



European Technical Approval ETA-10/0454

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung
Trade name

Knauf Hydro Flex Zestaw produktów hydroizolacyjnych
(Knauf Hydro Flex Produktset für Nassraumabdichtungen)
Knauf Hydro Flex Zestaw produktów hydroizolacyjnych

Zulassungsinhaber
Holder of approval

Knauf Bauprodukte Polska Sp.z.o.o.
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POLEN

Zulassungsgegenstand
und Verwendungszweck
*Generic type and use
of construction product*

Flüssig aufzubringende Nassraumabdichtung mit Nutzschicht
Liquid applied watertight covering for wet rooms with wearing surface

Geltungsdauer:
Validity: vom
from
bis
to

24 May 2013
30 April 2018

Herstellwerke
Manufacturing plants

Produktionsanlage 97427

Diese Zulassung umfasst
This Approval contains

11 Seiten einschließlich 2 Anhänge
11 pages including 2 annexes

Diese Zulassung ersetzt
This Approval replaces

ETA-10/0454 mit Geltungsdauer vom 22.11.2010 bis 09.10.2013
ETA-10/0454 with validity from 22.11.2010 to 09.10.2013

I LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by Deutsches Institut für Bautechnik in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products¹, modified by Council Directive 93/68/EEC² and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³;
 - *Gesetz über das In-Verkehr-Bringen von und den freien Warenverkehr mit Bauprodukten zur Umsetzung der Richtlinie 89/106/EWG des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedstaaten über Bauprodukte und anderer Rechtsakte der Europäischen Gemeinschaften (Bauproduktengesetz - BauPG) vom 28. April 1998⁴, as amended by Article 2 of the law of 8 November 2011⁵;*
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁶;
 - Guideline for European technical approval of "Watertight Covering Kits for Wet Room Floors and/or Walls - Part 1: Liquid Applied Coverings with or without Wearing Surface", ETAG 022-1.
- 2 Deutsches Institut für Bautechnik is authorized to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.
- 3 This European technical approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those laid down on page 1 of this European technical approval.
- 4 This European technical approval may be withdrawn by Deutsches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
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- 6 The European technical approval is issued by the approval body in its official language. This version corresponds fully to the version circulated within EOTA. Translations into other languages have to be designated as such.

¹ Official Journal of the European Communities L 40, 11 February 1989, p. 12
² Official Journal of the European Communities L 220, 30 August 1993, p. 1
³ Official Journal of the European Union L 284, 31 October 2003, p. 25
⁴ *Bundesgesetzblatt Teil I 1998*, p. 812
⁵ *Bundesgesetzblatt Teil I 2011*, p. 2178
⁶ Official Journal of the European Communities L 17, 20 January 1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of product and intended use

1.1 Definition of the construction product

The watertight covering "Knauf Hydro Flex Zestaw produktów hydroizolacyjnych" is a kit. It consists of the following components:

- Primer "Knauf Hydro Flex"
- one-component liquid waterproofing membrane "Knauf Hydro Flex Flächendicht" on the basis of styrol-butadien
- sealing tape Type "Knauf Hydro Taśma uszczelniająca"
- sealing ingoing and outgoing corners "Knauf Hydro Narożnik wewnętrzny" and "Knauf Hydro Narożnik zewnętrzny"
- sealing sleeves for walls "Knauf Hydro Mankieta ścienna"
- sealing sleeves for floor gullies "Knauf Hydro Mankieta podłogowa"
- Adhesive "Knauf K4 Elastyczny klej do płytek" according to EN 12004⁷:

The kit is intended to be used under a wearing surface, e.g. tiles. The wearing surface and the jointing material are not part of the kit, but are considered during the assessment of the intended use of the product.

Annex 1 shows the system build-up and annex 2 shows the components for sealing details.

1.2 Intended use

The intended use of the watertight covering under a wearing surface is to create a floor and wall watertight covering for indoor wet areas at possible operating temperature of 5 °C till 40 °C.

The following uses are intended:

- Floor and/or wall surfaces with only occasional direct exposure to water, e. g. at a good distance from shower or bathtub;
- Floor and/or wall in shower areas or around bathtubs used for a few showers daily, e. g. in ordinary dwellings, multifamily houses and hotels;
- Floor and/or wall surfaces with exposure to water more frequent or of longer duration than normally anticipated in dwellings, e. g. public wet rooms, schools and sport facilities.

The waterproofing kit shows certain levels of performance e.g. categories according to ETAG 022 part 1 which facilitate the use taking into account national regulations (see chapter 2.1).

