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Technical Approval with-Product Certificate GRP access chambers for underground tanks

Based on pre-certification tests as well as periodic inspections by Kiwa, the products referred to in this certificate and marked with the Kiwa-mark as indicated under 'Marking', manufactured by

Fibrelite Composites Ltd.

may be relied upon to comply with the Kiwa Evaluation Guideline BRL-K21006/01 dated 2007-12-07 "PE/GRP sumps on underground tanks of fuels to be used for underground piping systems with or without tightness testing facility".



ing. B. Meekma
Director Certification and Inspection, Kiwa N.V.

This certificate is issued in accordance with the Kiwa-Regulations for Product Certification.

This certificate consists of 3 pages.
Publication of the certificate is allowed.

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GRP access chambers for underground storage tanks

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Application and use

Access chambers to be mounted on underground tanks complying with this evaluation guideline are suitable to access underground manhole covers or piping systems easily. It is noticed that the access chamber is a closed area without ventilation where safety instructions are required. It is the responsibility of the owner to follow the safety instructions that are stipulated by the manufacturer.

The access chamber to be selected must be suitable for the maximum level of the groundwater as applicable. The access chamber is intended to keep water out during the lifetime of the tank installation. Where pipework and/or electrical cables enter through the wall of the access chamber entry boots must be used to ensure tightness.

An access chamber can only be mounted on an underground tank when the tank has been equipped with a suitable support for connection or when the access chamber is provided with a solid bottom prepared to fit to the manway flange. The access chamber consists of a chamber, corbel, internal cover, skirt, and access cover with frame.

Technical specification

This following products comply with the BRL-K21006 and have a technical approval:

- S8-3/XXX
- S14/XXX
- S16/XXX

The XXX indicates the type of cover that is used i.e. square, round, raintight or fluidtight.

The following products are recommended to be used in combination with the access chamber:

- Chamber base seal- TDS10
- Pipe entry seals-TDS2
- Adhesive sealant for chamber to corbel joint- TDS16
- Self levelling sealant between corbel and skirt-TDS17

The manufacturer shall be able to supply drawings of the access chamber construction in which the components used are identified

Installation

The fibreglass reinforced plastic (GRP) access chambers are mounted above the manhole covers on underground tanks. The access chambers are part of a construction to enable easy access to the manhole cover and/or underground piping system mounted on the manhole cover of the tank.

For installation the manufacturer's instructions and the requirements as stipulated in BRL-K903 are to be followed. The instructions must be available in the local language. Before starting the installation, the personnel must be instructed and qualified by the manufacturer or the distributor. The manufacturer or distributor shall deliver a certificate of qualification to each person qualified.

The access chamber shall be fixed to a support on the tank. The tank must be equipped with a support to make mounting of the access chamber possible. When openings are made in the access chamber for installing piping or electrical wiring, entry boots must be used to ensure a leak tight construction. The vertical part of the **access chamber** and the entry boots must be leak tested during installation with a vacuum of 12 kPa. The **corbel** must be tested with a vacuum of 6 kPa.

All parts that may come in contact with the stored product must be chemical resistant against that product. This must be verified by the installer. For all connections the sealants and seals as advised by the manufacturer shall be used.

The access chambers must be installed such that they are not subjected to any vertical or horizontal traffic loads. When this is not possible, the frame of the access cover must be part of the pavement or concrete construction above the access chamber. It is recommended to use a suitable access cover. The access cover must be leak tight in order to prevent any fluid leakage from above into the access chamber.

Certified installers for The Netherlands

The access chambers have to be installed by certified installers according to the Kiwa Guideline BRL-K903 "Guideline for installers for installation of atmospheric storage tank- and pipe systems for liquid petroleum products".

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Recommendations for the installer

Check the product at the time of delivery according to the paragraph "Technical specification" to ensure that:

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

Check whether the products meet the specifications according to section general, pipes and fittings of the paragraph "Technical specification"

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

- Manufacturer or local supplier and, if necessary,
- Kiwa N.V.

It is recommended by the manufacturer to use suitable entry boots and access covers.

Entry boots

Entry boots are meant to accommodate a watertight passage of pipes and/or electrical cables through the chamber wall.

Entry boots consist of a housing that seals to the chamber wall and a flexible part that seals to the pipe.

The housing consists of 2 parts, of which at least one is provided with a gasket-like seal. The 2 parts are bolted to each other and are thus fixed to and holding the chamber wall. The material of the housing must be suitable for underground sub-groundwater level installation.

The flexible part may be single or double sided and is made of a flexible material. The quality of the flexible material is at least a nitrile rubber.

The clamps used to seal to the pipe are to be made of stainless steel.

The entry boot must be able to maintain a watertight entry of the pipe withstanding a groundwater height of 3 meters.

This must be demonstrated by a vacuum test to a pressure of 12 kPa during 15 minutes.

The flexible part must be able to accommodate a deviation of the perpendicular up to 12° of the pipe through the chamber wall and remain functional. Piping must be installed as perpendicular as possible. The diameter of the pipe for which a specific entry boot is suitable, is indicated by the type number of the entry boot. Only entry boots that are in accordance with the pipe (outer) diameter are to be used.

Cable entry boots may accommodate a variation in cable diameters as to the manufacturer's specification. Cable entry boots may be single or multi cable types.

Access Cover

The manufacturer recommend the following access cover and frames:

| Cover type | Classification | Clear opening (mm) |
|-------------------|-----------------------|---------------------------|
| FL 60 | C250 / D400 | 600 x 600 |
| FL 76 | C250 / D400 | 760 x 760 |
| FL 90 | C250 / D400 | Ø 900 |
| FL 96 | C250 / D400 | 900 x 600 |
| FL 100 | C250 / D400 | Ø 1,020 |
| FL 140 | C250 / D400 | 1,400 x 700 |
| FL 900 | C250 / D400 | 900 x 900 |

Marking

The products will be marked with the KIWA logo.

For the different products to be carried out as follows:

By inerasable ink or paint, a sticker, a moulded imprint mentioning:

- Manufacturers name and trade mark
- Type number product date code
- Year of manufacture

Maintenance and inspection

Before entering a sump safety measures as instructed by the manufacturer must be taken.

During the 15 or 20 yearly re-qualification, the good operation the access chamber must be visually inspected simultaneously with underground tank.

List of documents

- Kiwa Evaluation Guideline BRL-K-903: "Guideline for Installers for installation of atmospheric storage tank and pipe systems for liquid petroleum products" (only available in Dutch language).
- Kiwa Evaluation Guideline BRL-K-21006: "PE/GRP sumps on underground tanks for storage of fuels to be used for underground piping systems equipped with or without tightness testing facility".