**BRL K767**Date 2018-09-04

## **Evaluation Guideline**

for the Kiwa product certificate for external coating for metal pipes



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 Onderwerp 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..

The choice was made to merge:

- BRL-K753, External polyurethane coating for ductile cast iron tubes for underground applications;
- BRL-K757, External PE coating on ductile cast iron tubes: d.d. 2012-02-01;
- BRL-K767, PE external coating of underground pipe fittings for underground steel pipe fittings,

into a new version of BRL-K767.

BRL-K783, Pipe wrappings and shrink cuffs, is not included in this modified guideline, because this application can be referred to Giveg Requirements 87.

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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.

#### Binding declaration

This evaluation guideline has been declared binding by Kiwa on 4 September 2018

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BRL-K767

4 September 2018

## **Contents**

1	Introduction	4
1.1	General	4
1.2	Field of application / scope	4
1.3	Acceptance of test reports provided by the supplier	4
1.4	Quality declaration	4
2	Terms and definitions	5
2.1	Definitions	5
3	Procedure for granting a product certificate	6
3.1	Pre-certification tests	6
3.2	Granting the product certificate	6
4	Requirements	7
4.1	General	7
4.2	Regulatory requirements	7
4.2.1	Product requirements	7
5	Marking	8
5.1	General	8
5.2	Certification mark	8
6	Requirements in respect of the quality system	9
6.1	Manager of the quality system	9
6.2	Internal quality control/quality plan	9
6.3	Control of test and measuring equipment	9
6.4	Procedures and working instructions	9
6.5	Other requirements	9
7	Summary of tests and inspections	10
7.1	Test matrix	10
7.2	Inspection of the quality system of the supplier	13
8	Agreements on the implementation of certification	14
8.1	General	14
8.2	Certification staff	14
8.3	Report pre-certification tests	16
8.4	Decision for granting the certificate	16

8.5	Layout of quality declaration	16
8.6	Nature and frequency of third party audits	16
8.7	Report to the Board of Experts	17
8.8	Non conformities	17
8.9	Interpretation of requirements	17
9	Titles of standards	18
9.1	Public law rules	18
9.2	Standards / normative documents	18
I	Model certificate (informative)	19
II	Model IQC-scheme (informative)	20

#### 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 "External coating for metal tubes".

This guideline replaces the evaluation guideline BRL-K757, BRL-K753 and BRL-K767

The quality declarations issued and based on that guideline will lose their validity at least on 13 September 2018.

For the performance of its certification work, Kiwa is bound to the requirements as included in NEN-EN-ISO/IEC 17065.

#### 1.2 Field of application / scope

The products are intended to be used for external coating of metal pipes.

#### 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 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
- 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.
- **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.

# 3 Procedure for granting a product certificate

#### 3.1 Pre-certification tests

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 Decision maker (see 8.2) 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.

## 4 Requirements

#### 4.1 General

This chapter contains the requirements that external coating for metal tubes have to fulfil.

#### 4.2 Regulatory requirements

#### 4.2.1 Product requirements

The requirements of the product are specified in:

Nummer	Titel
NEN-EN-ISO	Petroleum and natural gas industries – External coatings for buried or
21809-1	submerged pipelines used in pipeline transportation systems – Part
	1: Polyolefin coatings (3-layer PE and 3-layer PP)
NEN-EN 10288	Steel tubes and fittings for onshore and offshore pipelines – External
	two layer extruded polyethylene based coatings
NEN-EN 10290	Steel tubes and fittings for onshore and offshore pipelines – External
	liquid applied polyurethane and polyurethane-modified coatings
NEN-EN 14628	Ductile iron pipes, fittings and accessories – External polyethylene
	coating for pipes – Requirements and test methods
NEN-EN 15189	Ductile iron pipes, fittings and accessories – External polyurethane
	coating for pipes – Requirements and test methods

## 5 Marking

#### 5.1 General

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

- NEN-EN-ISO 21809-1, Article 13;
- NEN-EN 10288, Article 11;
- NEN-EN 15189, Article 5.5;
- NEN-EN 10290, Article 10;
- NEN-EN 14628, Article 5.5.

#### 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 who will be in charge of managing the supplier's quality system must have been appointed.

