General Building Authority Test Certificate

Recognised test centre:	Kiwa GmbH, MPA Berlin-Brandenburg Voltastraße 5 13355 Berlin
Test certificate number:	P - P000303862
Subject:	**„Protect-proof LF 1K“** for building waterproofing in accordance with the Administrative Regulation on Technical Building Regulations for the State of Lower Saxony (VV TB) Section C3, No. C 3.28
Applicant:	Protect-proof Kunststoff Vertriebs GmbH Wacholderweg 11 26133 Oldenburg
Date of issue:	06. March 2023
Period of validity:	05. March 2028
First issued:	03. March 2023

Translation provided by Kiwa GmbH, MPA Berlin-Brandenburg. In case of doubts, the German original shall be consulted.

This General Building Authority Test Certificate consists of 8 pages
and Annex 1 (2 pages), Annex 2 (1 page).

A General provisions

(1) With this general test certificate issued by the building authorities, the usability of the construction product within the meaning of the building regulations of the Federal States is proven.

(2) The general test certificate issued by the building authorities does not replace the permits, approvals and certificates required by law for the implementation of construction projects.

(3) The general test certificate issued by the building authorities is issued without prejudice to the rights of third parties, in particular private property rights.

(4) Manufacturers and distributors of the construction product shall, without prejudice to further provisions in the "Special Provisions", provide the user of the construction product with copies of the general test certificate issued by the building authorities and indicate that the general test certificate issued by the building authorities must be available at the place of use. Upon request, copies of the general building authority test certificate must be made available to the authorities involved.

(5) The general test certificate of the building authorities may only be reproduced in full. Publication of extracts requires the consent of Kiwa GmbH, MPA Berlin-Brandenburg. Texts and drawings of advertising material must not contradict the general test certificate of the building authorities. Translations of the general test certificate of the building authorities must contain the note "Translation of the original German version not verified by Kiwa GmbH, MPA Berlin Brandenburg.

(6) The general test certificate issued by the building authorities is revocable. The provisions may be subsequently supplemented and amended, in particular if new technical findings so require.

B Special provisions

1. Subject and area of application

1.1 Subject

This general building authority test certificate applies to the production and use of the building waterproofing with liquid plastics with the product designation "Protect-proof LF 1K" by Protect-proof Kunststoff Vertriebs GmbH as area waterproofing of buildings.

1.2 Intended Use

The building waterproofing "Protect-proof LF 1K" may be used as a building waterproofing for surfaces inclined up to 90° for the following load cases:

1. Waterproofing of floor plates in contact with the ground and external wall surfaces against ground moisture (capillary water, adhesive water) and non-accumulating seepage water (water impact class* W1-E)
2. Waterproofing of earth-filled ceiling surfaces against non-pressurised water (water resistance class* W3-E).
3. Waterproofing of floors and walls indoors [a] in case of very high stress, as well as of used surfaces outdoors [b] against non-pressing water
    a. The waterproofing of interior spaces here includes wall and floor surfaces exposed directly and indirectly, very frequently or for a long time to service and cleaning water with a planned accumulation height of up to 10 cm (e.g., surrounds of swimming pools or shower facilities). (Water impact class* W3-I)
    b. Outdoor used surfaces are here understood to mean horizontal or inclined surfaces of structures on which passenger or vehicle traffic is carried out (with the exception of the roadway panels of bridge structures for road traffic). These include: Roof terraces, parking decks, courtyard basement ceilings, passageways. The waterproofing lies under a separately arranged protective and wearing layer in accordance with DIN 18531-1 for surfaces that can be walked on (e.g., roof terraces), as well as in accordance with DIN 18532-1 for surfaces that can be driven on (e.g., parking decks, courtyard cellar ceilings, thoroughfares) and is not directly exposed.
4. Waterproofing of floor slabs in contact with the ground and external wall surfaces against moderate impact of pressing water up to 3 m water column (water impact class* W2.1-E).
5. Waterproofing of exterior walls in contact with the ground against moderate impact of pressing water up to 3 m water column including the transition area to floor slabs made of concrete with high water penetration resistance (WU concrete) (water impact class* W2.1-E).

