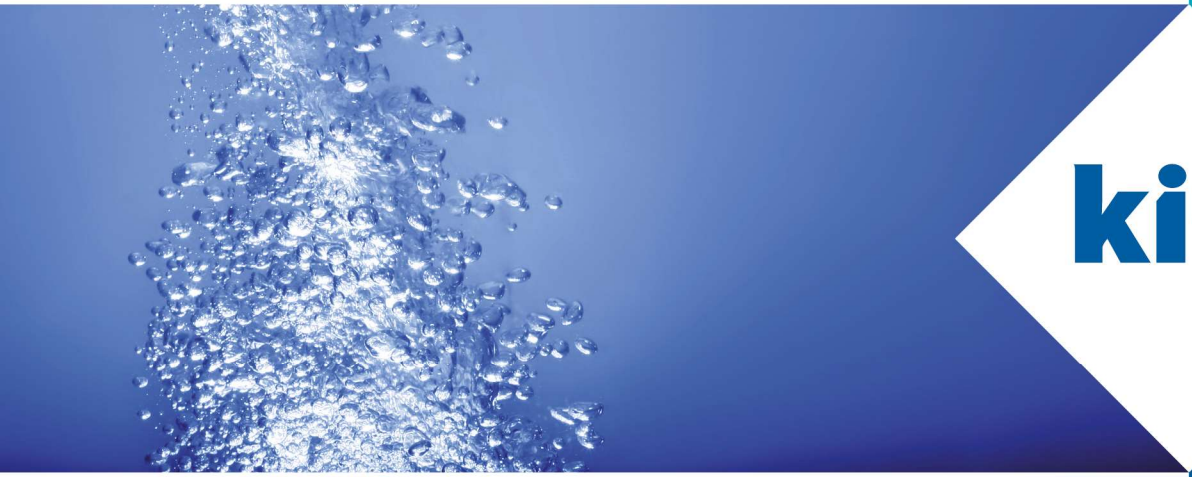
BRL-K14031
2020-04-07

Evaluation Guideline

for the Kiwa product certificate for
Mini hose reel systems for 12mm semi rigid hose



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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 drinkingwater appliances are represented. The Board of Experts also supervises the certification activities and where necessary requires the evaluation guideline to be revised. All references to Board of Experts in this evaluation guideline pertain to the above mentioned Board of Experts.

This evaluation guideline will be used by Kiwa in conjunction with the Kiwa Regulations for Certification.

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Binding declaration
This evaluation guideline has been declared binding by Kiwa on 7 April 2020.

478/160822

Contents

1 Introduction

1.1 General

This evaluation guideline includes all relevant requirements which are employed by Kiwa when dealing with applications for the issue and maintenance of a certificate for mini hose systems for 12mm semi rigid hose.

This guideline replaces the evaluation guideline BRL-K14031/01, dated 01-12-2013. The quality declarations issued and based on that guideline will lose their validity at least 2 years after validation of this BRL.

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

Mini hose reel systems for 12mm semi rigid hose have been designed for firefighting and other purposes and can be connected to drinking water installations with a maximum water pressure of 1000 kPa and a water temperature of maximum 30°C.

Remark
Mini hose reels products are not as such included in the Dutch Building Regulations. The final decision whether the products may be installed in the framework of the fire safety in public buildings, as alternative to fire hose reels in compliance with the EN 671-1, is up to the competent authorities.

1.3 Acceptance of test reports provided by the supplier

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

- NEN-EN-ISO/IEC 17020 for inspection bodies;
- NEN-EN-ISO/IEC 17021-1 for certification bodies certifying systems;
- NEN-EN-ISO/IEC 17024 for certification bodies certifying persons;
- NEN-EN-ISO/IEC 17025 for laboratories;
- NEN-EN-ISO/IEC 17065 for certification bodies certifying products.

Remark:
This requirement is considered to be fulfilled when a certificate of accreditation can be shown, issued either by the Board of Accreditation (RvA) or by one of the institutions with which an agreement of mutual acceptance has been concluded by the RvA. The accreditation shall refer to the examinations as required in this evaluation guideline. When no certificate of accreditation can be shown, Kiwa shall verify whether the accreditation standard is fulfilled.

1.4 Quality declaration

The quality declaration to be issued by Kiwa is described as a Kiwa 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 Watercycle (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 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.
- **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.
- **Initial investigation**: 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.

