

BRL-K774
2019-10-02

Evaluation Guideline

For the Kiwa product certificate for Compression fittings to tighten with matching clamping device



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Preface

This evaluation guideline has been accepted by the Kiwa Board of Experts Watercycle (CWK), in which all relevant parties in the field of Compression fittings to tighten with matching clamping device are represented. The Board of Experts also supervises the certification activities and where necessary requires the evaluation guideline to be revised. All references to Board of Experts in this evaluation guideline pertain to the above mentioned Board of Experts.

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

The main changes compared to the previous version are the editorial modifications in the content of the BRL in relation to the quality objective of Kiwa.

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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 1 December 2018

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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 products used for Compression fittings to tighten with matching clamping device.

This guideline replaces the evaluation guideline BRL-K774/06, dated 01-02-2012. The quality declarations issued and based on that guideline will not lose their validity.

For the performance of its certification work, Kiwa is bound to the requirements as included in NEN-EN-ISO/IEC 17065 "Conformity assessment - Requirements for bodies certifying products, processes and services".

And 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 fittings with compression ends are being used to make tensile connections in drinking water installations with a maximum working pressure of 1000 kPa and a maximum water temperature of 90°C. The connections can be made with stainless steel tubes according KIWA evaluation guideline BRL K762 and/or copper tubes according KIWA evaluation guideline BRL-K760 in the quality "halfhard" and "hard".

The compression fittings are not suitable for hard or soft soldering during installation, because of the risk of corrosion and the lack of a capillary gap. The compression fittings are suitable for making a screw connection with brass and red copper fittings without the risk of contact corrosion.

Remark

The compressed connection shall be made with a prescribed clamping device, of which the clamping jaws match with the fitting diameter.

The sealing is established with a special rubber O-ring. These O-rings are incorporated in the fitting as supplied. Only original, by the fitting manufacturer supplied, O-rings shall be used. Tightening of the joint creates a slight flat indentation in the compression fitting.

Some types of compression fittings consist of several parts, which are welded or brazed to form one compression fitting. The mentioned joining techniques are always factory made.

1.3 Acceptance of test reports provided by the supplier

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

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

Remark:

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

1.4 Quality declaration

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

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

2 Terms and definitions

2.1 Definitions

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

- **Board of Experts:** the Board of Experts “Water Cycle” (CWK).
- **Certification mark:** a protected trademark of which the authorization of the use is granted by Kiwa, to the supplier whose products can be considered to comply on delivery with the applicable requirements and possibly with quality information on the application of the product is added by a specially designed label which is based on the result, as stated in the report issued by Kiwa on the inspection of the prototype
- **Drinking water:** water intended or partly intended for drinking, cooking or food preparation or other domestic purposes, but does not include hot water, and is made available by pipeline to consumers or other customers.
- **Drinking water installation:** an installation direct or in-direct connected to the public drinking water distribution network of a drinking water company (source Dutch drinking water act);
- **Evaluation Guideline (BRL):** the agreements made within the Board of Experts on the subject of certification.
- **Hot tap water:** water intended or partly intended for drinking, cooking or food preparation or other domestic purposes, which is heated before it is made available for those applications.
- **House hold water:** non-potable water that may only be used within premises for flushing toilets (source Dutch drinking water act);
- **Installation:** configuration consisting the pipe work, fittings and appliances;
- **Inspection tests:** tests carried out after the certificate has been granted in order to ascertain whether the certified products continue to meet the requirements recorded in the evaluation guideline.
- **IQC scheme (IQCS):** a description of the quality inspections carried out by the supplier as part of his quality system.
- **Pre-certification tests:** tests in order to ascertain that all the requirements recorded in the evaluation guideline are met.
- **Private Label Certificate:** A certificate that only pertains to products that are also included in the certificate of a supplier that has been certified by Kiwa, the only difference being that the products and product information of the private label holder bear a brand name that belongs to the private label holder.
- **Product certificate:** a document in which Kiwa declares that a product may, on delivery, be deemed to comply with the product specification recorded in the product certificate.
- **Product requirements:** requirements made specific by means of measures or figures, focussing on (identifiable) characteristics of products and containing a limiting value to be achieved, which can be calculated or measured in an unequivocal manner.