Waterproofing of wall bases in splash water areas does not require a building authority certificate of usability. However, the products covered in this general building authority test certificate can also be used in this area. (Water impact class* W4-E).

* Water impact class according to DIN 18533-1:2017-07

2. Regulations for the construction product

2.1 Composition, parameters and properties

2.1.1 Composition,

The building waterproofing "Protect-proof LF 1K" consists of the following individual products.

Table 1 Components of the building waterproofing

Product / component	Substance base	Function
„Protect-proof LF 1K”	Polyurethan (SMP)	Waterproofing
Polyester fleece 110 g/m²	Polyester	Fleece insert

2.1.2 Parameters

The technical characteristic values of the components can be found in Annex 1.

The characteristic values also serve as reference values for the proof of compliance according to Section 3.

2.1.3 Properties

The building waterproofing made of "Protect-proof LF 1K" is for the above-mentioned areas of application sufficiently:

- stable when applied on surfaces inclined up to 90°
- alkali resistant
- adhesive (≥ 0,5 N/mm²) on mineral substrates
- crack bridging on cracks in the substrate up to 2,0 mm
- watertight (up to 10 m water column)
- perforation resistant
- rainproof after 1,0 h (tested after 40 min)

The product cannot be reworked with an additional layer.

The installed building product is classified in class E according to DIN EN 13501-1. The proof has been provided with the certificate issued by the OiB (Österreichisches Institut für Bautechnik) within the scope of the preparation of ETA-22/0840 dated 21.12.2022.

Proof of usability was provided by tests in accordance with the test principles for liquid plastics (PG-FLK) with test report no. P000303862 dated 03.03.2023 from Kiwa GmbH, MPA Berlin-Brandenburg.

2.2 Manufacturing, packaging, transport, storage and labelling

2.2.1 Manufacturing

The construction product or the product components are manufactured in the factory.

2.2.2 Packaging, transport, storage and labelling

Packaging, transport and storage must be carried out in accordance with the manufacturer's instructions.

The information on the packaging regarding requirements from other legal areas (e.g. hazardous substances or transport law) must be observed.

2.2.3 Labelling of the product or product components

2.2.3.1 Mark of conformity (Ü-mark)

The waterproofing system must be labelled by the manufacturer with the conformity mark (Ü mark) in accordance with the conformity mark ordinances of the federal states. The marking may only be carried out if the requirements according to section 3, proof of conformity, are fulfilled.

The Ü mark must be affixed with the information prescribed therein:

- Name of the manufacturer
- Number of the general building authority test certificate
  and designation of the testing body

on the packaging or, if this is not possible, on the delivery note or package leaflet. Labelling may only take place if the requirements according to section 3 are fulfilled.

2.2.3.2 Additional information

The following information must also be included on the packaging of the construction product or on the instruction leaflet:

- Product name
- Batch number
- Intended use
- Reference to the related processing provision
- Reaction to fire according to DIN 4102-1 or class according to DIN EN 13501-1 (normal flammability).

Individually packaged components shall be clearly marked as belonging to the product.

3. Proof of conformity

3.1 General

Proof of conformity of the construction product with the requirements of this general building authority test certificate is provided by a manufacturer's declaration of conformity based on factory production control (FPC) and an initial test of the construction product before confirmation of conformity (initial test - EP) by a test body recognised by the building authorities for this purpose (ÜHP).

3.2 Initial assessment of the construction product by a recognised testing body

The manufacturer of the construction product shall call in a testing body recognised for this purpose to carry out the initial assessment. Within the scope of the initial assessment, the tests of the characteristic values according to section 2.1.2 shall be carried out. The test values may deviate from the reference values by a maximum of the tolerances specified there.

If the production requirements change, an initial assessment must be carried out again..