3 Procedure for granting a product certificate

3.1 Initial investigation

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

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

3.2 Granting the product certificate

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

3.3 Investigation into the product and/or performance requirements

Kiwa will investigate the to be certified products against the certification requirements as stated in the certification requirements.
The necessary samples will be drawn by or on behalf of Kiwa.

3.4 Production process assessment

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

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

3.5 Contract 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 that mini hose reel systems for 12mm semi rigid hose have to fulfil.

4.2 Product requirements

The requirements of the product are specified in the following standard, with the exception to what is mentioned in clauses 4.3 and 4.4, have been established in the following standard:

EN 671-1	Fixed firefighting systems - Part 1: Hose reels with semi-rigid hose

4.3 Additional product requirements

In addition to the requirements mentioned in section 4.2, the following applies.

4.3.1 Stop valve

Manual hose reels, conform article 3.1 of EN 671-1, shall be provided with manual operated stop valves in accordance with Kiwa evaluation guideline BRL-K604, with a nominal dimension equal to or bigger than DN15.
If a stop valve other than a stopcock with ball is used, the stop valve shall be furnished with a hand wheel conform the BRL-K604.

4.3.2 Minimum flow rate

The minimum flow rate, to be measured when the hose reel is tested in accordance with EN 671-1 article E.4.1, shall comply with a nozzle diameter or equivalent diameter of at least DN4.

4.3.3 Requirements for plastic parts making part of the waterways

4.3.3.1 Composition

The manufacturer shall submit to the certifying body data about the trade- and/or brand name of the raw material of which the plastic parts have been manufactured.

4.3.3.2 Resistance against tightening forces

After testing the resistance against tightening forces, according to 5.1, the parts shall show no damage as cracks etc. and comply to the requirements for water tightness and closure.

4.4 Deviating requirements

In contradiction to the requirements mentioned in section 4.2, the following applies.

4.4.1 Effective throw range

The effective throw range of the discharges at a pressure of 0.2MPa, shall not be less than (as appropriate)

- jet discharge – 8 meter,
- sheet spray discharge – 5 meter,
- conical spray discharge – 3 meter.

4.4.2 Dimensions

The mini hose reels shall consist of two wheels with a maximum diameter of 480mm and inside segments or drum with a minimum diameter of 150mm.

4.4.3 Hose

The hose shall be semi-rigid, shall comply with the functional aspects of the EN 694 and shall have an inside diameter of 12 ± 1,0 mm.
The length of the hose shall not exceed 20m.

5 Test methods

5.1 Determination of the resistance against tightening forces1

5.1.1 Test installation

For the determination of the resistance against tightening forces the concerning part shall be mounted in a test installation, in which the part is secured sufficiently, while it is being tightened with a metal tool provided with the corresponding thread.

The test is carried out under the following conditions;

- ambient temperature 20 ± 5°C,
- no greasing on the thread.

5.1.2 Test piece

For the test a new sample of the part shall be used.

5.1.3 Procedure

a. Apply to the parts to be tested a twisting-moment of:
   40 ± 1 N.m for G½ or R½,
   50 ± 1 N.m for G¾ or R¾,
   70 ± 1 N.m for G1 or R1,
b. Leave this moment on for 60 ± 1 minutes and remove the tool,
c. Determine whether the fire hose reels complies to article 4.3.12 of EN 671-1, in relation to water tightness.

[1)] the test method only applies for plastic parts making part of the waterways.

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 year of production,
- type indication,
- maximum working pressure,
- length of hose,
- nominal diameter of nozzle (marked on the nozzle).

At the same time the hose shall be applied with the name of the manufacturer of the fire hose reel. In contradiction to what has been mentioned in article 7 of the EN 694, in which the way of marking of the semi-rigid hoses have been stated, the hose shall be marked at least once each 5 meter.

Remark
Due to the fact the hose to be used influences the functioning of the hose reel system, there shall be guaranteed that only hoses will be used which have been tested as a part of the system.

6.2 Certification mark

After concluding a Kiwa certification agreement the certified products shall be indelible marked with the wordmark “KIWA” on the front or on the disc.

6.3 Instruction for use

The mini hose reels shall be provided with full operational instructions for display on or adjacent to the mini hose reel.

