

BRL-K643/03
01-02-2012

Evaluation guideline

for the Kiwa product certificate for
Fixed firefighting systems. Hose systems: hose
reels with semi-rigid hose



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

Validation

This evaluation guideline has been validated by Kiwa on 01-02-2012

Contents

1	Introduction	1
1.1	General	1
1.2	Field of application / scope	1
1.3	Acceptance of test reports provided by the supplier	1
1.4	Quality declaration	1
2	Terms and definitions	2
3	Procedure for granting the quality declaration	3
3.1	Pre certification tests	3
3.2	Granting the quality declaration	3
4	Requirements and test methods	4
4.1	General	4
4.2	Product requirements	4
4.3	Deviating product requirements	4
4.4	Additional product requirements	4
5	Marking	6
5.1	General	6
5.2	Certification mark	6
6	Test methods	7
6.1	Determination of the resistance against tightening forces)	7
7	Requirements in respect of the quality system	8
7.1	Manager of the quality system	8
7.2	Internal quality control/quality plan	8
7.3	Procedures and working instructions	8
8	Summary of tests and inspections	9
8.1	Test matrix	9
8.2	Inspection of the quality system	10
9	Agreements on the implementation of certification	11
9.1	General	11
9.2	Certification staff	11
9.3	Report Pre certification tests	12
9.4	Decision for granting the certificate	12
9.5	Lay out of quality declaration	12
9.6	Nature and frequency of external inspections	12
9.7	Interpretation of requirements	12

Contents

10	Titles of standards	13
I	Model certificate	14
II	Model IQC-scheme	15

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 Fixed firefighting systems "Hose systems: hose reels with semi-rigid hose".

This evaluation guideline replaces BRL-K643/02, dated 25 July 1996.

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

Hose reels with semi-rigid hose have been designed for fire fighting 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.

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 NEN 1006:2002): 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, depending on the nature of the product to be certified:

- type testing to determine whether the products comply with the product and/or functional requirements,
- Production Process Assessment
- Assessment of the quality system and the IQC-scheme,
- Assessment on the presence and functioning of the remaining procedure

3.2 Granting the quality declaration

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

4 Requirements and test methods

4.1 General

This chapter contains the requirements the fixed firefighting systems, designed as a hose reel with semi-rigid hose, have to fulfil. These requirements will making part of the technical specification of the products, as included in the certificate.

4.2 Product requirements

The requirements, and the test methods to be followed, the product shall meet, with exception to those aspect for which in 4.3 the requirements have been formulated, have been established in the following standard:

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

4.3 Deviating product requirements

Deviating to the requirements as mentioned in 4.2 the following is relevant.

4.3.1 Watertightness

In contradiction to what has been mentioned in article 10.1 of the EN 671-1, the fire hose reels provided with semi-rigid hose with a nominal diameter of 33 mm shall be suitable for application with pressures up to 1000 kPa. Therefore, with the examination in accordance with F.7 the concerning hose reels shall show no leakage with pressures up to 1500 kPa.

4.4 Additional product requirements

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

4.4.1 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 nominal dimensions equal to or bigger then the nominal diameter of the hose.

If a stop valve other than a stopcock with ball is used, the stop valve shall be furnished with a handwheel conform the BRL-K604.

4.4.2 Requirements for plastic parts making part of the waterways

4.4.2.1 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.

4.4.2.2 Resistance against tightening forces

After the testing the resistance against tightening forces according to 6.1 the parts shall show no damage as cracks etc. and comply to the requirements for watertightness and closure.

4.4.3 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.

* 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.

5 Marking

5.1 General

Besides the marking prescribed in clause 11.3 of EN671-1, 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 requirements of the semi-rigid hoses have been stated, the hose shall be marked each 5 meter.

Remark

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

5.2 Certification mark

After concluding a Kiwa certification agreement the certified products shall, beside the marks indicated in the respective standards, be indelible marked with the wordmark KIWA on the front of the disc and the hose.

6 Test methods

6.1 Determination of the resistance against tightening forces¹⁾

6.1.1 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 $20 \pm 5^\circ\text{C}$,
- no greasing on the thread.

6.1.2 Test piece

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

6.1.3 Procedure

- a. Apply to the parts to be tested a twisting-moment of:
 - 40 ± 1 N.m for G $\frac{1}{2}$ or R $\frac{1}{2}$,
 - 50 ± 1 N.m for G $\frac{3}{4}$ or R $\frac{3}{4}$,
 - 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 10.1 of EN 671-1, in relation to watertightness with due observance of article 4.3.1.

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

7 Requirements in respect of the quality system

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

7.1 Manager of the quality system

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

7.2 Internal quality control/quality plan

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

The following must have been demonstrably recorded in this IQC scheme:

- what aspects are checked by the producer;
- according to what methods such inspections are carried out;
- how often these inspections are carried out;
- in what way the inspection results are recorded and kept.