- **Supplier:** the party that is responsible for ensuring that the products meet and continue to meet the requirements on which the certification is based.
- **Tap water (origin Drinking Water Directive):** water intended for drinking, cooking, food preparation or other domestic purposes.
- **Recommended range**
The recommended range includes for example the following types:
 - 90° bend
 - 90° bend one end inner thread
 - 90° bend one end outer thread
 - 45° bend
 - 45° bend one end with wedge-end
 - Tee piece
 - unequal T-piece
 - sock
 - insert-sock
 - reducer
 - end piece external thread
 - end piece internal thread
 - connection fitting with internal or external thread on one end

3 Procedure for granting a product certificate

3.1 Initial investigation

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

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

3.2 Granting the product certificate

After finishing the pre-certification tests, the results are presented to the person 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 Compression fittings to tighten with matching clamping device 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 recognised quality declaration, as specified in the currently effective Regulation, has to be concluded with positive results.

Products and materials with a quality declaration¹, 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 *Product*

The requirements of the product are specified below.

4.4 Design and type

Design and type of the fittings are free, subject to the following aspects.

4.4.1 *Insertion depth*

The insertion depth of the tube shall be designed in such a way that this is larger than the length of the insertion depth of the fitting, measured from the ends of the fittings, which occurs after the fittings have been compressed.

4.4.2 *Pipe abutment*

The fittings shall have a pipe abutment on which the inserted tubes shall be blocked.

4.4.3 *Wall thickness*

The minimum wall thickness of the fitting shall be according to the values mentioned in Table 1.

4.4.4 *Threads*

4.4.4.1 *Thread type*

The thread of the fitting shall be:

- Threads for pressure-tight joints according ISO 7-1:1994 (tapered external threads and parallel internal threads);
- Threads for fastening pipes (non pressure-tight joints) according ISO 228 with tolerance according NEN 1141, class A (parallel external and -internal pipe screw threads).

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.

Note

Threads for pressure-tight joints are not interchangeable with threads for fastening pipes. Thread ends with (tapered) threads according ISO 7-1 are not to be used in combination with internal (parallel) threads according ISO 228. Likewise, thread ends with (parallel) threads according ISO 228 are not to be used in combination with internal (parallel) threads according ISO 7-1. According to ISO 7-1, also a negative dimensional tolerance is permitted for internal pipe threads. To avoid complications, the supplier shall specify which type of thread is required.

Table 1 - sizes (in mm)

Tube nominal diameter d	Minimum wall thickness S		
	Stainless steel	Copper	Other materials
12.0	1.35	1.0	1.45
15.0	1.35	1.0	1.45
18.0	1.35	1.0	1.45
22.0	1.35	1.1	1.45
28.0	1.35	1.2	1.45
35.0	1.35	1.5	1.45
42.0	1.35	1.5	1.5
54.0	1.35	1.5	1.5
64.0	1.35	1.5	1.9
76.1	1.85	2.0	2.5
88.9	1.85	2.0	2.5
108.0	1.85	2.5	3.0

4.4.4.2 Type fastening pipe thread

Internal threads according ISO 228 shall be chamfered under an angle of 45°. In Table 2 the minimum requirements concerning usable thread are mentioned as well as the total length of thread ends.

Table 2 – Thread lengths

Thread	Length usable thread (mm)		Total length thread ends (mm) external
	internal	external	
G ½	9	7	10
G ¾	9	7	10
G 1	12	10	14
G 1¼	12	10	14
G 1½	13	11	15
G 2	14	12	16
G 2½	16	14	21

4.5 Functional characteristics**4.5.1 Pressure resistance****4.5.1.1 Static pressure resistance**

The compression fitting shall be resistant against a pressure of 2.5 MPa during 48 hours. This shall be determined according to article 5.3. During the examination no leaking may occur and compression connection shall not have shifted/moved.