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:

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

8.1 Test matrix

Description of requirement	Article no. of BRL	Tests within the scope of:		
		Pre-certification	Inspection by Kiwa after granting of certificate [a,b]	
			Inspection	Frequency (no./year)
Product requirements				
EN 671-1				
Minimum flow rate	4.2.2	X	X	1/3
Throw range	4.2.3	X	X	1/3
Measurement of spray angle	4.2.4	X		
Rotating	4.3.4	X	X	1/3
Swinging	4.3.5	X	X	1/3
Resistance to impact and load	4.3.6	X	X	1/3
Resistance of impact	4.3.7	X	X	1/3
Operating torque	4.3.8	X	X	1
Resistance to internal pressure	4.3.12	X	X	2
Strength	4.3.13	X	X	2
Unwinding load	4.4.1	X	X	1/3
Dynamic breaking	4.4.2	X	X	1/3
Resistance to external corrosion	4.8.1	X	X	1/3
Resistance to corrosion of waterways	4.8.2	X	X	1/3
Ageing test for plastic materials	4.8.3	X		
Additional requirements				
BRL-K14031				
Stop valve	4.3.1	X	X	1/3
Minimum flow rate	4.3.2	X	X	1/3
Requirements for plastic parts making part of the waterways	4.3.3	X		

Description of requirement	Article no. of BRL	Tests within the scope of:		
		Pre-certification	Inspection by Kiwa after granting of certificate [a,b]	
			Inspection	Frequency (no./year)
Deviating requirements				
BRL-K14031				
Effective throw range	4.4.1	X	X	1/3
Dimensions	4.4.2	X	X	1/3
Hose	4.4.3	X	X	1/3
Certification mark	6	X	X	2

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

b) During the inspection tests, the inspector verifies the products on basis of a selection from the above mentioned product requirements. 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 Article 7 of this BRL.

9 Agreements on the implementation of certification

9.1 General

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

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

9.2 Certification staff

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

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

9.2.1 Qualification requirements

The qualification requirements consist of:

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

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

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

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

Technical competences	Evaluation Criteria
Education	**General**: Education in one of the following technical areas: • Civil Enginereing; • Enginering.
Testing skills	**General:** • 1 week laboratory training (general and scheme specific) including measuring techniques and performing tests under supervision ; • Conducting tests (per scheme).
Experience - specific	**CAS** • 2 complete applications (excluding the initial assessment of the production site) under the direction of the **PM** • 1 initial assessments of the production site under the direction of the **PM** • 1 initial assessment of the production site self-reliant (witnessed by **PM**) **SAS** • 3 inspection visits together with a qualified **SAS** • 2 inspection visits conducted self-reliant (witnessed by **PM**)
Skills in performing witnessing	**PM** Internal training witness testing

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

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

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

9.3 Report initial investigation
The certification body records the results of the initial investigation in a report.
This report shall comply with the following requirements:
- completeness: the report provides a verdict about all requirements included in the evaluation guideline;

- traceability: the findings on which the verdicts have been based shall be recorded and traceable;
- basis for decision: the **DM** shall be able to base his decision on the findings included in the report.

9.4 Decision for granting the certificate

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

9.5 Layout of quality declaration

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

9.6 Nature and frequency of third party audits

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

At the time this BRL entered into force, the frequency of audits amounts 2 audit(s) on site per year for suppliers with a quality management system in accordance with ISO 9001 for their production, which has been certified by an acknowledged body (in accordance with ISO/IEC 17021) and where the IQC scheme forms an integral part of the quality management system.
In case the supplier is not in possession of any product certificate (issued by Kiwa or any other accredited certification body), the frequency is increased to 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 year. 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 page on the Kiwa website.

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.

10 Titles of standards

10.1 Public law rules

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

10.2 Standards / normative documents

Number	Title
EN 671-1	Fixed firefighting systems – Part 1: Hose reels with semi-rigid hose
EN 694	Fire-fighting hoses - Semi-rigid hoses for fixed systems
BRL-K604	Stop- and connecting cocks
NEN-EN ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection
NEN-EN ISO/IEC 17021-1	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

[1] Valid from 1 July 2017

I Model certificate (example)

CERTIFICATE

Product certificate
KXXXXXX/0X

kiwa

Issued

Replaces

Page 1 of 1

Name product

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 customer

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-xxxx "xxxxxxxxxxxxxxxxxxxxxxxxxx" dated [dd-mm-yyyy]

inclusive amendment sheet dated dd-mm-yyyy.

Name Director
Kiwa

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

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140410

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

II Model IQC-scheme (example)

Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Raw materials or materials supplied: • incoming goods inspection raw materials				
Production process, production equipment, plant: • procedures • working instructions • equipment • material				
Finished-products				
Measuring and testing equipment • measuring equipment • calibration				
Logistics				