This IQC scheme should at least be an equivalent derivative of the model IQC scheme included in the addendum.

7.3 Procedures and working instructions

The supplier shall be able to submit the following:

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

8 Summary of tests and inspections

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

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

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

8.1 Test matrix

Description of requirement	Article BRL	Tests within the scope of		
		Pre-certification	Supervision by Kiwa after granting of certificate ¹⁾ inspection ²⁾	frequency (no./year)
Material				
Toxicological requirements (if applicable)	4.4.3	X	X	2
	Article EN671-1			
resistance to external corrosion of coated parts	9.1	X	X	1/3
plastics	9.2	X		
resistance to corrosion of waterways	9.3	X	X	1/3
Design				
rotation spindle	4.1	X		
dimensions	4.2	X		
diameter and length of the hose	5.2 / 5.3	X	X	1
settings of the nozzle	6.1	X	X	1
manual inlet stop valve	7.2	X		
automatic stop valve	7.3	X		
cabinets	8			
colour, symbols, marking and instructions	11	X		
Functional requirements				
durability of rotating parts	4.3	X	X	1/3
durability of swinging reels	4.4	X	X	1/3
unwinding load	4.5	X	X	1/3
dynamic breaking	4.6	X	X	1/3
resistance to impact and load	4.7	X	X	1/3
resistance to impact to the nozzle	6.2	X	X	1/3
operating torque of nozzle	6.3	X	X	1
resistance to internal pressure	10.1	X	X	2
strength	10.2	X	X	2
minimum flow rate	10.3	X	X	1/3

Description of requirement	Article BRL	Tests within the scope of		
		Pre-certification	Supervision by Kiwa after granting of certificate ¹⁾ inspection ²⁾	frequency (no./year)
throw length	10.4	X	X	1/3
spray angle	10.5	X		
Additional requirements	Article BRL			
stop valve	4.4.1	X	X	1/3
plastic parts making part of the waterways	4.4.2	X		
marking	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	<ul style="list-style-type: none"> • Technical higher-level professional education • Internal training certification and Kiwa policy • Training auditing 	<ul style="list-style-type: none"> • Intermediate-level professional education • Internal training certification and Kiwa policy • Training auditing 	<ul style="list-style-type: none"> • Higher level professional education • Internal training certification and Kiwa policy • Training auditing
Education - specific	<ul style="list-style-type: none"> • for BRL relevant technical education • specific studies and training (know-how and skills) 	<ul style="list-style-type: none"> • for BRL relevant technical education • specific studies and training (know-how and skills) 	<ul style="list-style-type: none"> • not applicable unless specific requirements have been specified by the BoE
Experience - general	<ul style="list-style-type: none"> • 1 year of relevant work experience with at least 4 pre certification tests of which one carried out independent under supervision. 	<ul style="list-style-type: none"> • 1 year of relevant work experience with at least 4 inspections of which one carried out independent under supervision 	<ul style="list-style-type: none"> • 4 year of relevant work experience with at least 1 year in certification

EN45011	Certification Expert	Inspector	Decision maker
Experience - specific	<ul style="list-style-type: none"> Detailed knowledge of the BRL and 4 certification tests carried out on the basis of the BRL or one related. 	<ul style="list-style-type: none"> Detailed knowledge of the BRL and 4 inspections carried out on the basis of the BRL or one related. 	<ul style="list-style-type: none"> 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 conform the model included as an annex

9.6 Nature and frequency of external inspections

The certification body shall carry out Audits at the supplier at regular intervals to check whether the supplier complies with his obligations. About the frequency of inspections the Board of Experts decides.

At the time this Evaluation Guideline took effect, the frequency was set at number of 2 inspection visits per year.

Inspections shall at least refer to:

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

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

9.7 Interpretation of requirements

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

10 Titles of standards

Titles of norms and other publications mentioned and to be consulted

EN 671-1	"Fixed firefighting systems - Hose systems - Part 1: Hose reels with semi-rigid hose"
BRL-K604	Stop- and connecting valves

I Model certificate

Certificate	Product certificate KXXXXXXX/OX	 <small>Partner for progress</small>
	Issued	
	Replaces	
	Page	1 of 2
<h2>Fixed firefighting systems - Hose systems: Hose reels with semi-rigid hose</h2>		
<p>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</p>		
<h3>Name supplier</h3>		
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-K643/03 "Fixed firefighting systems. Hose systems: hose reels with semi-rigid hose", dated 01-02-2012.		
 Bouke Meekma Kiwa		
Publication of the certificate is allowed.		
Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.		
 Kiwa Nederland B.V. Sir W. Churchill-laan 273 Postbus 70 2280 AB RIJSWIJK The Netherlands Tel. +31 70 414 44 00 Fax +31 70 414 44 20 E-mail info@kiwa.nl www.kiwa.nl	Supplier	<p>Certification process consists of initial and regular inspection of:</p> <ul style="list-style-type: none">• quality system• product

II Model IQC-scheme

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