4.5.2 Resistance to pressure jumps

The compression joints shall withstand 100.000 pressure jumps of 2.5 MPa. This shall be determined according to article 5.45.4. Following the endurance test no leakage may occur and the compression joints may not have shifted/moved.

The test shall be performed using water of a temperature of approximately 23°C and subsequently repeated using water of a temperature of 90°C ± 2°C. The maximum frequency of the pressure jumps shall be 2 Hz where the pressure jumps are gradually increased from 0 to 2.5 MPa.

4.5.3 Resistance to shear forces

The compression joints shall withstand shear forces. This shall be determined according to article 5.5. After completing the test the joint shall meet the requirements according to article 4.5.1.1 concerning the static pressure resistance.

4.5.4 Resistance to shear

Compression fittings mounted on a tube must be able to withstand a tensile force of 1000 N placed axial on the center line of the tube at room temperature. This shall be determined according to article 5.6. During the examination no leakage may occur and compression connection shall not have shifted/moved with respect to the tube.

4.5.5 Resistance to bending

Compression fittings mounted to a tube shall withstand a force perpendicular to the center line of the tube. This shall be determined according to article 5.7. The force as listed in table 3 shall be applied at room temperature.

The resistance to bending shall be tested according to article 5.7. During this test no leakage may occur and after completing the test the compression connection shall meet the requirements according to article 4.5.1.1 concerning the static pressure resistance.

Table 3 – Force load

External diameter (DN)	12	15	18	22	28	35	42	54
Force in N	90	140	180	270	400	550	800	1200

Note

Because of the construction and specified wall thickness of these fittings, it is considered that fittings with diameters above 54 mm shall have sufficient resistance to bending.

4.5.6 Resistance to dynamic forces (special requirement)

Compression fittings which will withstand bending, torsion and/or small angle rotation as indicated by the supplier, must withstand a pressure of 1.6 MPa, within the supplier given specifications, a test according article 5.8 at a pressure of 1.6 MPa (1600 kPa). With this pressure no leakage may occur.

4.5.7 Additional requirements

4.5.7.1 Protection of products during transport and storage

For the purpose of hygienic handling, products shall be protected against contamination. This is in regards to the surfaces of the product that come into contact with drinking water during the application.

Precautions to protect the product against contamination shall be agreed upon between the supplier and the client and shall be recorded in the quality management system of the supplier.

4.5.7.2 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'.

5 Test methods

5.1 General

If the compression fittings are suitable for both steel and copper tubes, the tests mentioned hereafter shall be executed with both materials.

5.2 Sizes

5.2.1 Test pieces

At least three samples per nominal diameter are required for this test.

5.2.2 Procedure

Measure the specified dimensions of the compression fitting at three random places. The highest and the lowest value of the obtained nine measurements shall be disregarded. Calculate the average of the remaining seven measurements.

5.3 Determination of static pressure resistance

5.3.1 Test pieces

At least three samples per nominal diameter are required for this test.

5.3.2 Procedure

- a. Install the compression fitting in a test installation where a pressure of 2.5 MPa can be maintained,
- b. Fill the test installation with water of $23\text{ °C} \pm 5\text{ °C}$ and vent the system;
- c. Increase gradually the test pressure from 0 till 2.5 ± 0.05 MPa;
- d. Maintain this pressure 48 ± 1 hours;
- e. Decrease gradually the test pressure until atmospheric pressure;
- f. Check the connections visually.

5.4 Determination of resistance to pressure jumps

5.4.1 Test pieces

At least three samples per nominal diameter are required for this test.