3.3 Factory Production Control (FPC)

In each manufacturing plant, a factory production control shall be established and carried out. Factory production control is understood to mean the continuous monitoring of production to be carried out by the manufacturer to ensure that the construction product manufactured by him complies with the provisions of the general building inspection test certificate.

Within the scope of the FPC, the tests listed below must be carried out in accordance with Annex 1 at the specified frequency. The test values may deviate by a maximum of the specified tolerances.

If the manufacturer sells supplied components together with the sealing material, he must ascertain the intended properties of the materials. This can be done either by the incoming goods inspection at the manufacturer's or by the presentation of a works certificate 2.2 according to DIN EN 10204 of the supplier of the component. The characteristic values and tolerances listed under 2.1.2 are decisive for this.

If individual components are not supplied to the construction site by the product manufacturer but by third parties, the product manufacturer shall ensure that, with regard to the required characteristic values according to section 2.1.2, the provisions of the certificate of conformity according to section 3 are also complied with for these components.

The results of factory production control shall be recorded and evaluated. The records shall contain at least the following information:

- Name of the construction product
- Type of control or test,
- Date of manufacture and testing of the construction product
- Result of the checks and, where applicable, comparison with the requirements,
- Signature of the person responsible for factory production control.

The records of factory production control shall be kept for at least five years. Upon request, they must be submitted to the test centre and to the highest building inspection authority in the event of changes or extensions to the General Building Authority Test Certificate.

If the control result is insufficient, the manufacturer shall immediately take the necessary measures to remedy the defect and discard the products concerned. Within the framework of factory production control, it

must be ensured that construction products which do not comply with the requirements are not marked with the Ü mark and that confusion with matching products is excluded. After the defect has been remedied, the inspection in question must be repeated without delay, insofar as this is technically possible and necessary to prove that the defect has been remedied.

3.4 Proof of conformity

The confirmation of the conformity of the construction product with the provisions of this general building authority test certificate shall be made for each manufacturing plant with a declaration of conformity of the manufacturer on the basis of the initial test and the factory production control according to 3.2 and 3.3. The manufacturer shall make the declaration of conformity by marking the construction product with the mark of conformity (Ü mark) in accordance with 2.2.3.1.

4. Execution

For the constructive execution of the waterproofing transition, the provisions of the details shown in Annex 2 as well as the manufacturer's Technical Data Sheet in the current version shall apply.

The manufacturer is obliged to incorporate the implementation regulations into his installation instructions without contradiction. Only the components belonging to the product and marked accordingly may be used.

The concrete surface must be superficially clean, even, free of burrs and defects, free of loose components and cement slurry, free of formwork oil and other separating components or components that interfere with the bond - this must be carefully checked before the waterproofing is carried out.

The waterproofing must be applied fresh in fresh (underlay / fabric layer / top layer). The minimum values for the total dry film thickness specified in Table 2 must be observed. They must not be fallen short of at any point of the waterproofing.

Table 2 Minimum dry film thicknesses depending on the intended use

Intended use (according to section 1.2)	Load case / water impact class	Minimum dry film thickness [1] [mm]
1	Soil moisture and non-pressing water (W1-E)	≥ **1,5**
2	Non-pressing water (W3-E)	≥ **2,0**
3	Non-pressing water (W3-I)	≥ **2,0**
4 / 5	Moderate impact of pressing water up to 3 m water column (W2.1-E)	≥ **2,0**

[1] with reinforcement insert polyester fleece 110 g/m²

Only the reinforcing insert polyester fleece 110 g/m² supplied by the manufacturer together with the waterproofing liquid plastic and designated for use in the waterproofing system shall be used.

After coating, cracks in the substrate must not widen by more than 2 mm.

This general building authority test certificate and the manufacturer's instructions for execution and processing must be available at the installation site.

5. Legal basis

This general building authority test certificate is issued on the basis of § 19 of the Building Regulations for the State of Lower Saxony in conjunction with the Administrative Regulation on Technical Building Regulations (VV TB) in the currently valid version..