#### 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 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.

#### 6.3 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.

#### 6.4 Procedures and working instructions

The supplier shall be able to submit the following:

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

#### 6.5 Other requirements

The supplier shall be able to submit the following:

- the organisation's organogram;
- · qualification requirements of the personnel concerned.

## 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:** 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.

#### 7.1 Test matrix

Description of requirements	Article BRL/EN-	Tests within the scope of;		
Description of requirements	norm	Pre- certification	Inspection of certificate <sup>a), b)</sup>	
	BRL-K767			
General	5.1	X	X	
Certification Mark	5.2	X	X	
	NEN-EN 102	88		
Classification of coatings	4	X	X	
Information to be supplied by the purchaser	5			
Mandatory	5.1	X	X	
Application of the coating	7			
Surface preparation, Type 1	7.1.1	Х	Х	
Surface preparation, Type 2	7.1.2	X	X	
Composition of the coating, layer 1	7.2.1	Х	X	
Composition of the coating, layer 1	7.2.2	х	Х	
Requirements of the applied coating	8			
General	8.1	X	X	
Appearance and continuity	8.2	Х	X	
Thickness of the coating system	8.3	Х	Х	
Cut back at the ends	8.4	Х	X	
Holiday detection	8.5	Х	X	
Impact resistance	8.6	X	X	

Description of no minomoute	Antiala DDI /EN	Tests within the scope of;		
Description of requirements	Article BRL/EN- norm	Pre- certification	Inspection of certificate <sup>a), b)</sup>	
Peel force, type 1	8.7.1	Х	Х	
Peel force, type 1	8.7.2	Х	Х	
Indentation resistance	8.8	Х	Х	
Electrical insulation resistance	8.9	Х	Х	
Elongation at break	8.10	Х	Х	
Resistance to ultraviolet irradiation	8.11	Х	Х	
Thermal stability	8.12	Х	Х	
Cathodic disbondment	8.13	Х	Χ	
Flexibility	8.14	Х	Х	
Nature and frequency of testing and control	9.3	Х	Х	
Marking	11	Х	Х	
Handling, transportation and storage	12	Х	Х	
NEN-EN 14628				
Technical Requirements	5			
Surface preparation	5.1	X	X	
Material properties	5.2	X	X	
Finished polyethylene coating	5.3	X	X	
Appearance and continuity	5.3.1	X	X	
Minimum coating thickness	5.3.2	Х	X	
Ends of pipes	5.3.3	X	X	
Repairs	5.4	Х	X	
Marking	5.5	Х	X	
Peeling strength	5.6	Х	X	
Non-porosity	5.7	X	X	
Impact strength	6.1	Х	X	
Indentation resistance	6.2	Х	X	
Elongation at break	6.3	X	X	
Specific coating resistance	6.4	Х	Х	
Heat ageing	6.5	Х	Х	
Light ageing	6.6	X	X	

Description of acquirements	Article DDI /EN	Tests within the scope of;		
Description of requirements	Article BRL/EN- norm	Pre- certification	Inspection of certificate a), b)	
S	NEN-EN 102		V	
Scope, type 1, type 2, type 3	1	X	X	
Coating materials	4.1	X	X	
Technical specification	4.2	X	X	
Packaging	4.3	Х	Х	
Quality assurance	4.4	Х	X	
Surface preparation	6.1	Х	X	
Composition of the coating	6.3	X	X	
Requirements of the applied coating	7	Х	Х	
Sampling	8.3	X		
Marking	10	X	Х	
Handling, transport and storage	11			
	NEN-EN 151	89		
Surface preparation	5.1	X	X	
Finished polyurethane coating	5.2	X	Χ	
Pipe ends	5.3	X	Χ	
Marking	5.5	X	Χ	
Performance Requirements	6			
Performance tests	7	Х		
	NEN-EN-ISO 21	809-1		
Information supplied by the purchaser	6	Х	Х	
Coating classification	7	X	Χ	
Coating materials	8	X	X	
Composition of the coating system	8.1	Х	Х	
Qualification of the coating materials	8.2	Х	Х	
Batch certificate	8.3	Х	Х	
Storage and handling of coating materials	8.4	Х	Х	
Coating system qualification	9	Х	Х	
General	9.1	Х	Х	
·	•			

Description of requirements	Article DDI /EN	Tests within the scope of;		
Description of requirements	Article BRL/EN- norm	Pre- certification	Inspection of certificate <sup>a), b)</sup>	
Application procedure specification	9.2	Х	Х	
Procedure qualification trial	9.3	Х	X	
Inspection and testing plan	9.4	X	X	
Application of the coating system	10	X	X	
Surface preparation	10.1	Х	X	
Coating application	10.2	X	X	
Cutback	10.3	Х	X	
Marking	13	Х	Х	
Handling and storage in the applicators facilities	14	Х	Х	

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

#### 7.2 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.

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 8.6 of this evaluation guideline.

