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Rakennusalan tuotteita koskevan jäsen-  
valtioiden lainsäädännön lähentämisestä 21  
päivänä joulukuuta 1988 annetun neuvoston  
direktiivin 89/106/EEC mukaisesti ilmoitettu  
tuotehyväksyntälaitos

EOTAN JÄSEN

## Eurooppalainen tekninen hyväksyntä ETA-11/0018 European Technical Approval

**Kauppanimi:**  
Trade name

**Kiilto Kerafiber vedeneristysjärjestelmä**  
**Kiilto Kerafiber Watertight covering kit**

**Hyväksynnän haltija:**  
Holder of approval:

**Kiilto Oy**  
**P.O.Box 250**  
**FI-33101 Tampere**  
**Finland**

**Tuotetyyppi ja sen käyttötarkoitus:**  
Generic type and use of construction  
product:

**NESTEMUODOSSA LEVITETTÄVÄ, LAATOITETTAVA**  
**MÄRKÄTILOJEN VEDENERISTYSJÄRJESTELMÄ**

**LIQUID APPLIED WATERTIGHT COVERING KIT FOR WET**  
**ROOM FLOORS AND WALLS WITH WEARING SURFACE**

**Voimassaoloaika:**  
Validity from/to

**From February 24, 2011 to February 23, 2016**

**Valmistuspaikka:**  
Manufacturing plants:

**Kiilto Oy**  
**Tampereentie 408**  
**FI-33880 Lempäälä**  
**Finland**

**Tämä hyväksyntä sisältää**  
This European Technical Approval  
contains

sivuja/liitteitä

12 sivua, sisältäen yhden liitteen

pages/annexes

12 pages, including one annex



Eurooppalainen tekninen hyväksyntäorganisaatio  
European Organisation for Technical Approvals

## I LEGAL BASIS AND GENERAL CONDITIONS

1. This European Technical Approval is issued by VTT Expert Services Ltd 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 products<sup>1</sup>, modified by Council Directive 93/68/EEC<sup>2</sup> and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council<sup>3</sup>;
  - Laki rakennustuotteiden hyväksynnästä (230/2003) luvut 3 ja 10, Ympäristöministeriön asetus rakennustuotteiden hyväksynnästä 3 § sekä Ympäristöministeriön 18.12.2009 antama valtuutus päätös (YM19/629/2009).
  - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex of Commission Decision 94/23/EC<sup>4</sup>;
  - Guideline Nr 022 for European Technical Approval of Watertight covering kits for wet room floors and or walls
2. VTT Expert Services Ltd 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 manufacturer other than those indicated on page 1, or manufacturing plants other than those indicated on page 1 of this European Technical Approval.
4. This European Technical Approval may be withdrawn by VTT Expert Services Ltd 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 English. This version corresponds fully to the version circulated in EOTA. Translations in other languages have to be designated as such.

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<sup>1</sup> Official Journal of the European Communities N° L 40, 11.2.1989, p. 12

<sup>2</sup> Official Journal of the European Communities N° L 220, 30.8.1993, p. 1

<sup>3</sup> Official Journal of the European Union N° L 284, 31.10.2003, p. 1

<sup>4</sup> Official Journal of the European Communities N° L 17, 20.1.1994, p. 34

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## II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

### 1 Definition of product and intended use

#### 1.1 Definition of the construction product

Kiilto Kerafiber is a liquid applied one component water proofing kit. The kit is used as a watertight covering for wet room floors and walls beneath a wearing covering.

The kit consists of the following components:

#### Primer

Kiilto Keraprimer is polymer dispersion primer used to improve the adhesion of the waterproofing kit according to the manufacturer's instructions.

#### Waterproofing

The Kiilto Kerafiber water proofing is one component liquid applied polymer dispersion. The minimum dry film thickness of waterproofing on wall is 0,4 mm and on floor 0,5 mm. The dry film thickness is usually achieved with two applications and with minimum consumptions 800 g/m<sup>2</sup> and 1000 g/m<sup>2</sup>.

#### Reinforcements

The reinforcements and sealing components belonging to the kit are **Kiilto Lattiakaivo reinforcement sheet** (dimensions 40 x 40 cm) or **Kiilto Kaivolaippa reinforcement sheet** (dimensions 323 x 383 mm) together with **KiiltoFix Masa Bonding Sealant** for sealing of floor gullies, **Kiilto Nurkkavahvikenauha** (1 m wide roll) or **Kiilto Läpivientivahvike 70-110 mm** (dimensions 201 x 201 mm) for floor pipe penetrations, **Kiilto Läpivientivahvike 32-55 mm** (dimensions 250 x 150 mm) for water pipe penetrations, **Kiilto Nurkkavahvikenauha** or **Kiilto Butyltape** or **Kiilto TPE-band** for reinforcement of substrate joints and for wall-floor connections or joints and **Kiilto Sisä-tai Ulkonurkkavahvike** for sealing of corners.

