BRL-K14037
2017-11-21

Evaluation Guideline

for the Kiwa product certificate for

‘Membrane filtration elements for the treatment and/or production of drinking water’

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 of products for treatment and / or production of drinking water 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. This regulation details the method used by Kiwa for conducting the necessary investigations prior to issuing the product certificate and the method of external control.

Based on the assessment of the product according to this evaluation guideline and including the assessment of the quality control of the production process at the production location, a certificate is issued for products used for treatment and/or production of drinking water.

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Validation
This evaluation guideline has been validated by Kiwa on Date 2017-11-21

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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 treatment and /or production of drinking water.

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

Treatment: any handling of ground water, surface water, sea water, or other raw water used in the production of drinking water, up to the point where the drinking water becomes available for consumption.

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 I.

1.5 Principle of supervision

Regular inspection of the quality system takes place at the production site. Prior to delivery, product(s) need to be tested for performance and product aspects. The certificate is only valid in combination with a test report which is not older than two years.
The tests can be performed in combination with the regular inspection or separately as batch release testing. (See: Test matrix in chapter 7)

2 Terms and definitions

In this evaluation guideline, the following terms and definitions are applicable:

Board of Experts: the Board of Experts “Water Cycle” (CWK).

Distributions: transport and supply; - seen from the clean water basin
(source: Dutch drinking water law – chapter I, General)

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.

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.

Tap water (origin NEN 1006): water intended for drinking, cooking, food preparation or other domestic purposes.

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.

Positive List: The list of substances included in ‘Regulation on materials and chemicals in drinking and hot water supply‘, of which the presence in products of the use in a manufacturing process is permissible under the set conditions.

Pre-certification tests: tests in order to ascertain that all the requirements recorded in the evaluation guideline are met.

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.

Production: Extraction, preparation and related storage of drinking water – seen to the water basin (source: Dutch drinking water law, chapter I, General)

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.

Membrane filtration elements: Structure intervening for separation two phases and/or acting as a selective barrier to the transport of matter between the phases adjacent to it. (bron NEN-EN14652)

Regulation on materials and chemicals in drinking and hot water supply:
The products or materials have to meet the toxicological, microbiological and organoleptical requirements which are laid down in the valid “Materials and chemicals in the supply of drinking water and warm tap water Regulation” (published in the Government Gazette).

3 Procedure for granting the quality declaration

3.1 Pre-certification tests

The pre-certification tests to be performed are based on the (product) requirements as contained in this evaluation guideline, including the test methods, and comprise of, depending on the nature of the product to be certified, 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 quality declaration

After finishing the pre-certification tests, the results are presented to the Decision maker (see 8.2) deciding on granting of 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 Test requirements

The composition is tested for hygienic aspects according to the ‘Regulation on materials and chemicals in drinking and hot water supply’.

4 Product requirements and test methods

This chapter contains the requirements that products used for the membrane filtration elements for drinking water production have to fulfil. These requirements will form part of the technical specification of the products, as included in the certificate.

4.1 Fitness for contact with drinking water

The products or materials have to meet the toxicological, microbiological and organoleptical requirements which are laid down in the valid “Regulation on materials and chemicals in drinking and hot water supply” (published in the Government Gazette). This means that the procedure for obtaining a recognised quality declaration, as meant in the valid Regulation, has to be concluded with positive results.

Products and materials with a quality declaration , issued by e.g. a foreign certification body, are allowed to be used in the Netherlands, provided that the Minister has declared this quality declaration at least equivalent to the quality declaration as meant in the Regulation.

To show compliance with these requirements, the products are evaluated according to paragraphs 4.1.1 through 4.2.

4.1.1 Composition review

The composition of the membrane filtration elements shall be declared by the producer to Kiwa, describing all parts of the product with the following details

- Part identification
- Composition or formulation of these parts
- Whether the part comes into contact with drinking water
- For contact surface with drinking water

This declaration shall be used as a basis for the formulation review and shall be checked during initial and regular audits. For this purpose the composition shall be laid down in an appendix to the certificate, which shall be made available to the auditor by the producer at the production location.