5.4.2 Procedure

- a. Install the compression fitting in a test installation where a pressure of 2.5 MPa and a frequency of 2 Hz can be maintained;
- b. Fill the test installation with water of $23\text{ °C} \pm 5\text{ °C}$ and vent the system;
- c. Complete 100.000 pressure jumps with a maximum frequency of 2 Hz where the test pressure is gradually (sinusoidal) increased from 0 to 2.5 ± 0.05 MPa;
- d. Repeat steps b. and c. with water of $90\text{ °C} \pm 3\text{ °C}$;
- e. Check the connections visually;
- f. Determine the static pressure resistance according article 5.3.

5.5 Determination of resistance to shear forces

5.5.1 Test installation

For the determination of the resistance to shear forces, the test pieces shall be installed in a test installation. This test installation shall be equipped with an excentric disc of which the rotating movement is converted into a linear movement on one end of the test piece by a rod. The other end will be clamped (Figure 1).

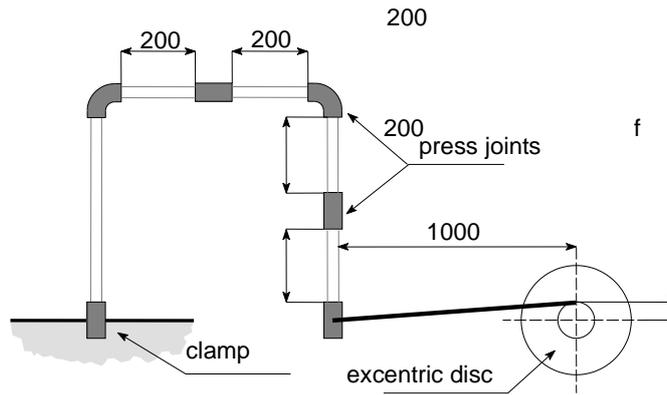


Figure 1

5.5.2 Test pieces

Six samples per nominal diameter are required for this test.

5.5.3 Procedure

- Mount the compression fittings using 200 mm long tubes in a test setup as indicated in Figure 1;
- Fill the test specimen with water of $23\text{ °C} \pm 5\text{ °C}$ and a test pressure of $1.5 \pm 0.05\text{ MPa}$;
- Complete 106 revolutions, with a frequency of 10 Hz and an excentric adjustment "f" according to the table below;

Tube diameter DN (mm)	Excentric adjustment "f" (mm)
≤ 42	5
> 42	3,5

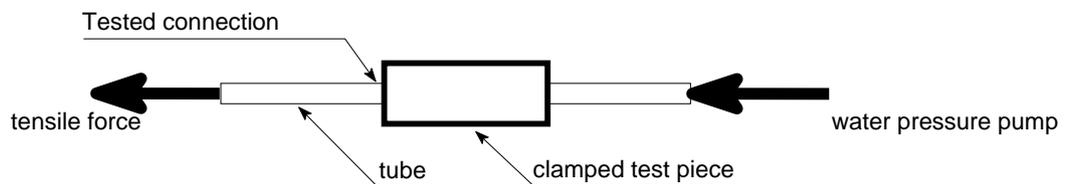
- Check the connections visually;
- Determine the static pressure resistance according to article 5.3.

5.6 Determination of resistance to shear

5.6.1 Test installation

For the determination of the resistance to shear, the test pieces shall be installed in a test installation.

This test setup shall be able to maintain a tensile force and apply an internal hydrostatic pressure of 1600 kPa. The water pressure shall be measured with a precision pressure gauge according



NEN 927. The test piece shall be installed as illustrated in Figure 2.

Figure 2

5.6.2 Test pieces

For the determination of the resistance to shear the test pieces which have been tested according article 5.3 should be used.

5.6.3 Procedure

- Fix the test piece in a test installation as illustrated in figure 2;
- Put a force of 1000 N placed axial on the centre line of the tube and maintain this force;
- Increase the pressure gradually in 15 seconds to 1600 kPa and maintain this pressure for 900 seconds;
- Check the connections visually for shifting in respect to the tube;
- Determine the static pressure resistance according article 5.3.