# 8 Agreements on the implementation of certification

#### 8.1 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;
  - o 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.

#### 8.2 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 precertification 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 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	Relevant experience: in the field
Requirements for conducting	SAS, CAS: 1 year
professional audits on products,	<b>DM</b> : 5 years inclusive 1 year with respect to
processes, services, installations,	certification
design and management systems.	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).	<b>SAS</b> : 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	<ul> <li>CAS</li> <li>2 complete applications (excluding the initial assessment of the production site) under the direction of the PM</li> <li>1 complete application self-reliant (to be evaluated by PM)</li> <li>2 initial assessments of the production site under the direction of the PM</li> <li>1 initial assessment of the production site self-reliant (witnessed by PM)</li> <li>SAS</li> <li>2 inspection visits together with a qualified SAS</li> <li>1 inspection visits conducted self-reliant (witnessed by PM)</li> </ul>
Skills in performing witnessing	PM Internal training witness testing

#### Legenda:

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

#### 8.2.2 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.

#### 8.3 Report pre-certification tests

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.

#### 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 in a traceable manner.

#### 8.5 Layout of quality declaration

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

#### 8.6 Nature and frequency of third party audits

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

At the time this BRL entered into force, the frequency of audits amounts 2 audit(s) on site per year for suppliers with a quality management system in accordance with ISO 9001 for their production, which has been certified by an acknowledged body (in accordance with ISO/IEC 17021) and where the IQC scheme forms an integral part of the quality management system.

In case the supplier is not in possession of any product certificate (issued by Kiwa or any other accredited certification body), the frequency is increased to 3 visits for the duration of 1 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 1 audit per 2 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.

#### 8.7 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.

#### 8.8 Non conformities

When the certification requirements are not met, Kiwa will take measures in accordance with the sanctions policy as described in the Kiwa Regulations for Certification.

The Kiwa Regulations for Certification is available on the Kiwa website.

#### 8.9 Interpretation of requirements

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

### 9 Titles of standards

#### 9.1 Public law rules

BJZ2011048144 Regeling van de Staatssecretaris van Infrastructuur en 29 juni 2011 Milieu<sup>1</sup>

#### 9.2 Standards / normative documents

Number	Title
NEN-EN 10288	Steel tubes and fittings for onshore and offshore pipelines – External two layer extruded polyethylene based coatings
NEN-EN 14628	Ductile iron pipes, fittings and accessories – External polyethylene coating for pipes – Requirements and test methods
NEN-EN 10290	Steel tubes and fittings for onshore and offshore pipelines – External liquid applied polyurethane and polyurethane-modified coatings
NEN-EN 15189	Ductile iron pipes, fittings and accessories – External polyurethane coating for pipes – Requirements and test methods
NEN-EN-ISO 21809-1	Petroleum and natural gas industries – External coatings for buried or submerged pipelines used in pipeline transportation systems – Part 1: Polyolefin coatings (3-layer PE and 3-layer PP)
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 9001 NEN-EN-ISO 45011	Quality management systems – Requirements General requirements for bodies operating product certification systems
NEN-EN-ISO/IEC17065	Conformity assessment - Requirements for bodies certifying products, processes and services

<sup>&</sup>lt;sup>1</sup> Valid from 1 July 2017

### I Model certificate (informative)



#### Product certificate KXXXXXX/0X

1 of 1



bouse

Replace

Page



#### 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

inclusive amendment sheet dated dd-mm-yyyy.

Luc Leroy Kiwa

Publication of this certificate is allowed.

Advice: consult www.kiwa.ni 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

40410

## 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  • incoming goods inspection semifinished 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				