

BRL-K21011/03

Datum 2024-09-01

Evaluation Guideline

for the Kiwa product certificate for
Glass reinforced plastic (GRP) tanks, with or without
catchment tanks, for the above ground storage of chemicals



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Progress**

Preface

This Evaluation Guideline (BRL) has been accepted by the Kiwa Board of Experts “Tanks, Tank installations & Appendages”, wherein all the relevant parties in the field of storage of chemicals are represented. A working group, reporting to the Board of Experts, prepared this Evaluation Guideline for glass reinforced plastic (GRP) tanks, with or without catchment tanks, for the above ground storage of chemicals. This working group included representatives from tank manufacturers, tank installers and the end users.

This Board of Experts also supervises the certification activities and will adjust this BRL if required. 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, which include the general rules employed by Kiwa for its certification activities.

Kiwa Nederland B.V.

Sir Winston Churchilllaan 273

Postbus 70

2280 AB RIJSWIJK

The Netherlands

Tel. +31 88 998 44 00

Fax +31 88 998 44 20

NL.Kiwa.info@Kiwa.com

www.kiwa.com

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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 the Director Certification and Inspection of Kiwa on 2024-09-01

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1 Introduction

1.1 General

This Evaluation Guideline (BRL) includes all relevant requirements which are used by Kiwa as the basis for granting and maintaining of product certificate for glass reinforced plastic (GRP) tanks, with or without catchment tanks, for the above ground storage of chemicals.

This Evaluation Guideline replaces BRL-K21011/02 dated 2014-01-01 including the amendment dated 2014-07-15 and the amendment dated 2015-03-15. Certificates issued on the basis of the older version of the BRL lose their validity after a period of six months after the validation date of this version.

Kiwa is bound by the requirements of NEN-EN-ISO/IEC 17065 "Conformity assessment - Requirements for bodies certifying products, processes and services" when carrying out its certification activities.

1.2 Field of application / scope

The tanks according to this BRL are designed for:

- Storage of chemicals (i.e. PGS 31);
- With or without a thermoplastic liner;
- Above ground installation;
- Construction can be either:
 - Single or double walled, vertical cylindrical/rectangular construction with a conical, flat or dished end roof or bottom, or
 - Single or double walled, horizontal cylindrical/rectangular construction with dished ends;
- Fabricated in the factory;
- Inside or outside installation;
- Atmospheric pressure i.e. with a design pressure ≤ 50 kPa;
- With or without leak detection or pre-leakage detection;
- Subjected to a normal continuous operating temperature of fluid which can range between -40 °C and $+120$ °C;
- Maximum filling capacity = 95% of the nominal capacity.

The tanks are not designed for:

- Combined installation such as a battery arrangement;
- Storage under pressure in excess of 50 kPa;
- Underground installation;
- Site built;
- Spherical tanks and tanks of irregular shape;
- Transport and distribution of fluids.

The catchment tanks are designed for:

- Secondary containment of chemicals;
- Above ground installation;
- Atmospheric pressure;
- Subjected to a normal operating temperature of fluid which can range between -40 °C and $+120$ °C;
- Volume of at least 100% of the nominal volume of the tank.

The tanks and catchment tanks are made from glass reinforced plastic (GRP).

Should the tank manufacturer supply both the tank and the catchment tank then he is responsible for the correct functioning of the tank and catchment tank as a combined unit. The operation of the combined unit shall be documented and approved by the manufacturer of the tank.

Note: A double walled tank equipped with a working leak detection system does not need to be installed with a secondary containment for retaining fluids.

The product certificate is only applicable if the requirements mentioned in article 4.5 and 4.6 are fulfilled.

1.3 Acceptance of test reports provided by the supplier

The supplier may provide test/inspection/analysis/evaluation reports from third party test institutes or laboratories to demonstrate compliance with the requirements of this BRL given that the third party institute meets the applicable accreditation norms, namely;

- NEN-EN-ISO/IEC 17020 for inspection bodies,
- NEN-EN-ISO/IEC 17021-1 for institutions certifying management systems,
- NEN-EN-ISO/IEC 17024 for certification bodies that certify persons,
- NEN-EN-ISO/IEC 17025 for laboratories,
- NEN-EN-ISO/IEC 17065 for institutions that certify products, processes and services.

This requirement is considered to be fulfilled when a certificate of accreditation for the concerned test/inspection/evaluation can be submitted. The certificate of accreditation must be issued by the Dutch Accreditation Council (RvA) or by an accreditation body with which RvA has concluded an agreement of mutual acceptance within EA, IAF and ILAC. If no accreditation certificate can be submitted, then the certification body shall verify whether the accreditation standard has been fulfilled

1.4 Quality declaration

The quality declarations to be issued by Kiwa based on this BRL will be referred to as Kiwa product certificate.

A model of the product certificate has been included for information purposes as Annex I of this evaluation guideline.

2 Terms and definitions

In this Evaluation Guideline the following definitions shall apply:

Evaluation guideline (BRL): The agreements made within the Board of Experts on the subject of certification.

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.

Board of Experts: The Board of Experts “Tanks, Tank installations and Appendages”.

Supplier: Is the certificate holder and the party responsible for ensuring that the products continue to meet the requirements on which the certification is based;
Note: the ‘Supplier’ may also be the manufacturer of the certified product(s);

Pre-certification assessment: The initial tests and assessments carried out to establish the product’s conformity to the requirements of the BRL for the purpose of granting the certificate.

Post-certification assessment: Periodic surveillance assessments (i.e. inspections) carried out after the certificate has been granted in order to ascertain that the certified products continue to meet the requirements of the BRL.

IQC scheme: A description of the tests/checks carried out by the supplier/manufacturer as part of its Internal Quality Control (IQC) system.

Product certificate: A document, in which Kiwa declares that the product can be, on delivery, deemed to comply with the product specification given in the product certificate.

Product requirements: Requirements made specific by means of measures or figures, focusing on (identifiable) characteristics of products and containing a limiting value to be achieved, which limiting value can be calculated or measured in an unequivocal manner.

Internal Quality Control scheme (IQC scheme): A description of the quality inspections and tests carried out by the supplier as part of his quality system.

Brim full capacity: Volume of water held by the tank filled through the filling orifice to the point of overflowing when all the nozzles are closed. The brim full capacity is always more than the nominal capacity.

Chemical protective barrier: A barrier layer provided on the inside of the tank to meet the effects caused by the stored medium at the designed service conditions.

