BRL-K10018
2018-12-07

Evaluation Guideline

for the Kiwa product certificate for
Piping systems with thin Copper tubes with an external solid fixed plastic covering

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 piping systems with thin copper tubes with an external solid fixed plastic covering 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.

This evaluation guideline must be reviewed at least every 5 years by the Board of Experts CWK, but not later than December 7, 2023.

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Binding declaration
This evaluation guideline has been declared binding by Kiwa on 7 December 2018.

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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 products used for piping systems with thin copper tubes with an external solid fixed plastic covering.

This guideline replaces the evaluation guideline BRL-K10018/02, dated 2012-02-01. The quality declarations issued and based on that guideline will remain valid.

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

Piping systems with thin Copper Tubes with an external solid fixed plastic covering are intended to be applied in:

- sanitary installations (in buildings) for the transport of warm and cold drinking-water;
- hot water heating systems (temperature not exceeding 100 ºC, recommended operation temperature between 70 ºC and 95 ºC);
- under floor heating systems;
- cooling systems.

The external covering is primarily intended for the chemical and mechanical protection of the pipe surface during transportation, installation and service. In addition, the covering can be used for providing a thermal insulation for the pipe. In the latter case the covering shall meet the additional materials requirements as specified.

Under the certification products we understand the copper tubes with an external fixed plastic covering with the fitting, the combination, copper tube and fittings are listed on the product certificate

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:** 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.
- **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.
- **Nominal diameter (DN):** As described in NEN-EN-ISO 6708.
- **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.

- **Piping system:** a system composed of pipes, fittings (T-couplings, straight couplings, etc.);

Note: This BRL contains the requirements for both the tubes and the fittings and the combination of these components.

- **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 piping systems with thin copper tubes with an external solid fixed plastic covering have to fulfil.

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 recognized quality declaration, as specified in the currently effective Regulation, has to be concluded with positive results.
Products and materials with a quality declaration[1], e.g. issued by a foreign certification institute, are allowed to be used in the Netherlands, provided that the Minister has declared this quality declaration equivalent to the quality declaration as meant in the Regulation.

4.3 Product requirements

4.3.1 Requirements for the tube

This chapter contains the requirements the tube has to fulfil. These requirements will making part of the technical specification of the products, as included in the certificate.

4.3.2 Materials

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 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’.

[1] 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.

4.3.2.2 Thin copper tube

(a) Chemical requirements

Copper must be in the form of deoxidised copper Cu-DHP in accordance with NEN EN 1057 with a high residual phosphorus content. Carbon impurities should not exceed a maximum level according table 1 (defined according to NEN EN 723)

Table 1 Quantitative and qualitative specification for carbon residues

Nominal size (including covering)	material condition	Total carbon[1]	Carbon film test[2]
		mg/dm²max.	
From 10 up to and including 54	R220 (annealed)	0.20	yes
	R250 (Half hard)	0.20	yes
	R290 (hard)	0.20	yes
Over 54	R250 (Half hard)	0.20	yes
	R290 (hard)	0.10	yes

(b) Mechanical properties

The tensile strenght and the elongation shall comply with the requirements as stated in NEN-EN 1057, clause 6.2.

4.3.2.3 Plastic covering

The plastic covering shall be suitable for use over a period of 50 years at a permanent utilization at a temperature of 70°C.
The thermal stability of the material shall be proven according to NEN-EN-ISO 2578 or NEN-EN-ISO 9080. The tests according to NEN-EN-ISO 9080 shall be performed at four different temperatures, 20°C, 60°C[3] 95°C and 110°C.
As an alternative, long-term thermal diagrams can be prepared according to NEN-EN-ISO 2578.

4.3.3 Dimensions

The dimensions of the tube shall comply with the requirements given in Table 2.

Table 2: Pipe dimensions and tolerances for tubes

DN	Copper tube				Total tube	
	D_1	Tolerance[4]	W_d	Tolerance[5]	D_u	Tolerance[6]
	(mm)	(mm)	(mm)	%	(mm)	(mm)
14 x 2	10	± 0.1	0.30	± 10	14.0	± 0.15
16 x 2	12	± 0.1	0.35	± 10	16.0	± 0.15
18 x 2	14	± 0.1	0.35	± 10	18.0	± 0.15
20 x 2	16	± 0.1	0.50	± 10	20.0	± 0.15
26 x 3	20	± 0.1	0.50	± 10	26.0	± 0.15
28 x 3	22	± 0.1	0.50	± 10	28.0	± 0.15

- D_1 – internal diameter
- W_d – wall thickness
- D_u – outside diameter

[1] definition according to NEN EN 723
[2] we refer to footnote 1
[3] alternatively 70°C
[4] tolerances apply to average diameter. The tubes should be tested in calibrated condition.
[5] including eccentricity
[6] we refer to footnote 4

4.3.4 Mechanical properties

4.3.4.1 Internal pressures resistance and tightness

The tubes shall withstand nominal pressure (10 bar) according to class PMA 1.0 (NEN EN 806 – Table 1) at a temperature of 95 °C. When being tested the tube shall show no visible signs of leakage or damage during a test in accordance with 5.1.

4.3.4.2 Behaviour under bending stress in cold condition

The tube shall be bendable with suitable bending tools. Cracks or folds are not allowed.
No cracking or swelling may occur during a test in accordance with 5.2.

4.3.4.3 Behaviour under bending stress

The tube shall be bendable using suitable bending tools to the smallest bending radius stated by the manufacturer or the bending radius stated in Table 3, whatever is the smallest without buckles, cracks or folds .
In case of a test in accordance with 5.3, the pipe shall comply with 4.3.4.1 and no cracking or swelling may occur.