5.7 Determination of resistance to bending moments

5.7.1 Test installation

For determination of the resistance to bending moments. The test piece shall be installed in a test installation. This test installation shall be able to maintain the required force and by adding water at the recommended pressure. The water pressure shall be measured with a precision pressure gauge. The test piece needs to be installed as illustrated in Figure 3.

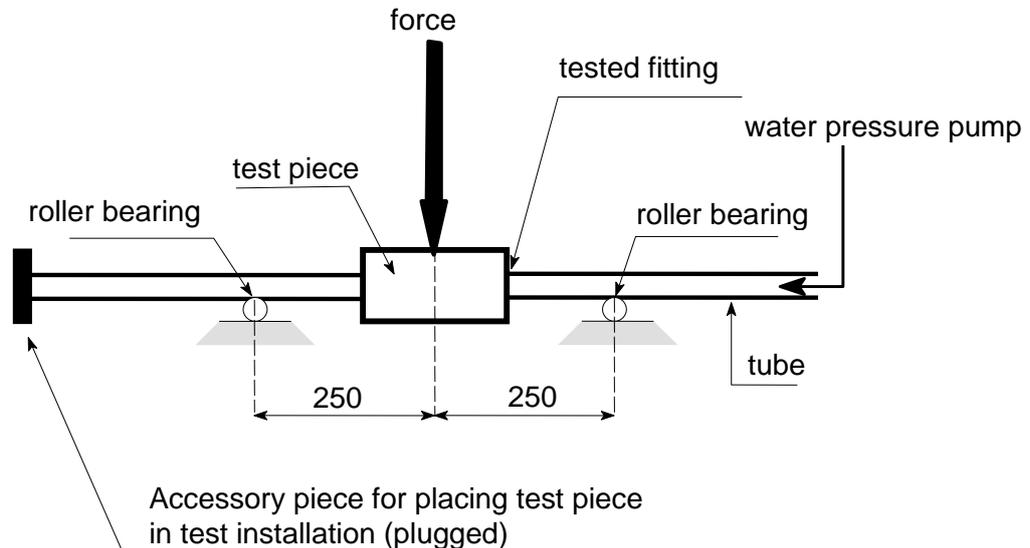


Figure 3

5.7.2 Test pieces.

For the determination of this test the same test pieces that have been used in the test according article 5.3 should be used.

5.7.3 Procedure

- Support the test piece according Figure 3 and adjust a force perpendicular to the centre line with a force according to table 3;
- Increase the pressure equally in 15 seconds to 1600 kPa and maintain this pressure for 900 seconds;
- Determine the resistance to static pressure according article 5.3.

5.8 Determination resistance to dynamic forces (special requirement)

5.8.1 Test pieces

At least 2 fittings per nominal diameter are required for the this test. The same test pieces that have been used in the test according article 5.3 should be used.

5.8.2 Procedure

- a. Install the compression fitting with both sides a length of tube end according table below in a test installation as illustrated in Figure 4;

Tube diameter DN (mm)	length tube end A (mm)
≤ 76	400 ± 10
$76 < d \leq 108$	600 ± 10

- b. Install compression fittings and tube-ends in a test installation according Figure 4, so that an angle of rotation can be maintained;