Double walled tank: A tank whereby the structural wall is foreseen with an interstitial space which is used for leak detection purposes. These tanks can be equipped with an internal chemical protective barrier layer or thermoplastic liner which determines the life expectancy of the tank.

Leak detection system: A system for the detection of leaks in the inner or outer wall of a double walled tank which results in a visual and/or audible signal so that preventive measures can be taken. A tank equipped with a leak detection system in

accordance with BRL-K910 can prevent soil contamination and can, in most cases, be installed without a catchment tank.

Maximum filling capacity: 95% of the nominal capacity.

Mobile storage of fluids: The term mobile storage is applicable to tanks / catchment tanks which are suitable for transport when filled. These tanks / catchment tanks shall also comply with the requirements of ADR and therefore have the UN-identification required by ADR. Such tanks are **not** included in this Evaluation Guideline.

Nominal capacity: This capacity is the volume of the cylindrical section of the tank up to the connection with the roof or the lower part of the overflow connection if provided.

Pre-leakage detection system: A system for the detection of leaks in the inner chemical protection layer of a single walled tank which results in a visual and/or audible signal so that preventive measures can be taken. Even though a tank equipped with a pre-leakage detection system can be instrumental in preventing soil contamination it is as a stand-alone system insufficient for the installation of a single walled tank without a catchment tank.

Secondary containment construction on site: A secondary containment constructed on site for tanks which can retain its designed shape and function in any stage of its designed working life for the retention of any spillage of the medium stored. This construction is the responsibility of the client and is not included in this Evaluation Guideline.

Single walled tank: A tank whereby the single wall is of a layered construction such that these contribute to the strength and stiffness properties of the tank. These tanks are always equipped with an internal chemical protective barrier layer which determines the life expectancy of the tank. These tanks can be equipped with a pre-leakage detection system.

Catchment Tank: A secondary containment for tanks which can retain its designed shape and function in any stage of its designed working life as a stationary storage container.

Stationary storage of fluids: The term stationary storage is applicable when tanks / catchment tanks are permanently installed in one location and / or are not suitable for transport when filled.

Storage Tank: A container for the storage of fluids, which can retain its designed shape and function in any stage of its designed working life as a stationary storage container. A storage tank can be either:
a single walled construction with or without a pre-leakage detection system. These tanks are installed in a catchment tank;
a double walled construction with a leak detection system. Storage tanks with a leak detection system can be installed without a catchment tank.
The term "Tank" is also used in this BRL instead of "Storage Tank".

Tank battery: Two or more tanks installed parallel or in series, whereby use is made of common suction, filling and venting lines without the possibility of isolating any individual tank. A tank battery is not included in this Evaluation Guideline.

3 Procedure for granting a certificate

3.1 Pre-certification assessment

The pre-certification tests to be performed are based on the requirements and tests methods set out in this evaluation guideline, depending on the nature of the product to be certified, this might include:

- **Sample examination:** Kiwa will examine/test the product to be certified (or have it examined) to determine whether the product complies with the requirements of the BRL. The necessary samples will be drawn by (or on behalf of) Kiwa.
- **Assessment of the production process:** This assessment takes place during an ongoing production process, Kiwa checks if the product can be continuously produced in a manner that meet the certification requirements.
- **Assessment of the quality system and the IQC-scheme:** this involves checking the presence and functioning of work instruction and procedures.

3.2 Granting the certificate

After completing the pre-certification tests, the results are presented to the decision-maker (see Article 7.2). The decision maker evaluates the results and determines whether the certificate can be issued or whether additional data and/or examinations are required.

4 Product requirements and test methods

4.1 General

This chapter lists the product and performance requirements that have to be met by the product (tanks and catchment tanks made from glass reinforced plastic with or without a thermoplastic liner) as well as the test methods to determine that these requirements are met.

4.2 Design drawings and calculations

The manufacturer shall define all tank types, nominal sizes including capacities proposed for approval. The design details of the assembled product, materials to be used, lifting instructions, life expectancy of the product and the dimensional tolerances used in production shall be specified by the manufacturer in technical drawings and calculations. The design details and calculations shall be in accordance with NEN-EN 13121-1 through -3. The Certification Body shall evaluate these drawings and design for approval. Furthermore, the design shall be based on the following:

- a life expectancy of at least 20 years
- for outside installation:
 - an ambient temperature between – 20 to + 50 °C;
 - a snow load of 700 N/m² (see also National Annex to NEN-EN 1991-1-3 (Eurocode 1))
 - a wind load as determined on the basis of the National Annex to NEN-EN 1991-1-4 (Eurocode 1) whereby the tank height shall be used in determining the wind load in the calculations
 - adequate measures, when storing fluids that are susceptible to degradation when directly or indirectly exposed to sunlight, to prevent the degradation of the fluid stored.
- For earthquake prone areas **and** when specified by the client, the calculations shall be in accordance with NEN-EN 1998-1 (Eurocode 8) using the following factors:
 - Behaviour factor (q) for GRP tanks of 1,5
 - Ground type as specified in Table 3.1. Should the ground type not be known then ground type C shall be used
 - Building Class as specified in Table 4.3. For water catchment areas, as indicated by the client, the γ_1 factor of 1,4 shall be used
 - The horizontal acceleration as stated in “Seismic Hazard Zonation in National Building Codes in the context of Eurocode 8” as published by the JRC. For the vertical acceleration 0,67 x horizontal acceleration shall be used.

When no information is available then the client shall have to specify the factors that have to be used.

Note: In some parts of the Groningen province can be marked as an earthquake prone area due to the large scale extraction of natural gas. Should the client require the manufacturer to take the earthquake aspects into account then, unless otherwise specified by the client, the Seismic Zone C shall be applicable.

4.3 Requirements and test methods of material characteristics

In addition to the requirements detailed in NEN-EN 13121-1 through -3 the following requirements will be applicable.

4.3.1 Design of double walled tanks with leak detection

The design of the structural wall of double walled tanks shall be in accordance with the requirements of NEN-EN 13121-3. The interstitial space required for leak detection purposes shall have a minimum height of 5 mm and shall not contribute to the calculation of the structural wall strength of the tank.

A double walled tank shall be constructed as follows:

The structural tank wall with an inside wall for leak detection purposes. The specification for the inside wall will be in accordance with the requirements of NEN-EN 13121-2.