The watertight membrane is intended to be used on flexible substrate e. g. plywood, chipboard, gypsum, anhydrite or similar material vulnerable to water and on rigid substrates e. g. masonry or concrete.

⁷ EN 12004:2007 Adhesives for tiles - Requirements, evaluation of conformity, classification and designation

The product should be used in connection with the following types of gullies:

Stainless steel or plastics – type PP or PE – with flange for attaching of collar/membrane or with clamping ring and collar

The gullies are not part of the kit. It is up to the responsibility of the user to use suitable products of the given types.

The verifications which are the basis of this ETA give the reason for the assumption of an intended working⁸ life of the watertight covering of 25 years, provided that the watertight covering kit is subject to appropriate use and maintenance. These provisions are based upon the current state of the art and the available knowledge and experience.

The indications given as to the working life of the watertight membrane cannot be interpreted as a guarantee given by the manufacturer or the approval body. They should only be regarded as a means for choosing the appropriate criteria for a watertight covering kit in relation to the expected economically reasonable working life of the works.

2 Characteristics of product and methods of verification

2.1 Characteristics of the watertight covering

The components of the watertight covering show the technical values with respect to the permissible tolerances which are stated in the manufacturer's technical dossier⁹ (MTD) to this ETA.

The chemical composition and the technical characteristic values of the components of the kit and the manufacturing methods are confidential and deposited with DIBt.

The permissible tolerance does not affect the characteristics of the products and the assembled system negatively.

Requirements concerning safety in case of fire, hygiene, health and the environment and safety in use as well as durability in the sense of the essential requirements N° 2 to N° 4 of the Council Directive 89/106/EEC are satisfied.

The verified property values of the watertight covering lead to characteristics and categories according to ETAG 022 part 1. They are stated in Annex 1. An evaluation oriented at the intended use can be carried out with them by the user with respect to national regulations of the member states.

The reaction to fire behaviour of the waterproofing system is classified in class E according to EN 13501-1¹⁰.

According to the manufacturer's declaration the waterproofing system taking account of the EU database¹¹ does not contain any other dangerous substances. Within the scope of this approval there may be other requirements applicable to dangerous substances resulting from transposed European legislation or applicable national laws, regulations and administrative provisions.

There may be other requirements applicable to the products resulting from other applicable national laws, regulations and administrative provisions and transposed European legislation.

These requirements need also to be complied with, when and where they apply.

⁸ "Assumed intended working life" means that it is expected that, when this working life has elapsed, the real working life may be, in normal use conditions, considerably longer without major degradation affecting the Essential Requirements.

⁹ The manufacturer's technical dossier (MTD) comprises all information necessary for the production and the installation of the product as well as for the repair of the roof waterproofing made from that and it is deposited with DIBt. It was checked by DIBt and it was found to be in accordance with the conditions stated in the approval and the characteristic values determined during the approval testing.

¹⁰ EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

¹¹ Notes are stated in Guidance Paper H: A harmonized approach relating to Dangerous substances under the construction product directive, Brussels, 18 February 2000

2.2 Methods of verification

The assessment of the fitness of the watertight covering for the intended use with regard to the essential requirements N° 2 to N° 4 was performed following the ETAG 022 "Watertight covering kits for wet room floor and/or walls" Part 1 "Liquid applied coverings with or without wearing surface".

3 Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to the decision 2003/655/EC¹² of the European Commission system 2+ for the procedure of the attestation of conformity (Annex III, clause 2(ii) first possibility of Directive 89/106/EC) applies to the watertight covering kit.

In addition, according to the Decision 2003/655/EC¹³ of the European Commission system 3 of the attestation of conformity (Annex III, clause 2(ii) second possibility of Directive 89/106/EC) applies with regard to reaction to fire for this product.

The system 2+ of attestation of conformity is defined as follows:

System 2+: Declaration of conformity of the product by the manufacturer on the basis of:

- (a) Tasks for the manufacturer:
 - (1) initial type-testing of the product
 - (2) factory production control
 - (3) testing of samples taken at the factory in accordance with a prescribed test plan
- (b) Tasks for the notified body:
 - (4) certification of factory production control on the basis of:
 - initial inspection of factory and of factory production control
 - continuous surveillance, assessment and approval of factory production control

System 3: Declaration of conformity of the product by the manufacturer on the basis of:

- (a) Task for the manufacturer:
 - (1) factory production control
- (b) Task for the notified body:
 - (2) initial type-testing of the product

3.2 Responsibilities

For the component adhesive is provided that the attestation of conformity process for the adhesive according to EN 12004 is done on basis of this standard. The required additional attestation of conformity is related to the kit and shall be done by the Declaration of conformity by the manufacturer and the CE marking of the kit according to clause 3.3 respectively 3.2.1.3.