#### Adhesives

Adhesives for tile fixings covered by this ETA are:

- Kiilto Saneerauslaasti,
- Kiilto Superfix
- Kiilto Kerapid,
- Kiilto Lattialaattalaasti and
- Kiilto Superfix DF.

All adhesives are cement based. All adhesives are suitable to be used in the kit. They can be chosen e.g. according to the needed open time. For fastening of big floor tiles Kiilto Lattialaattalaasti is recommended to be used.

#### 1.2 Intended use

The waterproofing kit is intended to be used for waterproofing of rigid wet room floors and rigid or flexible bathroom walls which can be moisture sensitive or not. The substrates can be susceptible for cracking or not.

The kit can be used with following types of floor gullies:

- Floor gully with clamping ring. Tested floor gullies are defined in point 2.4.4.

The provisions made in this European Technical Approval are based on an assumed intended working life of the watertight covering kit of 25 years provided that the conditions laid down in this section and instructions for the packaging, transport, storage, installation, use and maintenance are met.

An "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.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or approval body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

## 2 Characteristics of product and methods of verification

The methods of verification and characteristics of the liquid applied waterproofing kit evaluated in this ETA are as follows:

ETAG Paragraph	Characteristic	Assessment of the characteristic
ER 1	<b>Mechanical resistance and stability</b>	Not relevant
ER 2	<b>Safety in case of fire</b>	
2.4.1	Reaction to fire	<b>Euroclass F</b> (not assessed)
ER 3	<b>Hygiene, health and environment</b>	
2.4.2	Release of dangerous substances	No dangerous materials *)
2.4.3	Vapour permeability	a) Kiilto Keraprimer (125 g/m <sup>2</sup> ) with Kiilto Kerafiber waterproofing (800 g/m <sup>2</sup> ), thickness 0,4 mm: <b>W = 33*10<sup>-12</sup> kg/ (m<sup>2</sup>*s*Pa)</b> <b>S<sub>d</sub> = 6,0 m</b>  b) Kiilto Keraprimer (125 g/m <sup>2</sup> ) with Kiilto Kerafiber waterproofing (1000 g/m <sup>2</sup> ), thickness 0,5 mm: <b>W = 30*10<sup>-12</sup> kg/ (m<sup>2</sup>*s*Pa)</b> <b>S<sub>d</sub> = 6,5 m</b>
2.4.4	Moisture resistance	
	Water tightness	<b>Watertight</b> according to EN 14891
	Crack bridging ability	<b>Assessment category 1</b> , Crack width 0,4 mm: a) 0,8 kg/ m <sup>2</sup>  <b>Assessment category 2</b> , Crack width 0,75 mm: b) 1,0 kg/ m <sup>2</sup>  <b>Assessment category 3</b> , Crack width 1,5 mm: c) 2,6 kg/ m <sup>2</sup> d) 1,4 kg/ m <sup>2</sup> with Kiilto Nurkkavahvikenauha

	Bond strength	<p>Kiilto Kerafiber waterproofing with primer and the following tile adhesives: Kiilto Saneerauslaasti, Kiilto Superfix, Kiilto Kerapid, Kiilto Lattialaattalaasti and Kiilto Superfix DF on a concrete substrate comply with</p> <p><b>Assessment category 2:</b> Bond strength <math>\geq 0,5</math> MPa</p> <p>Kiilto Kerafiber watertight covering kit on Glasroc GHE Hydro gypsum, Wedi, Litex, Kaakeliluja, Aquapanel or gypsum**) board substrates comply with</p> <p><b>Assessment category 1:</b> Bond strength <math>\geq 0,3</math> MPa</p>
	Scratching resistance	NPD
	Joint bridging ability	<b>Assessment category 2:</b> Watertight
	Water tightness around penetrations (Annex A and F of the ETAG 022)	<p>Kiilto Kerafiber waterproofing with primer and with Kiilto reinforcements and</p> <ul style="list-style-type: none"> <li>- Kiilto Kaivolaippa with floor gully (PP) <ul style="list-style-type: none"> <li>- Oden DN 70 (manuf. Saint-Gobain Pipe Systems Oy)</li> <li>- Merika 75 (manuf. Meriser Oy)</li> </ul> </li> <li>- Kiilto Lattiakaivo -reinforcement sheet 40 cm * 40 cm with floor gully (PP) <ul style="list-style-type: none"> <li>- Vieser 75 (manuf. Serres Oy)</li> </ul> </li> </ul> <p>comply with</p> <p><b>Assessment category 2:</b> Watertight</p>
<b>ER 4</b>	<b>Safety in use</b>	
2.4.5	Slipperiness	Not relevant
<b>ER 5</b>	<b>Protection against noise</b>	Not relevant
<b>ER 6</b>	<b>Energy economy and heat retention</b>	Not relevant
	<b>Related aspects of durability and serviceability</b>	
2.4.6.1	Resistance to temperature	<b>Assessment category 2:</b> Bond strength $\geq 0,5$ MPa, Requirements for crack bridging ability are fulfilled
2.4.6.2	Resistance to water	<b>Assessment category 2:</b> Bond strength $\geq 0,5$ MPa
2.4.6.3	Resistance to alkalinity	<b>Assessment category 2:</b> Bond strength $\geq 0,5$ MPa
2.4.6.6	Resistance to mechanical wear	Not relevant
2.4.7.1	Cleanability	Not relevant