The interstitial space shall be designed to withstand an overpressure or a vacuum dependent on the system used – see article 4.4.4. This design pressure is a minimum of 0,1 bar(a) for vacuum systems and a maximum of 3,5 bar(a) for pressurized systems and shall be based on the hydrostatic pressure exerted by the medium to be stored. The material used for forming the interstitial space shall be resistant to the chemical to be stored – see article 4.3.2. For all media which are not listed in DIBt Medienlisten 40-2.1.1, 40-2.1.2 or 40-2.1.3, a double walled tank shall not be used unless a written approval is obtained from the resin manufacturer. This written approval shall cover the name of the stored medium along with the required concentration, the design temperature and the minimum life expectancy as stated by the resin manufacturer with a minimum of 3 years. This implies that the recertification period will be limited to the minimum life expectancy as stated by the resin manufacturer. The interstitial space shall at least cover the bottom and the cylindrical section up to the nominal capacity of the tank. For the vacuum system the leak detection system shall have a measuring connection to the lowest point of the interstitial space. For pressurized systems this requirement is not applicable.

The interstitial space shall be tested for leak tightness as follows:

- When a leak detection system is used based on an overpressure then the test pressure shall be 20% higher than the pressure obtained by the maximum liquid column, or
- When a leak detection system is used based on a vacuum system then the test pressure shall be an overpressure of 0,3 bar(g).

A double walled tank equipped with a leak detection system in accordance with BRL-K910 can be installed without a catchment tank.

4.3.2 Resistance to chemicals

The chemical protective barrier of the tank and catchment tank shall be resistant to the chemical to be stored for a minimum period of 20 years and 6 months respectively. Determination of the resistance to chemicals will be in accordance with the NEN-EN 13121-2 with the additional requirement that any blister or crack formation observed during the testing shall disqualify that material for the proposed application. When use is made of a thermoplastic lining, the material used shall be limited to those defined in NEN-EN 13121-2. Additionally, use may also be made of the DIBt Medienlisten 40. In those cases where the resistance to chemicals as indicated by the EN 13121-2 differs from that given by the DIBt, the value given in the EN 13121-2 shall be used. The method used in determining the resistance to chemicals shall be documented by the tank manufacturer.

In some applications the chemical protective barrier of the tank will not be resistant to the chemical to be stored for the minimum period of 20 years. In such cases the tank manufacturer shall, after obtaining written approval from the client, stipulate the minimum period after which the tank shall be recertified. This shall be specifically stated on the tank compliance document and on the tank identification plate.

The resin used for outer surface of the tank shall be suitable for a period of 3 months against the medium to be stored. For this purpose, for example, a resin based on an orthophthalic and/or an isophthalic acid can be used. This requirement is not applicable to tanks provided with a thermoplastic liner.

If the tank is provided with a skirt, the skirt shall have at least 3 equally spaced openings of 40 to 50 mm so that the spillage can be drained from inside the skirt.

4.3.3 Weathering and UV resistance

The tank and catchment tank installed outside shall be resistant to weathering. In order to achieve this, the outer surface of the tank shall be finished with a smooth surface achieved with a resin rich impregnated veil. Thereafter this surface shall be provided with a paraffinated top coat with the addition of a suitable UV stabiliser. Measures are to be taken to ensure that the outer surface is fully cured and this shall be determined by means of the Barcol hardness test whereby at least 80% of the hardness prescribed by the coating manufacturer shall be achieved. The coating manufacturer shall submit a written demonstration of the suitability of the UV stabiliser for the foreseen application.

4.3.4 Electrostatic behaviour (optional)

Some chemicals could form a risk during the filling operation due to the build-up of static electricity. When storing such chemicals means for conducting any build-up of static electricity within the tank to the outside of the tank shall be provided. Hereby use can be made of the internal metallic pipe or a conductive plastic pipe. The electrical resistivity of those parts in contact with the chemical to be stored shall be tested in accordance with NEN-EN 13121-3.

When use is made of this option the manufacturer shall include the measures to be taken in the installation and user instructions – see article 4.5.

4.3.5 Reaction to fire (optional)

When required or specified, the external surface layer(s) of the tank and/or catchment tank shall be modified to meet the requirements. Classification shall be in accordance with NEN-EN 13501-1.

When use is made of this option the manufacturer shall include the measures to be taken in the installation and user instructions – see article 4.5.

4.3.6 Design of the catchment tank

The catchment tank, when supplied, shall preferably have at least the same calculated service life as the tank.

However, since the catchment tank will only be exposed for short durations to the medium to be stored the tank manufacturer can use different design parameters whereby the calculated service life shall be a minimum of 3 months continuous exposure. In such cases the tank manufacturer shall install a system for the detection of the presence of liquid in the catchment tank and shall instruct the user to clean all spillage within a maximum period of 72 hours.

4.4 Requirements and test methods of the tank and catchment tank characteristics

In addition to the requirements detailed in NEN-EN 13121-1 through -3 the following requirements will be applicable.

4.4.1 Visual inspection / appearance

The inner and outer surface of the tank and catchment tank shall be smooth and flawless, without holes, blisters or other defects. The material shall be free of contamination. The visual inspection shall be in accordance with EN 13121-3. The

manufacturer's quality system shall include clear procedures for approval and rejection.

4.4.2 Wall thickness

The wall thickness and the wall build-up of the tank and catchment tank shall be in accordance with the manufacturer's approved drawings.

4.4.3 Volume of the catchment tank

The catchment tank shall have a volume that is at least 100% of the nominal capacity of the tank. If more than one tank is installed in the same catchment tank then the volume of the catchment tank shall be at least equal to the nominal volume of the largest tank plus 10% of the volume of all the tanks.

4.4.4 Leak detection system

A double walled tank shall be provided with a leak detection system that utilises an overpressure or vacuum and is certified in accordance with the requirements of BRL-K910. The installation of the leak detection system shall be in accordance with the instructions of the manufacturer of the leak detection system.

After installation, the leak detection system shall be tested for proper working and the tank interstitial space shall be tested at the calculated overpressure or vacuum. The installation of the leak detection system on site is the responsibility of the installation company.

The manufacturer shall include the measures and/or requirements relating to the leak detection system in the installation and user instructions – see article 4.5.

4.4.5 Pre-leakage detection system (optional)

A single walled tank can be provided with a pre-leakage detection system. If provided, this pre-leakage detection system shall be provided with:

- A fail-safe construction i.e. provide an alarm when the detection system is defective;
- The possibility to automatically monitor the status of the tank wall at least once per day;
- A test mode that allows the personnel to test the proper working of the detection system whereby the (test) alarm can be checked;
- A visual as well as an acoustic signal when the integrity of the tank wall has been breached. In this event the signal shall be connected to the operator's working station in such a way that it can only be turned off after corrective action has been taken.