3.2.1 Task of the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall insure that the product is in conformity with this ETA.

¹² Official Journal of the European Communities L 231/12 of 17 September 2003
¹³ Official Journal of the European Communities L 209/33 of 2 August 2001

The factory production control shall be in accordance with the appropriate part of the control plan¹⁴ which is confidential part of the MTD. The control plan is laid down in the context of the factory production control system operated by the manufacturer and deposited with DIBt.

The manufacturer may only use initial materials according to the MTD. He shall inspect or control the initial materials on acceptance according to the control plan.

The factory production control follows the identifying properties of the components and the example of the control plan as given in ETAG 022 part 1.

The results of the factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

The records shall include at least the following information:

- name of the product and of the initial materials,
- type of inspection or control,
- date of manufacture of the product, batch N° if needed, and date of inspection or control of the product or of the initial materials,
- result of inspections or controls and, as far as applicable, comparison with the requirements,
- signature of the person responsible for the factory production control.

The records shall be kept for at least five years. On request they shall be presented to DIBt.

Details concerning extent, type and frequency of the tests or inspections to be performed within the scope of the factory production control shall correspond to the control plan which is part of the MTD to this ETA.

3.2.1.2 Initial type-testing of the product

The initial type-testing refers to the product properties stated in the appropriate part of the control plan to this ETA. It follows the example of the control plan as given in ETAG 022 part 1.

If the verifications underlying this ETA have been furnished on samples from the current production, these will replace the initial type-testing.

Otherwise the necessary initial type-testing shall be carried out according to the provisions of the control plan and observance of the required property values shall be ascertained by the manufacturer.

After changing the production process the initial type-testing shall be repeated.

3.2.1.3 Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve a body which is/are notified for the tasks referred to in section 3.1 (b) in the field of the product in order to undertake the actions laid down in section 3.2.2. For this purpose, the control plan referred to in section 3.2.2 shall be handed over by the manufacturer to the notified body/bodies involved.

The manufacturer shall make a Declaration of conformity, stating that the product is in conformity with the provisions of this ETA and shall mark the product with the CE mark according to clause 3.3. The Declaration of conformity shall be accompanied by the EC certificate of conformity of the factory production control certificate.

¹⁴ The control plan is a confidential part of the MTD. It contains the required information on the factory production control and on the initial type-testing. The MTD is only handed over to the notified body involved in the procedure of attestation of conformity (see 3.2.2).

3.2.2 Task of the notified body

3.2.2.1 Initial type-testing with regard to reaction to fire

The appropriate part of the control plan states the information on the reaction to fire properties which have to be tested on initial type-testing by the notified body. In case of need it will be handed over for initial type-testing of the product to the notified body recognized for initial type-testing.

If the verifications underlying the ETA have been furnished on samples from the current production, these will replace the initial type-testing.

Otherwise the necessary initial type-testing shall be carried out according to the provisions of the control plan and observance of the required property values required in the ETA shall be ascertained by the notified body.

After changing the production process the initial type-testing shall be repeated.

3.2.2.2 Initial inspection of factory and factory production control

The appropriate part of the control plan states the information on the properties which have to be controlled by the notified body involved for initial inspection of factory and factory production control. The notified body has to control the devices and equipments and the documentation of the factory production control of the manufacturer when starting the production.

The notified body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

The notified certification body involved by the manufacturer shall issue an EC certificate of conformity of the factory production control stating the conformity with the provisions of this ETA.

After changing the production process or starting the production in another manufacturing plant the initial inspection of factory and factory production control shall be repeated. The notified body shall issue a new EC certificate of conformity of the factory control stating the conformity with the provisions of this ETA.

3.2.2.3 Continuous surveillance, judgment and assessment of factory production control

The appropriate part of the control plan states the information on the product properties which have to be checked by the notified body involved. The frequency of this tasks should be once a year but if necessary i.e. if the results of the inspection is unsatisfactory it is required to be done more often.

The notified body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

In cases where the provisions of this ETA and its control plan are no longer fulfilled the certification body involved shall withdraw the certification of conformity and inform DIBt without delay.

3.3 CE marking

The CE marking¹⁵ shall be affixed on the packaging of the kit of the watertight membrane "Knauf Hydro Flex Zestaw produktów hydroizolacyjnych" or its accompanying documents.

The letters "CE" shall be followed by the identification number of the notified body, and be accompanied by the following additional information:


- name and address or identifying mark of the manufacturer,
- last two digits of the year in which the CE marking was affixed,
- number of the EC certificate for the factory production control,

¹⁵ Notes on the CE marking are stated in Guidance Paper D "CE marking under the Construction Products Directive", Brussels, 1 August 2002

- number of the European technical approval,
- number of the European technical guideline.