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2.4.7.2	Repairability	Repairable
2.4.7.3	Thickness	The required weight (wet) of Kilito Kerafiber waterproofing is 1,9 kg/m <sup>2</sup> pr. mm required thickness of the layer.  The minimum thickness of the waterproofing shall be 0,4 mm on wall and 0,5 mm on floor.
2.4.7.4	Applicability	Applicable

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<sup>\*)</sup> In addition of the specific clauses relating to dangerous substances contained in this European Technical Approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products directive, these requirements need also to be compiled with, when and where they apply.

<sup>\*\*)</sup> Bond strength of kit installed on gypsum board was 0,2 MPa. Cohesive failure occurred in the substrate, the requirement is considered satisfied.

### **3 Evaluation and attestation of conformity and CE marking**

#### **3.1 System of attestation of conformity**

According to the decision 2003/655/EC 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.

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

(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 approved 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.

Note: Approved bodies are also referred to as "notified bodies".

#### **3.2 Responsibilities**

##### **3.2.1 Tasks 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 European Technical Approval.

The factory production control shall be in accordance with the "Control plan of February 1, 2011 relating to the European Technical Approval ETA-11/0018 issued on February 24, 2011, which is part of the technical documentation of this European Technical Approval. The "control plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited within VTT Expert Services Ltd<sup>5</sup>.

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

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

The results of 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:

- Names of the products and of initial raw materials,
- Type of inspection or control,
- Date of manufacturing, batch number, if needed, the date of inspection or control,
- Results and as far as applicable, comparison with requirements,
- Signature of the person responsible of the task.

#### 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 the 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 in accordance with the provisions of the control plan and observance of the required property values shall be ascertained by the manufacturer.

After changing the production process or starting the production in another manufacturing plant 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 approved for the tasks referred to in section 3.1 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 sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the approved body or bodies involved.

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<sup>5</sup> The "control plan" is a confidential part of the European Technical Approval and only handed over to the approved body or bodies involved in the procedure of attestation of conformity. See section 3.2.2.

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 CE mark according to the clause 3.3.

### 3.2.2 Tasks of approved bodies

#### 3.2.2.1 Initial inspection of the 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 the initial inspection of the factory and factory production control. The notified body shall control 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 the factory and factory production control shall be repeated. The notified body shall issue a new certificate of conformity of the factory production control stating the conformity with the provisions of this ETA.

#### 3.2.2.2 Continuous surveillance assessment and approval of the 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. The frequency of this task should be once a year.

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 certificate of conformity and inform VTT Expert Services Oy without delay.

### 3.3 CE-Marking

The CE-marking shall be affixed on the packaging of the kit of the watertight membrane Kiilto Kerafiber or its accompanying documents.

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

- the name and address of the producer (legal entity responsible for the manufacture),
- the last two digits of the year in which the CE marking was affixed,
- the number of the EC certificate for the factory production control,
- the number of the European technical approval,
- the number of the guideline for European technical approval

The components shall be specified as belonging to the composite waterproofing kit "Kiilto Kerafiber".

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

### **4.1 Manufacturing**

All materials shall be manufactured by Kiilto Oy or by subcontractors under the responsibility of Kiilto Oy.

The ETA is issued for the kit on basis of agreed data/information about the components, which identify the kit that has been assessed and judged and which are deposited at VTT Expert Services Oy.

Changes to the product or the production process, which could result the deposited data/information being incorrect, should be notified to VTT Expert Services Oy before the changes are introduced. VTT Expert Services Oy will decide whether or not such changes affect the ETA and consequently the validity of CE marking on the basis of ETA and if so whether further assessment or alterations to the ETA, 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 into account the following points:

- installation by appropriate trained personnel,
- installation of only those components which are specified components of the kit,
- Installation with required tools and adjuvant precautions during installation,
- Inspection of the substrate surface for cleanliness, firmness, evenness, slopes as planned and correct treatment,
- Inspections during installation and of the finished watertight membrane and documentation of the results

The information as to method of repair on site and handling of waste products shall be observed.

### **4.4 Manufacturer's responsibility**

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 of 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 and
- repair

are given in the MTD.

On behalf of VTT Expert Services Ltd

Espoo, February 24, 2011



Lina Markelin-Rantala

Team Manager



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## ANNEX 1

### 1 Principal build-up of Kiilto Kerafiber Watertight covering kit