The chemical protective barrier shall have an electrical resistivity of at least $10^8 \Omega \cdot \text{m}^2$.

The manufacturer shall include the measures and/or requirements relating to the pre-leakage system in the installation and user instructions – see article 4.5. The installation of the pre-leakage detection system on site is the responsibility of the tank manufacturer.

4.4.6 Leak tightness

All connections on the tank shall be properly closed before performing this test. All connections shall be checked for leaks using a soap water solution or equivalent when using the pneumatic pressure test.

Chemicals having a specific gravity $\leq 1,2$

All tanks shall be leak tight to a pneumatic pressure of 30 kPa for at least 15 minutes. Alternatively, the tank shall be filled with water to the highest point of the tank including all flanged connections for a period of at least 24 hours. The tank shall be

leak tight and an internal and external visual inspection shall reveal no defects. Alternatively, this test may also be performed according NEN-EN 13121-3 chapter C.3.1 at the installation site.

Chemicals having a specific gravity > 1,2

All tanks shall be filled with water to the highest point of the tank including all flanged connections. A standpipe will be attached to the top of the tank and filled with water to a level that equates to the specific gravity of the chemical e.g. for a tank having a height of 10 meters the height of the standpipe shall be 3 meters for a chemical with a specific gravity of 1,3. The water filling will be maintained for a period of at least 24 hours. The tank shall be leak tight and an internal and external visual inspection shall reveal no defects.

Alternatively, this test may also be performed without the standpipe according option B out of the NEN-EN 13121-3 chapter C.3.2.

Tanks designed for overpressure

When tanks are constructed for an over pressure i.e. with a design pressure ≤ 50 kPa (range 0 till ≤ 50 kPa) then the tank shall be filled with water to the highest point of the tank including all flanged connections and further subjected to an overpressure equal to the design pressure for a period of at least 24 hours. The tank shall show no leaks.

Catchment tanks

All catchment tanks shall be filled with water to the highest point of the catchment tank for a period of 24 hours. The catchment tank shall show no leaks.

4.4.7 Spark testing

When use is made of a thermoplastic liner, the welds made shall be spark tested for discontinuities. Any discontinuities shall be repaired and the retesting shall be performed at the original test voltage. The testing shall be performed in accordance with NEN-EN 13121-3.

In the event that a pre-leakage detection system has been provided, the entire inner tank surface will be subjected to spark testing. A minimum test voltage as stipulated in NEN-EN 13121-3 shall be used for this test.

In case an alternate test method will be prescribed, the test method shall be evaluate and agreed with the certification body.

4.4.8 Connections on the tank

Each assembled tank shall be equipped with at least a connection for the fill pipe at the opposite site of the vent (as far away as possible), connection for the suction, fluid level indicator, fluid level switch and a vent connection at the highest point of the tank are required. The connection size of the vent shall not be less than 1.5 times the size of the largest size of fill pipe or suction pipe, to avoid either over pressure or vacuum.

All connections shall preferably be installed at the top of the tank and above the maximum fluid level. Should connections below the fluid level be necessary then these shall be fitted with a flange connection. If there is a connection between the pipe and the wall of the catchment tank this shall be made leak proof (welded or laminated). In such cases the tank installer shall be:

- advised to install a sensor in the catchment tank for the detection of any leakage of the medium stored,
- advised to install flexible connectors both inside and outside the catchment tank to connect with the welded or laminated pipe, and
- provided with instructions to clean up any leakage as soon as possible but within a maximum period of 1 week.

The connections on the tank shall be resistant to the fluid to be stored. For all connections, the distance between the outside of the storage tank and the bottom of the flange must be designed so that the mounting of the counter-flange or other connection can be carried out. All flange surfaces should be flat and horizontal / vertical.

4.4.9 Internal piping in the tank

The internal piping shall form an integral part of the assembled product.

Piping	Requirements
Fill pipe	If provided, this pipe shall have at least a 3 mm diameter hole located as high as possible
Suction	The distance of the lowest point of this pipe to the bottom of the tank shall not hinder the suction function.
Fluid level indicator	If provided this pipe shall have a 3 mm diameter hole as high as possible
Vent	No internal pipe allowed

Table 4-1: Internal piping in the tank

Due to the hydraulic cyclical pressure all piping shall be at least PN 10. There shall be no openings in the internal piping with the exception of the pipe used for the fluid level indication or fill pipe (if applicable) which shall be provided with a hole of 3 mm diameter as high as possible. All pipes shall be resistant to the fluid to be stored and shall be in accordance with NEN-EN-ISO 15494.

4.4.10 Manholes and inspection openings

Tanks shall be equipped with a manhole for accessing the tank. The manhole opening shall have a minimum internal diameter of 600 mm and shall be located on the top of the tank.

Horizontal tanks with a cylindrical length greater than 10 m shall be equipped with two manholes. These manholes are to be situated as far apart as possible. The manhole flange shall not extend beyond 20 mm into the tank in order to ensure a free flow of the vapours of the stored chemical.

If the size of the tank does not allow the installation of a manhole opening then an inspection opening shall be installed. The inspection opening shall have a diameter of not less than 300 mm, and shall be provided with a means of being secured in place so that it can only be used for the intended purpose.

Note: National regulations may require the re-qualification of a tank at periodic intervals. If these regulations stipulate that an internal inspection of the tank has to be carried out by a qualified inspector then a manhole is recommended. If an adequate internal inspection of the tank is not possible, the tank will be rejected after the first re-qualification period.

4.4.11 Sealing elements

Elastomeric sealing elements shall be resistant to the chemicals to be stored. This shall be demonstrated in writing by the manufacturer of the sealing element based on his chemical resistance list and related to the compound number and design of the gasket.

When no information is available regarding the chemical resistance of the elastomeric sealing element to the chemical to be stored then a declaration from the manufacturer of the sealing element shall be provided as to the suitability of the element used.

Note,

Should testing be required in order to evaluate the chemical resistance of the sealing element then the requirements of NEN-EN 681-1 (or equivalent) whereby the testing shall be done with the chemical to be stored can be used. After performing the swelling test there should be no visual deterioration of the elastomeric seal.