The components shall be specified as belonging to the composite waterproofing kit "Knauf Hydro Flex Zestaw produktów hydroizolacyjnych".

CE marking and accompanying information:

	Letters "CE"
<i>nnnn</i>	Identification number of notified body (system 2 +)
Knauf Bauprodukte Polska Sp Ul. Gipsowa 5 97-427 Rogowiec K. Beichatowa POLEN	Name and address of the producer
10 <i>nnnn-CPD-xxxx</i>	two last digits of year of affixing CE marking number of the EC certificate for the FPC
ETA-10/0454 ETAG 022 part 1	ETA number ETAG number
Watertight membrane in combination with covering for wet areas classification of the system and declared values of the product and system characteristics see Annex 1 of ETA-10/0454	intended use classification and characteristics of the product

4 Assumptions under which the fitness of the product for the intended use was favourably assessed

4.1 Manufacturing

The components of the kit of the watertight membrane are factory-made according to the procedure laid down in the MTD.

The ETA is issued for the kit on the basis of agreed data/information, deposited with DIBt, which identifies the product that has been assessed and judged. Changes to the components of the kit or to the production process, which could result in this deposited data/information being incorrect, should be notified to DIBt before the changes are introduced. DIBt will decide whether or not such changes affect the approval and consequently the validity of the CE marking on the basis of the approval and if so whether further assessment or alterations to the ETAI shall be necessary.

4.2 Design and dimensioning

The fitness for the respective use of the watertight membrane results from the characteristic values and categories.

The supplementing statements of the manufacturer stated in the MTD for design and application of the watertight system for creating a watertight covering under wearing surface for floors and walls in indoor wet areas shall be considered.

4.3 Installation

The fitness for use of the watertight membrane can be assumed only, if the installation is carried out according to the installation instructions stated in the MTD by the manufacturer, in particular taking account of the following points:

- installation by appropriately trained personnel,
- installation of only those components which are specified components of the kit,
- installation with the required tools and adjuvant,
- precautions during installation,
- inspecting the substrate surface for cleanliness and correct treatment,
- inspecting during installation and of the finished watertight membrane and documentation of the results.

The information as to the

- method of repair on site,
- handling of waste products

shall be observed.

4.4 Manufacturer's responsibilities

It is the manufacturer's responsibility to make sure that all those who utilize the kit will be appropriately informed about the specific conditions according to sections 1, 2, 4, and 5 including the annexes to this ETA and the not confidential parts of the MTD deposited to this ETA.

5 Indications to the manufacturer

5.1 Packaging, transport and storage

Information on:

- Packaging
- transport and
- storage

are given in the MTD.

5.2 Use, maintenance and repair

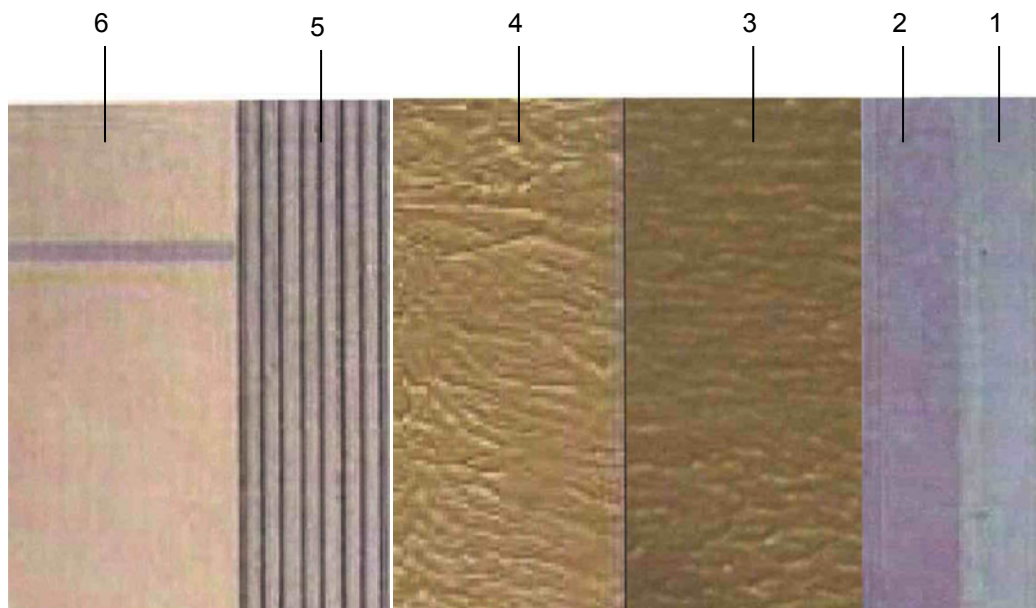
Information on:

- Use
- maintenance
- repair

are given in the MTD.