Table 3: Pipe dimensions and corresponding bending radius

External pipe diameter nominal size (mm)	Smallest bending radius Radius in neutral axis (mm)	Internal radius (mm)
14	56	47
16	64	47
18	72	70
20	80	70
26	104	90
32	128	110

4.3.4.4 Fire behaviour

The fire behavior shall comply with class E according to NEN EN 13501-1.

4.3.5 Requirements for the fittings

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

4.3.5.1 Chemical requirements

The materials shall comply with NEN-EN 1254 part 3 “Fittings with compression ends for use with plastic pipes”, clause 4.2.
This guideline has been established by the ministry of “VROM” after notification by the European Union. Products or materials, for which a similar quality declaration has been issued[1], i.e. by a foreign accredited institute, may be applied in the Netherlands.

4.3.6 Dimensions

The dimensions of the fitting shall comply with the requirements given NEN-EN 1254 part 3 “Fittings with compression ends for use with plastic pipes”, clause 4.3.

[1] Similarity to be assessed by Minister of VROM (in compliance with "Guideline quality of materials and chemicals for drinking water supplies").

4.4 Requirements for the piping system

4.4.1 General

The piping system shall comply with NEN-EN 1254 part 3 “Fittings with compression ends for use with plastic pipes”, clause 4.62 up to and including 4.6.9.

4.4.2 Stability:

When tested according to NEN EN ISO 604., the plastic covering of the tube shall withstand the forces during pressing of the connection with press fittings and the requirements on the stability of the plastic during the operating phase when using other types of fittings.
Pressing of the connection shall / cane be done by all the available types of pressure instruments.

5 Test methods

5.1 Determination of resistance wo internal pressure and watertightness

Mount the test tube with a length of 500 mm and provided with connections in the test installation. Fill the test installation with water and pressurized at a test pressure of 4.0 MPa (40 bar) and keep it for 300 seconds.

5.2 Behavior under bending in low temperature conditions

The samples shall be conditioned by cooling down to (0 ± 1) °C, for 30 minutes or under normal air conditions for 2 hours.
Within 60 seconds, after removal from the conditioned environment, bend the sample into a curve of 90° and reverse by 20°.

5.3 Behavior under bending

Bend the tube, by means of a bending tool, according to the radius as specified by the supplier or according to Table 3, into a 90° curve. Afterwards, straighten it by hand. Test water tightness according to 5.1.
Cut the tube in half on the curve and check the tube for cracking and swelling.

6 Marking

After conclusion of the Kiwa certification agreement, the following marks shall be applied clearly legible and indelible.

6.1 Tubes

On the tubes, at least once per meter,

- name of the manufacturer and/or trade mark;
- production date or –production code;
- product type;
- Wordmark "KIWA " of **KK**

6.2 Fittings

In addition to the marking indicated in NEN-EN 1254 part 3 the fittings shall be marked with the wordmark “KIWA”.

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]
Material			
Requirements to avoid deterioration of the quality of the drinking water	4.2.1	X	X
Requirements for the tube	4.3.1	X	X
Hygienic treatment of products in contact with drinking water	4.3.2.1	X	X
Thin copper tube	4.3.2.2	X	X
Plastic covering	4.3.2.3	X	X
Dimensions	4.3.3	X	X
Mechanical properties	4.3.4	X	X
Requirements for the fittings	4.3.5	X	X
Requirements for the piping system	4.4	X	X
Determination of resistance wo internal pressure and watertightness	5.1	X	X
Behavior under bending in low temperature conditions	5.2	X	X
Behavior under bending	5.3	X	X
Marking	6	X	X
EN 1057			
Composition (malt analysis)	7.1	X	X
Surface quality (inside Carbon)	7.5	X	X
Eddy current test	7.4	X	X
Bending test	7.6	X	X
Flattening test	7.8	X	X
Drift test	7.2	X	X
Elongation	7.7	X	X
Marking	1.10	X	X
Labeling	1.10	X	X

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 the Kiwa Regulations for 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.	*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** • 3 complete applications (excluding the initial assessment of the production site) under the direction of the **CAS** • 1 complete application self-reliant (to be evaluated by **PM**) • 3 initial assessments of the production site under the direction of the **PM** **SAS** • 1 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 3 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 4 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 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.

9.9 Interpretation of requirements

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

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 723	Copper and copper alloys - Combustion method for determination of carbon on the inner surface of copper tubes or fittings
EN 806-1	Specifications for installations inside buildings conveying water for human consumption
EN 1057+ A1	Copper and copper alloys - Seamless, round copper tubes for water and gas in sanitary and heating applications
EN 1254-3	Copper and copper alloys - Plumbing fittings - Part 3: Fittings with compression ends for use with plastics pipes
EN 13501-1	Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
EN-ISO 604	Plastics - Determination of compressive properties
EN-ISO 2578	Plastics - Determination of time-temperature limits after prolonged exposure to heat
EN-ISO 9080	Plastics piping and ducting systems - Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation
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

[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 "xxxxxxxxxxxxxxxxxxxxxxxxxxf" dated [dd-mm-yyyy]

inclusive amendment sheet dated dd-mm-yyyy.

Luc Leroy
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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Company
Name customer
Address customer

Phone number
Fax number
www.
Email

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

140410

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 • incoming goods inspection semi-finished products				
Production process, production equipment, plant: • procedures • working instructions • equipment • material • surface				
Finished-products • closing • water-tightness				
Measuring and testing equipment • measuring equipment • calibration				
Logistics • marking • traceability • protections				