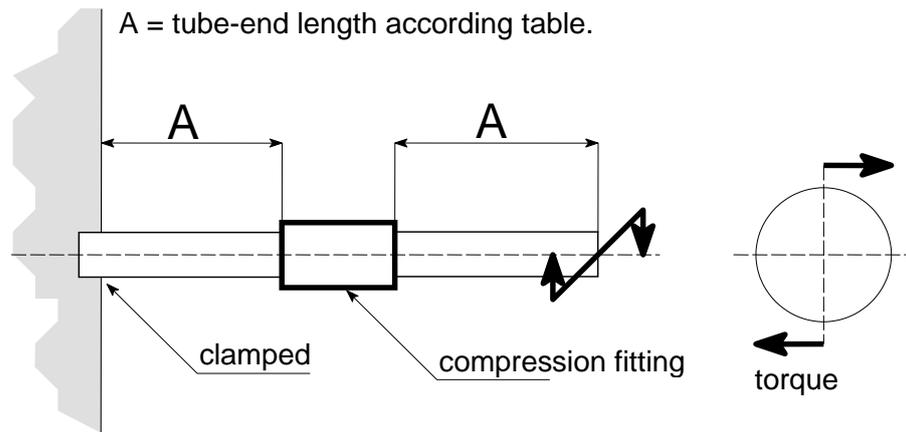


Figure 4

- c. Conduct the test in an ambient temperature of $23\text{ °C} \pm 5\text{ °C}$ and with an internal water pressure of 1000 kPa;
- d. Perform 10.000 continuous cycles with a frequency of 0.5 Hz¹;
- e. Check the connections visually;
- f. Determine static pressure resistance according article 5.3.

¹ A cycle is executed with α , by the supplier specified, angle α . A cycle consists of a positive angle rotation α , back to the start position and followed by a negative angle rotation $-\alpha$ and back to the start position.

6 Marking

6.1 General

The products shall be marked with following indelible marks and indications:

- name or logo of the manufacturer;
- data or code indicating the date of production;
- type indication.
- Company name and/or trade name;
- External diameter of the to be connected tube.

or:

For indications and markings see product standard <.....>

6.2 Certification mark

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

For products which come in contact with drinking water:

The Kiwa Water Mark “**KIWA** ”, or Kiwa .

For minimized marking (small sized products) the  in a rectangle is permitted.

6.3 Packaging

The compression fittings are delivered in a packaging unit with a maximum of 20 pieces per package. The package shall be completely sealed and protect against the penetration of moisture.

6.4 Instructions for installation

The supplier have to provide instructions for assembly and installation. These instructions should specify which kind of tubes are suitable to use in combination with the compression fittings.

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 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	Error! Reference source not found.	X	X
Design Insertion depth Pipe abutment Wall thickness Threads	4.4.1 4.4.2 4.4.3 4.4.4	X X X X	X X X X
Functional requirements Pressure resistance Resistance to pressure jumps Resistance to shear forces Resistance to shear Resistance to bending Resistance to dynamic forces	4.5.1 4.5.2 4.5.3 4.5.4 4.5.5 4.5.6	X X X X X X	X X X X X X
Marking General Certification mark Packaging	Error! Reference source not found. Error! Reference source not found. 6.3	X X X	X X X

Description of requirement	Article BRL	Tests within the scope of	
		Pre-certification	Inspection by Kiwa after granting of certificate a, b)
Instructions for installation	6.4	X	X

- a) In case the product or production process changes significantly, it must be determined whether the performance requirements are still met.
- b) All product characteristics that can be determined within the visiting time (maximum 1 day) are determined by the inspector or by the supplier in the presence of the inspector. In case this is not possible, an agreement will be made between the certification body and the supplier about how the inspection will take place. The frequency of inspection visits is defined in chapter 9.6 of this evaluation guideline.

8.2 Inspection of the quality system of the supplier

The quality system of the supplier will be checked by Kiwa on the basis of the IQC scheme. The inspection contains at least those aspects mentioned in the Kiwa Regulations for Product Certification.

9 Agreements on the implementation of certification

9.1 General

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

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

9.2 Certification staff

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

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

9.2.1 Qualification requirements

The qualification requirements consist of:

- qualification requirements for personnel of a certification body which satisfies the requirements EN ISO / IEC 17065, performing certification activities
 - qualification requirements for personnel of a certification body performing certification activities set by the Board of Experts for the subject matter of this evaluation guideline
- Education and experience of the concerning certification personnel shall be recorded demonstrably.