6. Right to appeal

An appeal or action against this decision is admissible in accordance with the legal regulations of the country in which the applicant is domiciled.

In the event of an objection, this must be lodged in writing or in writing with Kiwa GmbH, MPA Berlin-Brandenburg within one month of receipt of this notification. The date of receipt of the notice of objection by Kiwa GmbH, MPA Berlin-Brandenburg shall be decisive for the timeliness of the objection..

Berlin, 06. March 2023

Kiwa GmbH

Ronny Stadie

- Digitally signed | see http://ca.kiwa-deutschland.de for more details -

kiwa

Dr Ronny Stadie
Test centre

Annex 1 Technical characteristics and tolerances and frequencies within the scope of the FPC

Table 1 Technical characteristics of the „Protect-proof LF 1K“

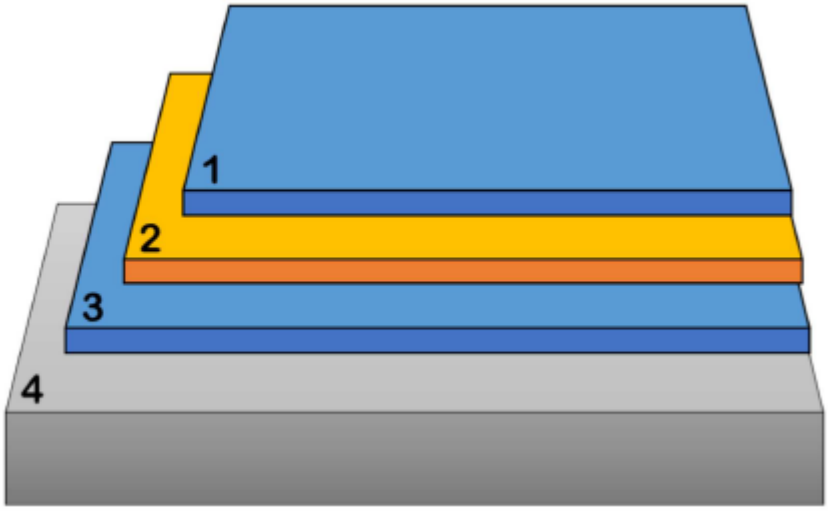
Characteristic		Test according to Section no.	Result from initial test	Unit	Tolerances
Tests on the raw materials					
Total non-volatile content/solid content		3.2.1	93,2	[M.-%]	± 5 %
Infrared spectrum*		3.2.2	*IR spectrum deposited with the test centre*		*Identical in the essential features*
Density		3.2.3	1,347	[g/cm³]	± 3 %
Viscosity at 100 s^{-1}		3.2.4	3.177	[mPas]	± 20 %
Tests on the hardened materials					
Residue on ignition		3.3.1	42,27	[%]	± 3 %
Shore hardness (D)		3.3.2	21,2	[-]	± 5 %
Tensile properties**	Tearing force	3.3.3	1,19	[N/mm²]	± 20 %
	Elongation at tear		75,1	[%]	-
rainproof at +21 °C		3.4.3	40	[min]	-

Table 3 Technical characteristics of the Polyester fleece 110 g/m²

Characteristic	Test according to Section no.	Result from initial test	Unit	Tolerances
Tests on the raw materials				
Weight per unit area of the reinforcement insert	3.2.5	109	[g/m²]	± 10 %
Strength of the reinforcement insert		0,83	[N/mm²]	± 20 %

* Frequency within the WPK: 1 x per year
** Frequency within the WPK: 2 x per year

Annex 2 Illustration of the waterproofing layout and the implementation details



1 liquid applied „Protect-proof LF 1K“ (2. Lage)
2 Polyester fleece 110 g/m² as reinforcement (net weight110 g/m²)
3 liquid applied „Protect-proof LF 1K“ (1. Lage)
4 substrate (If necessary with primer *)

* not part of this general building authority test certificate