

European Technical Assessment ETA 16/0534 of 19/08/2016

I General Part

Technical Assessment Body issuing the ETA	VTT Expert Services Ltd
Trade name of the construction product	Kiilto KeraPro Watertight covering kit
Product family to which the construction product belongs	Liquid applied waterproofing kit for wet room floors and walls
Manufacturer	Kiilto Oy P.O. Box 250 FI-33101 Tampere
Manufacturing plant	Kiilto Oy Tampereentie 408 FI-33880 Lempäälä
This European Technical Assessment contains	7 pages including 1 Annex which forms an integral part of this assessment
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	Guideline for European Technical Approval ETAG No 022-1, Watertight covering kits for wet room floors and/or walls. Part 1: Liquid applied coverings with or without wearing surface. Edition April 2007 used as European Assessment Document (EAD)

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full excepted the confidential Annex(es) referred to above. However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESMENT

1 Technical description of the product

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

The kits consist of the following components:

Primer

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

Membrane

The Kiilto KeraPro waterproofing is fast drying one-component liquid applied polymer dispersion. The minimum dry film thickness of waterproofing on walls and floor is 0,5 mm. The dry film thickness on a smooth, non-porous substrate treated with the primer is achieved with two applications and with minimum consumption of 1 kg/m². On porous substrates and when installing reinforcements the wet amount of waterproofing to achieve the minimum dry film thickness increases.

Reinforcements

The reinforcements belonging to the kit and used in floor gully penetrations are:

- Kiilto Lattiakaivovahvike (dimensions 30 cm x 30 cm, 2 pcs)
- Kiilto Kaivolaippa (dimensions 33 cm x 33 cm).

The reinforcements belonging to the kit and used in connections between floor and wall and in corners are:

- Kiilto Nurkkavahvikenauha
- Kiilto Butyltape
- Kiilto TPE-tape
- Kiilto Sisänurkkavahvike
- Kiilto Ulkonurkkavahvike.

The reinforcements belonging to the kit and used in penetrations of floor and wall pipes are:

- Kiilto Nurkkavahvikenauha
- Kiilto Läpivientivahvike 10 - 16 mm (dimensions 9,5 cm x 9,5 cm)
- Kiilto Läpivientivahvike 18 - 34 mm (dimensions 11,2 cm x 11,2 cm)
- Kiilto Läpivientivahvike 34 - 50 mm (dimensions 14,5 cm x 14,5 cm)
- Kiilto Läpivientivahvike 55 - 75 mm (dimensions 17 cm x 17 cm)
- Kiilto Läpivientivahvike 100 - 140 mm (dimensions 26 cm x 26 cm).

Adhesives

Adhesives for tile fixings covered by this ETA are:

- Kiilto Saneerauslaasti
- Kiilto Kerapid
- Kiilto Superfix DF
- Kiilto Lightfix
- Kiilto HighFlex S2 DF.

All adhesives are cement based and suitable to be used in the kit. The choice of tile adhesive can be made e.g. according to the needed open time.

2 Specification of the intended uses in accordance with the applicable European Assessment Document, EAD

2.1 Intended uses

The intended use of the covering kit is:

1. To act as watertight covering for use beneath a wearing surface, normally in form of ceramic tiles, on substrates of gypsum board, cement bonded boards, with cement based screed smoothed masonry or light weight concrete and concrete. The substrates may be moisture sensitive, flexible, with joints and susceptible for cracking or not.

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

- PP floor gully with clamping ring
 - Stainless steel gully with clamping ring.
2. Indoor applications, where the in the liquid form applied kit is not exposed to temperatures (i.e. temperature of the structure) below 10 °C or above 40 °C, in the following uses:
 - Floors and walls in ordinary dwellings
 - Floors and walls in public wet rooms, schools and sport facilities (excluding swimming halls).

2.2 Working life

The provisions made in this European Technical Assessment are based on an assumed intended working life of the kit of 25 years, provided that the kit is subject to appropriate installation, use and maintenance.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or assessment 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.

3 Performance of the product and references to the methods used for its assessment

Basic requirement Essential characteristics	ETAG/ EAD Clause No.	Assessment of characteristic
BWR 1. Mechanical resistance and stability		Not relevant
BWR 2. Safety in case of fire		
Reaction to fire	2.4.1	No performance assessed
BWR 3. Hygiene, health and the environment		
Release of dangerous substances	2.4.2	The kit does not contain/release dangerous substances specified in TR 034, dated October 2015*