Basic requirements	Evaluation criteria
Knowledge of company processes Requirements for conducting professional audits on products, processes, services, installations, design and management systems.	<i>Relevant experience: in the field</i> 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
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: <ul style="list-style-type: none"> • Civil Engineering; • Engineering.
Testing skills	General: <ul style="list-style-type: none"> • 1 week laboratory training (general and scheme specific) including measuring techniques and performing tests under supervision ; • Conducting tests (per scheme).
Experience - specific	CAS <ul style="list-style-type: none"> • 3 complete applications (excluding the initial assessment of the production site) under the direction of the PM • 1 complete application self-reliant (to be evaluated by PM) • 3 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 <ul style="list-style-type: none"> • 5 inspection visits together with a qualified SAS • 3 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 pre-certification tests in a report.

This report shall comply with the following requirements:

- completeness: the report provides a verdict about all requirements included in the evaluation guideline;
- traceability: the findings on which the verdicts have been based shall be recorded and traceable;
- basis for decision: the **DM** shall be able to base his decision on the findings included in the report.

9.4 Decision for granting the certificate

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

9.5 Layout of quality declaration

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

9.6 Nature and frequency of third party audits

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

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

The audit program on site shall cover at least:

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

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

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

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

9.7 Non conformities

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

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

9.8 Report to the Board of Experts

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

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

- received complaints about certified products.

9.9 Interpretation of requirements

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

9.10 Specific rules set by the Board of Experts

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

10 Titles of standards

10.1 Public law rules

BJZ2011048144
29 June 2011

“Staatscourant” (Dutch Government Gazette)
from 18 July 2011, no. 11911

Regeling van de Staatssecretaris van Infrastructuur en milieu ¹

“Regeling Materialen en Chemicaliën drink- en warm tapwatervoorziening” (Regulation on materials and chemicals drinking water and warm tap water supply)

10.2 Standards / normative documents

Number	Title
EN ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection
EN ISO/IEC 17021	Conformity assessment - Requirements for bodies providing audit and certification of management systems
EN ISO/IEC 17024	Conformity assessment - General requirements for bodies operating certification of persons
EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
EN ISO/IEC 17065	Conformity assessment - Requirements for bodies certifying products, processes and services
ISO 7	Pipe threads where pressure-tight joints are made on the threads —Part 1: Dimensions, tolerances and designation
ISO 228	Pipe threads where pressure-tight joints are not made on the threads — Part 1:Dimensions, tolerances and designation
ISO 272	Fasteners; Hexagon products, widths across flats, second edition
EN 45011	General requirements for the competence of testing and calibration laboratories
EN 248	Sanitary tapware - General specification for electrodeposited coatings of Ni-Cr
NEN 1006	General requirements for water supply installations
BRL-K 760	Copper pipes for transport of hot and cold drinking water

Note

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

10.3 Bibliography

¹ Valid from 1 July 2017

I Model certificate (informative)



Product certificate Kxxxxx/xx

Issued *Date*
Replaces *Kxxxxx/xx*
Page *1 of 2*

CERTIFICATE

Compression fittings to tighten with matching clamping device

STATEMENT BY KIWA

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

Name supplier

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa evaluation guideline

BRL-K774 "Compression fittings to tighten with matching clamping device" dated 15.09.2024

Ronald Karel
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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Fax +31 88 998 44 20
info@kiwa.nl
www.kiwa.nl

Company
Name supplier
Address
Zip code City
Country
Telephone number
email
internet site

Certification process consists of initial and regular assessment of:

- quality system
- product

II Model IQC-scheme (informative)

Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Raw materials or materials supplied: - incoming goods inspection raw materials	material dimensions finish supplier			
Production process, production equipment, plant: - procedures - working instructions - equipment - release of product	temperature material composition finish parts cappilar bore correct parts water tightness			
Finished-products - Marking - Surface	finish correct assembly Carbon content			
Measuring and testing equipment - measuring equipment - calibration	certificate validity control registration			
Logistics - internal transport - storage - preservation - packaging - identification	damage packaging storage traceability			