4.1.2 Formulation Review

The recipe and/or chemical composition (hereafter ‘formulation’) of each material of the product needs to be reviewed according to the applicable Positive List(s). Therefore the producers have to provide this information to Kiwa.
The Positive Lists contain detailed description of all approved constituents and the requirements for the materials. A part of these requirements may be specific migration limits for constituents of the materials. The actual release of these constituents is assessed according to paragraph 4.1.3
Used transport fluids and preservation solutions in contact with the wetted parts shall be part of the Hygienic evaluation.

4.1.3 Migration Testing

The release of constituents from the membrane filtration elements needs to be lower than or equal to the corresponding limit value. Specific migration limits are determined for each product in the formulation review (see 4.1.2). All products need to comply with the general migration requirements (e.g. TOC). The actual migration is determined by laboratory testing according to EN12873-4. Alternatively, migration modelling according to TR164 may be used for applicable parameters. More details can found in CEN/TR 16364.

"Influence of materials on water intended for human consumption - Influence due to migration - Prediction of migration from organic materials using mathematical modelling"

4.1.4 Quality system

The supplier shall establish, implement, maintain and continually improve a quality system, including the processes needed and their interactions. All important changes in relation with the certified products shall be communicated to and approved by the certification body.

4.1.5 *Packaging, transport and storage*

In addition to the provision of 4.1.4.
The producer must have a procedure to protect the products during storage and transport against influences on the fitness for contact with drinking water. In addition, the supplier must inform the customer how to handle the products (which are supplied under certificate) from their arrival until the moment it is put into operation.
The products shall be protected during transport and storage to avoid influence (contamination) from any external source.
The delivery conditions also apply to sales agents or representatives.

4.2 Instructions for use (IFU)

The supplier should provide information for the use of the membranes.
These IFU should include:

- Specification of the product (membrane element)
- Description of the filtration process
- Instruction for installation of the elements
  - Guidelines for commissioning/ start-up/ shut-down of a membrane system
- Instructions for initial flush prior to production of drinking water
- Guidelines for operating conditions
  - Filtration flux, feed pressure
  - Hydraulic cleaning (if applicable)
  - Chemical cleaning (CEB and CIP) incl. list of chemicals
  - Conservation and other precautions when not in production (short term, long term)
- Precautions for
  - Safe use
  - Shipment and storage
  - Conservation of membrane elements
- Maintenance
  - Membrane Integrity testing
  - Element repair procedure
- Health and Safety Issues
- Waste Disposal

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.

4.3 Purchase agreement

Due to the function of membrane filtration elements in the production of drinking water, additional specific requirements may be agreed between the supplier and the customer/user. These additional specific requirements shall be laid down in a written agreement between the producer and the customer. For each requirement it shall be stated which method of control is required:

1. Check by the customer at or after delivery and
2. Check by the producer during manufacturing and subsequent control by Kiwa or
3. Check by Kiwa prior to delivery of the products, e.g.

An example of an agreement is given in Annex III.

5 Marking

5.1 General

The products have to be marked with following indelible marks and indications:
name or logo of the supplier,
data or code indicating the date of production,
type indication

5.2 Certification mark

After concluding a Kiwa certification agreement the certified products shall, beside the marks indicated in the respective standards, be indelible marked with the certification mark

Kiwa Water Mark:  or the simplified version of the Water Mark : 

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

This IQC scheme should at least be an equivalent derivative of the model IQC scheme as shown in Annex II.

6.3 Procedures and working instructions

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

6.4 Other requirements

The supplier must 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;
- Inspection test as to toxicological requirements and product requirements;
- Inspection of the quality system.

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

7.1 Test matrix:

The test matrix contains a summary showing what tests Kiwa will carry out in the pre-certification stage and in the event of inspections as well as showing the frequency with which the inspection tests will be carried out.

