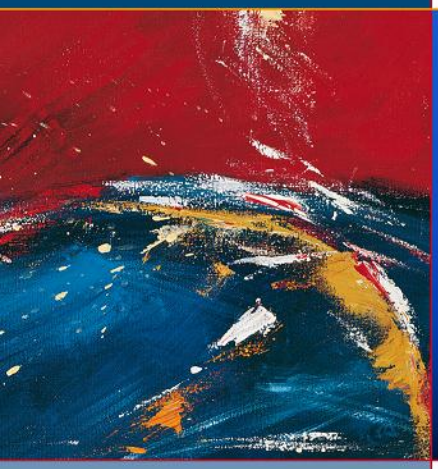
BRL-K664/02
01-02-2012

Evaluation guideline

for the Kiwa product certificate for
Semi-rigid hose for fire hose reels in fixed firefighting systems



Preface

This evaluation guideline has been accepted by the board of experts CWK of Kiwa, in which the parties concerned in the sector Drinkingwater appliances are being represented. This Board of Experts also supervises the certification activities and where necessary requires the evaluation guideline to be revised. All references to Board of Experts in this evaluation guideline pertain to the above mentioned Board of Experts.

This evaluation guideline will be used by Kiwa in conjunction with the Kiwa-Regulations for Product Certification. This regulation details the method employed by Kiwa for conducting the necessary investigations prior to issuing the product certificate and the method of external control.

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

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

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1 Introduction

1.1 General

This evaluation guideline includes all relevant requirements which are adhered to by Kiwa as the basis for the issue and maintenance of a certificate for semi-rigid hose for fire hose reels in fixed firefighting systems..

This evaluation guideline replaces BRL-K664/01, 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

The semi-rigid hoses have been designed to be used on fire hose reels conform the Kiwa evaluation guideline BRL-K643 "Fixed firefighting systems. Hose systems: hose reels with semi-rigid hose". These hose reels can be connected to drinking waterinstallations with a maximum waterpressure of 1000 kPa and a watertemperature 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 Drinking Water Directive): water intended for drinking, cooking, food preparation or other domestic purposes.

3 Procedure for granting the quality declaration

3.1 Pre certification tests

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

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

3.2 Granting the quality declaration

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

4 Requirements and test methods

4.1 General

This chapter contains the requirements the semi-rigid hose for fire hose reels in fixed firefighting systems 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 4.4 the requirements have been formulated, have been established in the following standard:

EN 694 "Fire fighting hoses: Semi-rigid hose for fixed systems"

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 EN 694, the 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 article 6.1.2 of the EN 694, the concerning hose shall show no leakage with pressures up to 2000 kPa and shall not burst with pressures up to 3500 kPa.

4.4 Additional product requirements

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

4.4.1 Composition

The manufacturer shall submit to the certifying body data about the raw material of which the hoses have been manufactured.

5 Marking

5.1 General

In addition to the marking as specified in clause 7 of the EN694, the hose may be marked with the name or logo of the manufacturer of the fire hose reel on which the hose is used.

In contradiction to what has been mentioned in clause 7 of the EN 694 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. Therefore the hose shall be marked according to the requirements included in the Kiwa evaluation guideline BRL-K643.

5.2 Certification mark

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

6 Requirements in respect of the quality system

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

6.1 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.

6.2 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.

6.3 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.

7 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.

7.1 Test matrix

Description of requirement	Article EN694	Tests within the scope of		
		Pre-certification	Supervision by Kiwa after granting of certificate[1]	
			inspection[2]	frequency (no./year)
Design				
inside diameter	5.1	X	X	batch
maximum mass	5.1	X	X	batch
Functional requirements				
deformation under maximum working pressure	6.1.1	X	X	batch
deformation under proof pressure	6.1.2	X	X	batch
minimum burst pressure	6.1.3	X	X	batch
kink pressure	6.1.4	X	X	batch
adhesion	6.2	X	X	batch
accelerated ageing	6.3	X	X	1/3
low tremperature flexibility	6.4	X	X	1/3
hot surface resistance	6.5	X	X	1/3
Ozone resistance	6.6	X		
bending and crush resistance	6.7	X	X	1
UV-resistance	6.8			
loss on mass on heating	6.9	X	X	1
marking	7	X	X	2
Certification mark	art. BRL **Error! Reference source not found.**	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.

7.2 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.

8 Agreements on the implementation of certification

8.1 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.

8.2 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.

8.2.1 Qualification requirements

The following qualification requirements have been set by the Board of Experts for the subject matter of this Evaluation Guideline:

EN45011	Certification Expert	Inspector	Decision maker
Education - general	• Technical higher-level professional education • Internal training certification and Kiwa policy • Training auditing	• Intermediate-level professional education • Internal training certification and Kiwa policy • Training auditing	• Higher level professional education • Internal training certification and Kiwa policy • Training auditing
Education - specific	• for BRL relevant technical education • specific studies and training (know-how and skills)	• for BRL relevant technical education • specific studies and training (know-how and skills)	• not applicable unless specific requirements have been specified by the BoE
Experience - general	• 1 year of relevant work experience with at least 4 pre certification tests of which one carried out independent under supervision.	• 1 year of relevant work experience with at least 4 inspections of which one carried out independent under supervision	• 4 year of relevant work experience with at least 1 year in certification

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

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

8.2.2 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.

8.3 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.

8.4 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.

8.5 Lay out of quality declaration

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

8.6 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.

8.7 Interpretation of requirements

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

9 Titles of standards

Titles of the Standards and Publications as mentioned and to be consulted:

Number	Title
EN694	**Fire fighting hoses: Semi-rigid hose for fixed systems**

I Model certificate

Certificate

Product certificate
KXXXXXX/0X

Partner for progress

Issued

Replaces

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Semi-rigid hose for fire hose reels in fixed firefighting systems

STATEMENT BY KIWA
With this product certificate, issued in accordance with the Kiwa Regulations for Product Certification, Kiwa declares that legitimate confidence exists that the products supplied by

Name supplier

complying with the technical specifications as laid down in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate, on delivery, may be relied upon to comply with Kiwa evaluation guideline BRL-K664/02 "Semi-rigid hose for fire hose reels in fixed firefighting systems", 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.

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Supplier

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

II Model IQC-scheme

Subjects	Aspects	Method	Frequency	Registration
Raw materials or materials supplied: • Recipe sheets • Incoming inspection raw materials				
Production process, production equipment, material: • procedures • work instructions • equipment • release of product				
Finished-products				
Measuring and testing equipment • measuring equipment • calibration				
Logistics • internal transport • storage • preservation • packaging • identification or marking of semifinished and finished products				