For some applications the use of PTFE sealing elements is required. The PTFE sealing elements shall be resistant to the chemicals to be stored. This shall be demonstrated in writing by the manufacturer of the sealing element based on the test reports of the actual material supplied. In addition, PTFE sealing elements shall be tightened in accordance with the manufacturer's instructions.

Note: Attention should be given to the possibility of over tightening the sealing element resulting in the sealing element being squeezed out of the joint. A reinforcing inlay can be used to prevent this from occurring.

4.5 Installation and user instructions

The manufacturer shall provide proper written installation and users' instructions in the language of the country where the tank is to be installed and used. These instructions shall reference compliance with the national environmental regulations pertaining to the storage of chemicals. National regulations can stipulate requirements for preventing accidental impact to the tank and catchment tank and requirements for the overfill prevention and anti-siphon devices. National regulations stipulate that the installation is to be carried out by installers certified in accordance with the requirements of BRL-SIKB 7800 Scope F. The instructions shall include the precautions to be taken and the testing requirements when testing the tank on site. The test pressure to be used for this test will be limited to 5 kPa. For tanks designed for overpressure the design pressure shall be used.

The following Evaluation Guidelines provide additional information pertaining to the installation of the tank and catchment tank:

- BRL-SIKB 7800 for the installation of tanks and appendages
- BRL-K910 for leak detection systems for the storage and/or transport of products in the liquid phase or gas phase

In all cases the appendages used shall be resistant to the chemical stored and this shall be suitably demonstrated by the tank installer.

4.6 Documentation to be supplied with tank and catchment tank

Every GRP-tank / catchment tank shall be supplied with at least the following documents:

- The documentation as required by NEN-EN 13121-3.
- Installation / user instructions in the language of the country where the tank is to be installed and used. The certification body shall approve these instructions.
- A unique tank / catchment tank compliance document with the approval of the certification body in relation to the product certificate.

4.7 Tank and catchment tank identification plate

Each GRP-tank and catchment tank shall be indelibly marked with the following items:

- Certification mark and certification number of the certification body;
- Manufacturer's name and/or manufacturer's trade name;
- Serial number of the GRP tank and catchment tank (serial number of storage tank and catchment tank must be different);
- Month and year of manufacture;
- Maximum filling capacity of the GRP tank and nominal capacity of the catchment tank in litres or m³;

- Name of chemical to be stored in the tank including the CAS number (Chemical Abstract Service number) along with the concentration;
- Location of the GRP tank: Inside or outside;
- Maximum design temperature of chemical to be stored;
- Maximum design pressure of the tank;

When this information is provided on an identification plate (or label), the plate shall be mounted at eye level and provisions shall be taken to ensure that this plate cannot be removed from the tank or catchment tank. Both the tank and the catchment tank shall be provided with its own identification plate. Should the tank surface not be visual at eye level then the plate of the tank shall be mounted next to the plate of the catchment tank.

5 Quality system requirements

5.1 General

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

5.2 Manager of the quality system

Within the supplier's organizational structure an employee must have been appointed who is in charge of managing the supplier's quality system.

5.3 Internal quality control/quality plan

The supplier must have an internal quality control scheme (IQC scheme) applied by him.

This IQC scheme must demonstrably record:

- which aspects are checked by the supplier;
- the methods by which such checks are carried out;
- how often these checks are carried out;
- how the results are recorded and stored.

This IQC scheme should be (at least) an equivalent derivative of the model IQC scheme set out in Annex 3.

The scheme must be detailed in such a way that it provides Kiwa sufficient confidence that requirements will be continuously fulfilled.

At the time of the pre-certification assessment this scheme shall have been functioning for a period of at least 3 months.

Statistical process control, if used by the manufacturer, shall be performed according to ISO 2859-1, with an inspection and AQL-level to be approved by the certification body.

5.4 Qualification of personnel

All laminators and welders involved in the production of the tanks shall be qualified for this work in accordance with the requirements of NEN-EN 13121-3. The procedures used and the scope of qualification of each person shall be documented. The manufacturer shall review and renew this documentation on a yearly basis.

5.5 Qualification/approval of special processes

All curing, welding and lamination procedures shall be approved by the manufacturer prior to releasing these procedures for production purposes. The qualification of personnel shall be in accordance with these approved procedures. The approvals shall be documented and the manufacturer shall review and renew this documentation on a yearly basis.

5.6 Procedures and working instructions

The supplier shall be able to submit the following:

- Procedures for:
 - the handling of non-conforming products;
 - corrective actions in case non-conformities are found;
 - the handling of complaints regarding the products and / or services supplied.
- The working instructions and inspection forms in use.

- Instructions for packaging and closing off of products during storage and transport.

5.7 Management of laboratory and measurement equipment

The supplier must determine which laboratory and measuring equipment are needed to demonstrate the product's compliance to the requirements of this BRL.

Where necessary, the laboratory and measuring equipment shall be calibrated at specified intervals.

The supplier shall assess and record the validity of the previous measurement results if calibration reveals that the laboratory and measuring equipment is not functioning correctly.

The measuring equipment in question must be provided with an identification enabling the calibration status to be determined.

The supplier must record the results of the calibrations.

5.8 Design changes

Design changes of the certified products shall always be reported to Kiwa prior to the start of production. Kiwa shall evaluate these changes in order to determine the impact these changes have on the initial approved design and to determine which type tests shall have to be repeated.

Products that have been subjected to a design change can only be identified with the Kiwa quality stamp after they have been given a written approval by Kiwa.

5.9 Documentation retention

Unless specified otherwise, all qualification, inspection, test reports, calculations, drawings and material certificates shall be retained for a period of at least 10 years.

6 Summary of tests

This chapter gives the summary of the tests and inspections to be carried out in the scope of certification:

- **Pre-certification tests:** The initial tests/inspections carried out to establish the product's conformity to the requirements of the BRL for the purpose of granting the certificate.
- **Post-certification inspection:** periodic tests/checks carried out after the certificate has been granted in order to ascertain that the certified product continues to meet the requirements of the BRL. The frequency of inspection visits is set out in Article 7.6 of this BRL.