Aspects (4.1) **Fitness for contact in drinking water**	**Article BRL**	**Initially**	**Regular**	**Frequency**
Composition review	4.1.1	Y	Y	1/year / BRT[1)]
Formulation review	4.1.2	Y	N	n/a
Migration test	4.1.3	N	Y	BRT[1)]
Quality system	4.1.4	Y	N	1/year / BRT[1)]
Packaging, transport and storage	4.1.5	Y	Y	BRT[1)]
Aspects (4.2) **Instruction for use[2)]**	**Article BRL**	**Initially**	**Regular**	**Frequency**
Specification of the product (membrane element)	4.2	Y	Y	BRT[1)]
Description of the filtration process				
Instruction for installation of the elements				
Guidelines for operating conditions				
Precautions				
Maintenance				
Health and safety issues				
Waste disposal				
Aspects (4.3) **Purchase agreement**	**Article BRL**	**Initially**	**Regular**	**Frequency**
Check by the customer at of after delivery	4.3	Y	Y	BRT[1)]
Check by the producer during manufacturing and subsequent control by Kiwa				
Check by Kiwa prior to delivery of the products				

1) BRT = Batch Release Test (max 1/year per certificate), performed in combination with the regular inspection of the quality system or separately as batch release testing. BRT is only applicable when there has not been any production under a Kiwa certificate for a longer period. This BRT has to be carried out by Kiwa.

2) Agreement between producers and customers, see informative annex III for example

In case of significant changes of the product or production process, compliance of the product to the performance requirements shall be determined.

7.2 Inspection of the quality system

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

8 Agreements on the implementations 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;
  - 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 pre-certification tests carried out, continuing the certification in connection with the inspections carried out and taking decisions on the need to take corrective actions.

8.2.1 Qualification requirements

The following qualification requirements have been set by the Board of Experts for the subject matter of this evaluation guideline (see Table 3):

Table 3 – Qualification requirements of certification staff.

Basis 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 (MBO) **CAS, DM** : Bachelor (HBO)
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.

Basis requirements	Evaluation criteria
Execution of initial examination	**CAS**: 3 initial audits under review.
Conducting review	**CAS**: conducting 3 reviews

	Certification assessor	Site assessor	Decision maker
Education - specific	• BRL-relevant technical education • specific studies and training (know-how and skills)	• BRL-relevant technical education • specific studies and training (know-how and skills)	• not applicable.
Experience - specific	• Detailed knowledge of the BRL and 4 certification tests carried out on the basis of the BRL or similar	• Detailed knowledge of the BRL and 4 inspections carried out on the basis of the BRL or one similar.	• general knowledge of the BRL

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

- Site assessor (**SAS**)
- Certification assessor (**CAS**)
- Decision maker (**DM**)

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:

I Decision maker: qualification of Certification and Site assessors;
II Management of the certification body: qualification of Decision makers.

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:

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

8.4 Decision for granting the certificate

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

8.5 Layout of quality declaration

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

8.6 Nature and frequency of third party audits

The certification body shall carry out 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 one audit 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 production of the supplier is not certified against ISO 9001, the frequency of the audits on site may be increased to two per year.

The audit program on site shall cover at least:

- 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.

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

8.7 Non conformities

When the certification requirements are not met, measures are taken by Kiwa in accordance with the sanctions policy.
This can be found on the Kiwa website (www.kiwa.nl) by introducing the term “BRL14037” in the info window.

8.8 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

In Table 4, the public rules that have to be fulfilled are listed.

Table 4 – Public law rules (*in force for The Netherlands*).

Standard	Title
"Staatscourant" (Dutch Government Gazette) from 18 July 2011, no. 11911	"Regeling Materialen en Chemicaliën drink- en warm tapwatervoorziening" (Regulation on materials and chemicals drinking water and warm tap water supply)

9.2 Standards / normative documents

The relevant normative documents (standards) for this evaluation guideline are listed in the Table 5.