Dirk Brandenburger
Head of Department

beglaubigt:
Hemme



- 1 Substrate
- 2 Primer "Knauf Hydro Flex" (diluted)
- 3 1st layer "Knauf Hydro Flex Flächendicht"
- 4 2nd layer "Knauf Hydro Flex Flächendicht"
- 5 Adhesive "Knauf K4 Elastyczny klej do płytek"
- 6 Tiles (not part of the kit)

Applicable to the watertight covering kit:

Minimum layer thickness of the waterproofing layer	0.5 mm
Assumed intended working life	25 years
Reaction to fire	EN 13501-1 class E
Statement on dangerous substances	does not contain any
Water vapour diffusion resistance factor:	23 °C – 50/93 % r.h. $s_d = 2.3 \text{ m}$
Water tightness	pass
Scratch resistance	not relevant acc. ETAG 022-1
Resistance to mechanical wear	not relevant acc. ETAG 022-1
Slipperiness	npd
Applicability	applicable
Reparability	reparable
Cleanability	not relevant acc. ETAG 022-1
<u>Classifications according ETAG 022:</u>	
Crack bridging ability	category 1: 0.4 mm
Bond strength	category 2: $\geq 0.5 \text{ MPa}$
Joint bridging ability	category 2: watertight
Water tightness around penetrations	category 2: watertight
Resistance to temperature	category 2: $\geq 0.5 \text{ MPa}$
Resistance to water	category 2: $\geq 0.5 \text{ MPa}$
Resistance to alkalinity	category 2: $\geq 0.5 \text{ MPa}$

Electronic copy of the ETA by DIBt: ETA-10/0454

Knauf Hydro Flex Zestaw produktów hydroizolacyjnych
Knauf Bauprodukte Polska Sp

System built-up

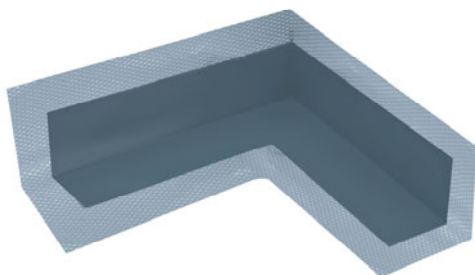
Annex 1

Sealing tape:

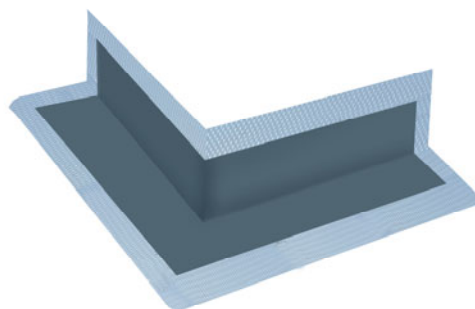


"Knauf Hydro Taśma uszczelniająca"
width 120 mm

Ingoing- and Outgoing Corner:

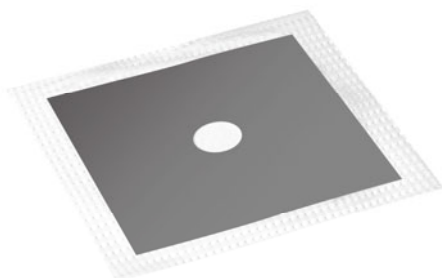


"Knauf Hydro Narożnik wewnętrzny"
leg length 100 or 140 mm

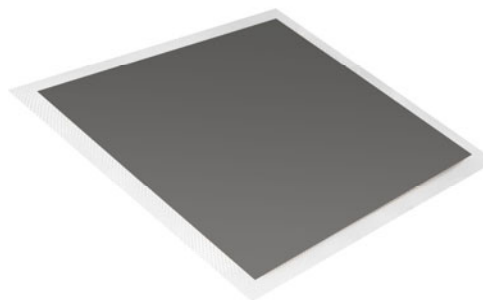


"Knauf Hydro Narożnik zewnętrzny"
leg length 75 or 140 mm

Sealing sleeves for walls and floors:



"Knauf Hydro Mankieta ścienna"
100 x 100 mm, 150 x 150 mm, 200 x 200 mm



"Knauf Hydro Mankieta podłogowa"
350 x 350 mm, 400 x 400 mm