6.1 Test matrix

The following table shows the tests/assessments within the scope of pre and post certification as well as their frequency

Description of requirement	BRL Article	NC category**	Tests within the scope of		
			pre-certification	post certification	
				Inspection	Frequency
Design					
Design drawings and calculations	4.2	1	Yes	Yes	Every visit
Requirements for material characteristics					
Design of double walled tanks with leak detection	4.3.1	1	Yes	Yes	Every visit
Resistance to chemicals	4.3.2	1	Yes	Yes	Every visit
Weathering and UV resistance*	4.3.3	2	Yes	Yes	By every change
Electrostatic behaviour (optional)*	4.3.4	2	Yes	Yes	By every change
Reaction to fire (optional)*	4.3.5	2	Yes	Yes	By every change
Design of the	4.3.6	2	Yes	Yes	Every visit
Requirements for tank and catchment tank					
Visual inspection / appearance	4.4.1	3	Yes	Yes	Every visit
Wall thickness	4.4.2	2	Yes	Yes	Every visit
Volume of the	4.4.3	3	Yes	Yes	Every visit
Leak detection system	4.4.4	2	Yes	Yes	Every visit
Pre-leakage detection system (optional)	4.4.5	2	Yes	Yes	Every visit
Leak tightness	4.4.6	1	Yes	Yes	Every visit
Spark testing	4.4.7	2	Yes	Yes	Every visit
Connections on the tank	4.4.8	2	Yes	Yes	Every visit
Internal piping in the tank	4.4.9	2	Yes	Yes	1x/year
Manholes and inspection openings	4.4.10	2	Yes	Yes	Every visit
Sealing elements	4.4.11	2	Yes	Yes	Every visit
Installation and user instructions	4.5	2	Yes	Yes	1x/year
Documentation to be supplied with tank and	4.6	2	Yes	Yes	Every visit
Tank and catchment tank identification	4.7	1	Yes	Yes	Every visit
Internal quality control/quality plan	5.3	2	Yes	Yes	Every visit
Qualification of personnel	5.4	2	Yes	Yes	1x/year
Qualification/approval of special processes	5.5	2	Yes	Yes	1x/year
Procedures and working instructions	5.6	3	Yes	Yes	1x/year
Design changes	5.8	1	Yes	Yes	Every visit
Documentation retention	5.9	3	Yes	Yes	Every visit

* = Certificate of conformity (specifications from suppliers)
 ** = Non conformity category (see Article 7.7)

Table 6-1 Test matrix

7 Agreements on the implementation of certification

7.1 General

Beside the requirements included in these evaluation guidelines, the general rules for certification stipulated in the Kiwa Regulations for Product Certification also apply.

These rules are in particular:

- The general rules for conducting the pre-certification tests, to be distinguished in:
 - the way suppliers are to be informed about an application is being handled,
 - how the test are conducted,
 - the decision to be taken as a result of the pre certification tests.
- The general directions for conducting inspections and the aspects to be evaluated,
- The measurements to be taken by Kiwa in case of Non Conformities,
- Measurements taken by Kiwa in case of improper Use of Certificates, Certification Marks, Pictograms and Logos,
- Terms for termination of the certificate,
- The possibility to lodge an appeal against decisions of measurements taken by Kiwa.

7.2 Certification staff

The staff involved in the certification process are sub-divided into:

- Certification assessor/Reviewer (**CAS/RV**): in charge of carrying out the pre-certification assessments.;
- Site assessor (**SAS**): responsible for carrying out the external audit at the supplier;
- Decision maker (**DM**): responsible for taking decisions following the pre-certification tests carried out, taking decisions about the continuation of certification following inspections carried out and taking decisions on the need to take corrective action.

7.2.1 Qualifications of certification staff

The qualifications and competence criteria for the executive certification staff are set out in the table below.

	Certification assessor / Application reviewer	Site assessor	Decision maker
Basic competence			
<ul style="list-style-type: none"> • Knowledge and competent assessment of the production processes 	<ul style="list-style-type: none"> • Technical education at Bachelor level or higher • 1 year of relevant working experience 	<ul style="list-style-type: none"> • Technical vocational education at intermediate level or higher • 1 year of relevant working experience 	<ul style="list-style-type: none"> • Technical education at Bachelor level or higher • 5 years of working experience with a minimum of 1 year experience with certification

<ul style="list-style-type: none"> • Audit skills 	<ul style="list-style-type: none"> • Not applicable 	<ul style="list-style-type: none"> • Training in audit skills • Minimum of 4 complete audits of which at least 1 has been carried out independently and witnessed for qualification 	<ul style="list-style-type: none"> • Not applicable
Technical competence			
Knowledge of this BRL	<ul style="list-style-type: none"> • Detailed knowledge of this BRL • A minimum of 4 complete audits for this BRL or for related BRL's 	<ul style="list-style-type: none"> • Detailed knowledge of this BRL • A minimum of 4 complete audits for this BRL or for related BRL's 	<ul style="list-style-type: none"> • Not applicable
Relevant knowledge of: <ul style="list-style-type: none"> • The technology related to the manufacturing of the products to be inspected, the performance of these processes and the provision of these services • The manner in which the products are used, the processes are performed and the services are provided • Any defect which may occur during the use of the product, any error in the execution of processes and any inadequacies in the provision of services 	<ul style="list-style-type: none"> • Relevant technical education at Bachelor level or higher • Specific courses and training (knowledge and skills) related to plastics 	<ul style="list-style-type: none"> • Relevant technical vocational education at intermediate level or higher • Specific courses and training (knowledge and skills) related to plastics 	<ul style="list-style-type: none"> • Not applicable

Table 7-1 Qualification matrix

7.2.2 Demonstration of qualifications

The qualification of the Certification staff shall be demonstrated by means of assessing the knowledge and experience to the above mentioned requirements. on the basis of different criteria, this must be documented in writing. The competence and competence with regard to qualification must be laid down in the quality system of the certification body.

7.3 Pre-certification assessment report

The certification body documents the findings of the pre-certification tests and assessments in a report. The report must meet the following criteria:

- **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 documented and traceable;
- **Basis for decision:** the DM shall be able to base his decision (to grant the certificate or not) on the findings laid out in the report.

7.4 Decision on granting a certificates and/or imposing measures

The decision of granting the certificate or imposing certain measures on the certificate should be based on findings documented in the file.

In case of a critical or major non-conformity, the results (of pre-certification tests and/or periodic inspections) must be assessed by a reviewer.

Based on the reviewer's assessment the decision-maker should determine whether:

- The certificate may be issued,
- Sanctions are imposed,
- The certificate must be suspended or revoked.

The reviewer and decision-maker must not have been involved in the pre-certification tests or assessments.

The decision must be documented in a traceable manner.