Table 5 –Relevant normative documents/standards

Standard *	Title
EN-ISO 9001	Quality management systems - Requirements
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
NEN 1006	Algemene voorschriften voor leidingwaterinstallaties
NEN-EN 12873-3	Influence of materials on water intended for human consumption - Influence due to migration - Part 3: Test method for ion exchange and absorbent resins
NEN-EN 12873-4	Influence of materials on water intended for human consumption - Influence due to migration - Part 4: Test method for water treatment membranes
NEN-EN14652	Water conditioning equipment inside building – membrane separation devices – requirements for performance, safety and testing
NEN-EN 45004	General criteria for the operation of various types of bodies performing inspection.
CEN/TR 16364	Influence of materials on water intended for human consumption – influence due to migration – Prediction of migration from organic materials using mathematical modelling

*) Remarks:

- *the latest version is valid.*

Annex I: Model Certificate (informative)

Certificate

Product certificate
Kxxxxx/xx

kiwa
Partner for progress

Issued yyyy-mm-dd
Replaces Kxxxxx/xx
Page 1 of 2

Membrane filtration elements for the treatment and/or production of drinking water

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

Company name
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-KK14037 "Membrane filtration elements used for treatment and/or production of drinking water" dated (dd-mm-yyyy).

Luc Leroy
Kiwa

CONCEPT

Publication of the certificate is allowed.

Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

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Supplier
Company
Name
Address
Place

Tel. +xx-xxxxxx
Fax +xx-xxxxxx
Email xxxxxxxxx.xxx
Internet www.xxxxxxxxx.xxx

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

This certificate covers xxxxxxx

APPROVAL

The products are approved on the basis of the requirements set in the "Regeling materialen en chemicaliën drink- en warm tapwatervoorziening" (Materials and chemicals in the supply of drinking water and warm tap water Regulation; published in the Government Gazette).

CRITERIA HYGIENIC ASPECTS

The product certification is based on two main criteria. It should permanently comply with the:

- product recipe approved during the assessment procedure. This recipe is not to be changed without prior approval by Kiwa following the Kiwa approval procedure related to the hygienic aspects.
- specific product requirements (see "PRODUCT REQUIREMENTS HYGIENIC ASPECTS").

PRODUCT REQUIREMENTS HYGIENIC ASPECTS

For this product is relevant the positive list mentioned in the "Regeling materialen en chemicaliën drink- en warm tapwatervoorziening" (published in the Government Gazette).

After 30 days the maximum tolerable concentration in the drinking water ($MTC_{drinking\ water}$) of the following substances or parameters may not exceed the numerical values mentioned behind.

- TOC 2 mg/l;
- Odour 16;
- Flavour 16;
- Colour 10 mg/l Pt.

The remaining valid MTC's are, with respect to confidentiality, laid down in the non public 'appendix hygienic aspects' to certificate Kxxxxx/xx.

MARKING

Design of the required Kiwa certification mark:

- "KIWA", in ink or seal.

Location of the mark:

- On the product / On the packaging / On the delivery receipt.

Mandatory marks:

- "KIWA";
- "Handelsnaam product";
- "Kxxxxx/xx".

REMAINING CONDITIONS

Consult the supplier's processing guidelines for the proper storage and transport methods.