Vapour permeability	2.4.3	a) Kiilto Keraprimer (125 g/m ²) with Kiilto KeraPro waterproofing (1,0 kg/m ²), dry film thickness 0,5 mm: W = 51 x 10⁻¹² (kg/m² Pa) Z = 145 500 s/m s_d = 3,9 m
Water tightness	2.4.4.1	Watertight
Crack bridging ability	2.4.4.2	a) Assessment category 1 , Crack width 0,4 mm: Kiilto Keraprimer (125 g/m ²) and Kiilto KeraPro 1,0 kg/m ² b) Assessment category 2 , Crack width 0,75 mm: Kiilto Keraprimer (125 g/m ²) and Kiilto KeraPro 1,2 kg/m ²
Bond strength	2.4.4.3	Assessment category 2 : Bond strength ≥ 0,5 MPa Kiilto KeraPro waterproofing with primer and the following tile adhesives on concrete substrate: - Kiilto Saneerauslaasti - Kiilto Kerapid - Kiilto Superfix DF - Kiilto Lightfix - Kiilto HighFlex S2 DF Assessment category 1 : Bond strength ≥ 0,3 MPa Kiilto KeraPro waterproofing with primer and the adhesives covered by the ETA on following substrates: - gypsum board** - cement based board**
Scratching resistance	2.4.4.4	No performance assessed
Joint bridging ability	2.4.4.5	Assessment category 2 : Watertight
Water tightness around penetrations	2.4.4.6 Annex A Annex F	Kiilto KeraPro waterproofing with primer , with Kiilto reinforcements and • PP floor gully with two Kiilto Lattiakaivovahvike reinforcement sheets - Vieser • PP floor gully with Kiilto Kaivolaippa reinforcement - Merika - Purus • Stainless steel floor gully with Kiilto Kaivolaippa reinforcement - Aco EG 150 Assessment category 2 : Watertight
BWR 4. Safety and accessibility in use		
Slipperiness of floors	2.4.5	No performance assessed
BWR 5. Protection against noise		Not relevant
BWR 6. Energy economy and heat retention		Not relevant
BWR 7. Sustainable use of natural resources		Not relevant
General aspects relating to the performances of the construction product		

Aspects of durability and serviceability:		
Resistance to temperature	2.4.6.1	Assessment category 2: Bond strength $\geq 0,5$ MPa Kiilto KeraPro waterproofing with primer and the following tile adhesives on concrete substrate: - Kiilto Saneerauslaasti - Kiilto Kerapid - Kiilto Superfix DF - Kiilto Lightfix - Kiilto HighFlex S2 DF Requirement for crack bridging ability is fulfilled
Resistance to water	2.4.6.2	Assessment category 2: Bond strength $\geq 0,5$ MPa Kiilto KeraPro waterproofing with primer and the following tile adhesives on concrete substrate: - Kiilto Saneerauslaasti - Kiilto Kerapid - Kiilto Superfix DF - Kiilto Lightfix - Kiilto HighFlex S2 DF
Resistance to alkalinity	2.4.6.3	Assessment category 2: Bond strength $\geq 0,5$ MPa Kiilto KeraPro waterproofing with primer and the following tile adhesives on concrete substrate: - Kiilto Saneerauslaasti - Kiilto Kerapid - Kiilto Superfix DF - Kiilto Lightfix - Kiilto HighFlex S2 DF
Resistance to mechanical wear	2.4.6.6	Not relevant
Cleanability	2.4.7.1	Not relevant
Reparability	2.4.7.2	Repairable
Thickness	2.4.7.3	The required weight (wet) of Kiilto KeraPro waterproofing is 2 kg/m^2 per mm. The minimum thickness of the waterproofing shall be 0,5 mm.
Applicability	2.4.7.4	Applicable

*In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, 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 Regulation, these requirements need also to be complied with, when and where they apply.

**Bond strength of kit installed on gypsum board and cement based board was $<0,3$ MPa. Cohesive failure occurred in the substrate, the requirement is considered satisfied.

Aspects related to the performance of the product

The performance of the watertight kit 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.

The performance of the watertight membrane can be assumed only, if the following aspects are considered:

- only those components which are specified components of the kit shall be used
- the appropriate tools shall be used and adjuvant precautions shall be taken
- inspecting the substrate surface for cleanliness and firmness and correct treatment

- inspection in the process of establishing the kit and of the finished watertight membrane and documentation of the results

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 this ETA and the not confidential parts of the MDT deposited to this ETA.

4 Assessment and verification of constancy of performance (hereinafter AVCP)

According to the decision 2003/655/EC of the European Commission, the system of assessment and verification of constancy of performance (see Annex V to the regulation (EU) No 305/2011) is 2+.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD.

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at VTT Expert Services Ltd.

Issued in Espoo on August 19, 2016 by VTT Expert Services Ltd


Pertti Jokinen
Product Manager


Lina Markelin-Rantala
Lead Assessor

1 Principal build-up of Kiilto KeraPro Watertight covering kit