7.5 Layout of the certificate

The product certificate shall conform the model included in Annex 1.

7.6 Nature and frequency of external inspections

After the certificate is granted, the certification body shall carry out site inspections at the supplier at regular intervals to check the supplier's compliance with its obligations after the certificate. The frequency of site inspections is determined by the Board of Experts.

At the time this BRL took effect, the frequency was set in Table 7-2.

Number of tanks produced per year	Number of visits per year
Between 0 to 1 tank per year	1 visit per year
Between 2 to 20 tanks per year	2 visits per year
Between 21 to 30 tanks per year	3 visits per year
Between 31 to 40 tanks per year	4 visits per year
More than 40 tanks per year	5 visits per year

Table 7-2 Inspection frequency

The inspection program should cover the aspects listed in the test matrix (Table 6-1) and should cover at least the following aspects:

- the product specifications laid down in the certificate;
- the production process of the products;
- the supplier's IQC scheme and the results of checks carried out by the supplier;
- the correct way of marking the certified products;
- compliance with the required procedures,
- handling of complaints about delivered products.

The results of each inspection should be documented by Kiwa in a traceable manner in a report.

7.7 Non-conformities

In case the certification requirements are not met (i.e. non-conformity) measures are taken by Kiwa in accordance with the sanctions policy as written in the Kiwa Regulation for Certification. The Kiwa Regulations for Certification are available on the Kiwa website.

Non-conformities (in the context of post-certification monitoring) can be classified into the following categories:

1 = Critical: These non-conformities can lead to a dangerous situation or result in a substandard product. The manufacturer shall, after approval from the certification

- body, implement corrective actions to rectify the situation within a maximum period of 2 weeks. Failure to do so shall result in the withdrawal of the certificate.
- 2 = Important: These non-conformities can in the long term lead to a substandard product. The manufacturer shall, after approval from the certification body, implement corrective actions to rectify the situation within a maximum period of 3 months. Failure to do so shall result in the withdrawal of the certificate.
- 3 = Less important: These non-conformities are less important but shall be rectified within a reasonable amount of time. The certification body shall check the corrective action taken during the following surveillance visit.

7.8 Reporting to the Board of Experts

The certification body shall report annually to the Board of Experts on the certification activities carried out. This report should address the following topics:

- changes in the number of certificates (new/expired);
- number of assessments carried out in relation to the established frequency;
- results of the assessments;
- measures imposed in the event of non-conformities;
- Received complaints from third parties about certified products.

7.9 Interpretation of requirements

The Board of Experts may document the interpretation of requirements set out in this assessment guideline in one or more interpretative document(s). This interpretation document is/are available to the members of the Board of Experts, the certification bodies and the certificate holders who are active on the basis of this evaluation guideline. This interpretation document(s) will be published on the Kiwa website.

8 Titles of standards

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

8.1 Standards / normative documents

Standard number	Title	Revision
PGS 31	Other dangerous liquids - Storage in underground and above-ground tank installations	
BRL SIKB 7800	Tank installation (design, installation, modification, (re)classification, inspection and repair)	
BRL-K910	Leak Detection Systems for the storage and/or transport of liquid or gaseous products	
DIBt Medienlisten 40	Medienlisten 40 für Behälter, Auffangvorrichtungen und Rohre aus Kunststoff	
ISO 2859-1	Sampling procedures for inspection by attributes – Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	
JRC 48352	Seismic Hazard Zonation in National Building Codes in the context of Eurocode 8	
NEN-EN 681-1	Elastomeric seals – Material requirements for pipe joint seals used in water and drainage applications – Part 1: Vulcanized rubber	
NEN-EN 1991-1-3 incl. NB	National Annex to NEN-EN 1991-1-3+C1: Eurocode 1 Actions on structures - Part 1-3: General actions - Snow loads	
NEN-EN 1991-1-4 incl. NB	National Annex to NEN-EN 1991-1-4+A1+C2: Eurocode 1: Actions on structures - Part 1-4: General actions - Wind actions	
NEN-EN 1998-1	Eurocode 8: Design of structures for earthquake resistance - Part 1 : General rules, seismic actions and rules for buildings	
NEN-EN 13501-1	Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests	
NEN-EN 13121-1	GRP Tanks and vessels for use above ground – Part 1: Raw Materials – Specification conditions and acceptance conditions	

Standard number	Title	Revision
NEN-EN 13121-2	GRP Tanks and vessels for use above ground – Part 2: Composite materials – Chemical resistance	
NEN-EN 13121-3	GRP Tanks and vessels for use above ground – Part 3: Design and workmanship	
NEN-EN-ISO 15494	Plastics piping systems for industrial applications — Polybutene (PB), polyethylene (PE) and polypropylene (PP) — Specifications for components and the system – Metric series	

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

I Annex 1 : Model certificate

	Product certificate KXXXXXXX/XX	
	Issued <i>yyyy-mm-dd</i>	
	Replaces	
	page <i>1 of 3</i>	
CERTIFICATE	Glass reinforced plastic (GRP) tanks, with or without catchment tanks, for the above ground storage of chemicals	
	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-K21011/03 "Glass reinforced plastic (GRP) tanks, with or without catchment tanks, for the above ground storage of chemicals" dated 2024-09-01.	
	Ron Scheepers Kiwa	
Kiwa Nederland B.V. Sir Winston Churchilllaan 273 Postbus 70 2280 AB RIJSWIJK The Netherlands Tel. +31 88 998 44 00 Fax +31 88 998 44 20 NL.Kiwa.info@Kiwa.com www.kiwa.com	Supplier Name Supplier Address Supplier Phone number www. Email	Certification process consists of initial and regular assessment of: <ul style="list-style-type: none">• quality system• product

Product certificate

KXXXXXX/XX

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Glass reinforced plastic (GRP) tanks, with or without catchment tanks, for the above ground storage of chemicals

TECHNICAL SPECIFICATION

The tanks are designed for:

- Storage of chemicals in above ground installations;
- Atmospheric pressure i.e. with a design pressure ≤ 50 kPa;
- Inside or outside installation;
- With or without a thermoplastic liner;
- Maximum filling capacity = 95% of the nominal capacity;
- Fabricated in the factory;
- Construction can be either:
 - Single or double walled, vertical cylindrical construction with a conical, flat or dished end roof or bottom, or
 - Single or double walled, horizontal cylindrical construction with dished ends;
- Without leak detection or pre-leakage detection;
- Subjected to a normal continuous operating temperature of fluid which can range between -40 °C and $+120$ °C.