Annex II: Model IQC Scheme (informative)

Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Raw materials or materials supplied: - recipe sheets - incoming goods inspection raw materials	- recipe according annex product agreement		each delivery	entry control document
Production process, production equipment, plant: - procedures - working instructions - equipment - release of product	- tuning parameters - maintenance aspects	- adjustments machine - maintenance scheme - measuring - visual evaluation	- continuously - continuously - start up new product	- "digital" - work sheet - inspection document
Finished-products	- soundness - etc	- visually - measuring - etc	- continuously - etc	end control documents
Measuring and testing equipment - measuring equipment - calibration	- proper functioning - accuracy within the range of measurement	- during usage - records of non-conformities	- continuously - 1 x year	- end control document - calibration document
Logistics - internal transport - storage - preservation - packaging - identification	- circumstances in practise - comparison with order	- comparison with procedure - visual inspection	- continuously	- keep logistical procedures up to date

Annex III: Example of purchase agreements
(informative)

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Annex III: Example of purchase agreements
(informative)

SECTION 4 PRODUCTS AND TECHNICAL SPECIFICATIONS

4.1 PRODUCT

The products that Supplier deliver are:

- # elements type X, as specified in Appendix x;
- all the necessary accessories such as interconnectors, brine-seals, o-rings.

Supplier state that all elements comply with the following required capacity:

Mechanical integrity	100%
Salt rejection	98%
Retention (Pesticides and micro-organisms)	>80 %
MTC	10 - 12 m/s.kPa .10-9
Average flux	20 lmh
Feed pump pressure (at T = +1° C)	Max 18 bar or 1800 kPa

4.1.1 COSTUMER SPECIFIC SPECIFICATIONS

Supplier and costumer agreed about the specific specifications mentioned below:

-
-

4.2 KIWA WATERMARK CERTIFICATION

For the membrane elements Supplier shall maintain the Kiwa Watermark certification. In case the required Kiwa Watermark certification has expired, supplier must notify the costumer Contact Person mentioned on the order immediately in writing (by e-mail or fax).

4.3 SPARES

In order to prevent delay in installation in case of defects, supplier will deliver # spare membrane elements at no costs. These elements will be available at the start of the replacement project.
Costumer will send these back to Supplier for own expenses of costumer after successful installation. If the elements are used or damaged by costumer, supplier will have the right to invoice them.

4.4 TESTING

4.4.1 CHECK AFTER MANUFACTURING

Supplier will test each element for as specified in Appendix x. Supplier will use the work instruction for element test, as specified in Appendix x.
Test results will be sent in digital copy and hardcopy to the costumer Contact person before the delivery of the equipment.
To assure costumer that Supplier performs these tests the right way, costumer requires one or two of her employees to witness this testing process. Costs of this visit are for costumer. In order for costumer to be able to plan this visit, Supplier will make a logistical planning for the testing process at least 15 days in advance before start of testing.

Costumer has to take into account that there is a period (of x days) between integrity test and the other tests.

Annex III: Example of purchase agreements
(informative)

4.4.2. ACCEPTANCE-TESTING BY COSTUMER
Costumer intends to install the equipment without testing, but claims the right to take random samples to assure herself that no damage has occurred during transport. The actual acceptance test will be the installation and start of operation. Supplier will witness installation and start of operation to assure himself of the proper procedure. This visit is for own expenses of Supplier.

4.5 ELEMENT LOADING
Supplier will make a loading scheme based on wet tests directly after production. COSTUMER will check this loading scheme and will discuss when there is an occasion to.
Supplier will make a protocol and checklist for exchange and start-up.

Costumer will take notice of the Element Loading Guidelines drawn up by Supplier (Appendix x).

Costumer will return # old membranes to Supplier after replacement for research. Transportation cost are for Supplier.

4.6 TECHNICAL DOCUMENTATION
Supplier will supply a user manual or technical documentation with the product in hardcopy and digital. This will be either in Dutch or English. Costumer keeps the right to quote from these documents for use in internal documents. In case of changes supplier will provide Costumer with electronic updates of the above mentioned documentation at no cost.

4.7 SERVICE AFTER AWARDING
Supplier will provide to costumer all the necessary services. Supplier will have the following organization/contact persons for such service:
- Sales
- Customer service
- Technical support
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4.8 FUTURE AVAILABILITY
If Supplier decides to change the product or stop the production of the type X, supplier will inform costumer of this fact at least 6 months in advance, so that costumer still has an opportunity to place a last and final order.