The tanks are not suitable for:

- Combined installation such as a battery arrangement;
- Storage under pressure in excess of 50 kPa;
- Underground installation;
- Site built;
- Spherical tanks and tanks of irregular shape;
- Transport and distribution of fluids.

The catchment tanks are designed for the above ground secondary containment of the chemicals contained in the storage tanks. The catchment tanks have a volume of at least 100% of the nominal volume of the tank.

The tanks and catchment tanks are made from glass reinforced plastic (GRP). For the resistance to the stored chemicals the storage tanks are provided with a Single protective Layer (SPL) or a Chemical Resistant Layer (CRL) or a Thermoplastic Lining (TPL). The permitted TPL plastic materials are PVC-U, PP-H, PP-B, PP-R, PVDF, E-CTFE, FEP or PFA.

APPLICATION AND USE

The product certificate is only applicable if the requirements mentioned in paragraph 4.6 and 4.7 of the Evaluation Guideline are fulfilled. These are:

Installation and user instructions

The manufacturer shall provide proper written installation and users' instructions in the language of the country where the tank is to be installed and used. These instructions shall reference compliance with the national environmental regulations pertaining to the storage of chemicals. National regulations can stipulate requirements for preventing accidental impact to the tank and catchment tank and requirements for the overflow prevention and anti-siphon devices. The following Evaluation Guidelines provide additional information pertaining to the installation of the tank and catchment tank in the Netherlands:

- BRL SIKB 7800 for tank installations
- BRL-K910 for leak detection systems for the storage and/or transport of products in the liquid phase or gas phase.

In all cases the appendages used shall be resistant to the chemical stored and this shall be suitably demonstrated by the tank installer.

Documentation to be supplied with the tank and catchment tank

Every GRP-tank / catchment tank shall be supplied with at least the following documents:

- The documentation as required by NEN-EN 13121-3.
- Installation / user instructions in the language of the country where the tank is to be installed and used in. The certification body shall approve these instructions.
- A unique tank / catchment tank compliance document with the approval of the certification body in relation to the product certificate.

Product certificate

Page 2 of 2

KXXXXXXX/XX

Glass reinforced plastic (GRP) tanks, with or without catchment tanks, for the above ground storage of chemicals

MARKING

The products are marked with the Kiwa mark

Place of the mark:

Each GRP tank and catchment tank shall be indelibly marked.

Compulsory indications:

- Certification mark and certification number of the certification body;
- Manufacturer's name and/or manufacturer's trade mark;
- Serial number of the tank and/or catchment tank (serial number of storage tank and catchment tank must be different);
- Month and year of manufacture;
- Maximum filling capacity of the GRP tank and nominal capacity of the catchment tank in litres or m³;
- Name of the chemical to be stored in tank including the CAS number (Chemical Abstract Service number) along with the concentration;
- Location of the GRP tank: Inside or outside;
- Maximum design temperature of the chemical to be stored;
- Maximum design pressure of the tank;

The realization of the marks is as follows:

- indelible;
- clearly visible on the outside of the tank or catchment tank.

RECOMMENDATIONS FOR CUSTOMERS

Check at the time of delivery whether:

- the supplier has delivered in accordance with the agreement;
- the mark and the marking method are correct;
- the products show no visible defects as a result of transport etc.

If you should reject a product on the basis of the above, please contact:

- Supplier
and, if necessary,
- Kiwa Nederland B.V.

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

Annex 2: Tank-/ Catchment tank compliance document

Tank-/ Catchment tank compliance document BRL-K21011/03

Glass reinforced plastic (GRP) tanks, with or without catchment tank for the above ground storage of chemicals

Purchaser

Supplier/Producer

Tank supplier B.V.
Street 1
1234 AB ANYWHERE
Tel: 0123-112200
Fax: 0123-112233
Email: info@tanksupplier.nl

Registration number
Kiwa registration number

Registration date
??-??-20??

Tank-/ serial number:
Tank number

Data	Value
Year of manufacture
Tank Maximum Volume (l/m ³)
Tank design
Tank type
Tank dimensions
Tank material
Leak detection Type
Test pressure interstitial space (Barg)
Catchment tank serial number
Catchment tank nominal volume (l/m ³)
Catchment tank material
Stored chemical + concentration (%)
Chemical CAS-number
Chemical S.G. (kg/m ³)
Design temperature (°C)
Design pressure (Barg)
Location (inside/ outside)
Hydrostatic pressure
Re-classification period (year)

Statement by Kiwa Nederland B.V.

Based on pre-certification tests as well as periodic inspections carried out by Kiwa, the tank referred to in this declaration of conformity can be considered to be in compliance with the Kiwa Evaluation Guideline BRL-K21011/03.

Statement by supplier/manufacturer

The supplier / manufacturer declares that the fabrication and testing of this tank is in accordance with the Kiwa Evaluation Guideline BRL-K21011/03.

General

Besides this declaration of conformity tank, an installation certificate must be issued to prove that the tank installation is in accordance with local laws and regulations (NL).

Recommendations for users

- Check at the time of delivery whether:
- The tank serial number corresponds to the number at this declaration of conformity tank.
 - The tank has sustained no visible damage during transport.

If you should reject a product on the basis of the above, please contact:

1. The supplier of the tank.
2. Kiwa Nederland B.V.

Copies of this declaration of conformity are for: Local authorities (NL), owner/user, supplier, Kiwa Nederland B.V.

Validation date ??-??-20??



Kiwa Nederland B.V.
Sir Winston Churchill-laan 273
P.O. Box 70
2280 AB Rijswijk
Telephone: 088 998 44 00
Internet: www.kiwa.nl

Registration number.....

Annex 3: Model IQC-scheme (example)

Subjects	Aspects	Method	Frequency	Registration
Raw materials or materials supplied: <ul style="list-style-type: none"> • Formulation semi-finished products • Incoming inspection raw materials 				
Production process, production equipment, material: <ul style="list-style-type: none"> • Procedures • Work instructions • Equipment • Release of product 				
Finished-products <ul style="list-style-type: none"> • Visual inspection • Dimensional inspection • Spark testing • Hydrostatic test 				
Measuring and testing equipment <ul style="list-style-type: none"> • Measuring equipment • Calibration 				
Logistics <ul style="list-style-type: none"> • Internal transport • Storage • Preservation • Packaging • Identification or marking of semi-finished and finished products 				