



ETA-Danmark A/S  
Göteborg Plads 1  
DK-2150 Nordhavn  
Danmark  
Tel. +45 72 24 59 00  
Internet [www.etadanmark.dk](http://www.etadanmark.dk)

Authorised and notified according  
to Article 29 of the Regulation (EU)  
No 305/2011 of the European  
Parliament and of the Council of 9  
March 2011

MEMBER OF EOTA



## European Technical Assessment ETA-15/0458 of 25/08/2015

### I General Part

**Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S**

**Trade name of the construction product:**

ARDEX 7+8, ARDEX 8+9 and ARDEX 8+9L  
Watertight covering kit

**Product family to which the above construction product belongs:**

Liquid applied watertight covering kit for wet room floors and walls

**Manufacturer:**

ARDEX GmbH  
Friedrich-Ebert-Strasse 45  
D-58453 Witten  
Telephone +49 2302 664 0  
Telefax +49 2302 664 375  
Internet [www.ardex.de](http://www.ardex.de)

**Manufacturing plant:**

ARDEX GmbH  
Friedrich-Ebert-Strasse 45  
D-58453 Witten

**This European Technical Assessment contains:**

10 pages including 1 annex which form an integral part of the document

**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 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).

**This version replaces:**

-

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 ASSESSMENT

### 1 Technical description of product and intended use

#### Technical description of the product

##### General

ARDEX has informed there are no difference between ARDEX 7+8, ARDEX 8+9, ARDEX 8+9L and ARDEX 8+9LG watertight covering kit membrane, except for the color.

The tradename used will be:

- ARDEX 7+8,
- ARDEX 8+9

and

- ARDEX 8+9L

The ARDEX system is a liquid applied two component waterproof membrane which serves as a watertight covering for wet room floors and walls beneath a wearing surface. Generally, all assessment tests have been made with the amount of membrane as described by the manufacturer, which is 1,8 kg/m<sup>2</sup>, which is equivalent to a thickness of 1,0 mm.

The kit consists of the following components:

##### Primer

The kit contains the primer; ARDEX P 2 D primer (one application 160g/m<sup>2</sup>; two applications 160g/m<sup>2</sup> + 90g/m<sup>2</sup>) for moisture sensitive substrates. The primer is intended to have a significant additional function in limiting the water vapour permeability of the kit. The primer is used where national provisions require a damp proof membrane.

##### Membrane

ARDEX 7+8, ARDEX 8+9 and ARDEX 8+9L waterproof coating is a two-component system consisting of a solvent-free, acrylicbased liquid compound combined with a cement-based powder containing Portland cements and other hydraulic cements.

##### Reinforcement

Strip sealants ARDEX SK 12 Tricom and ARDEX SFB 10 are used to bridge joints between floor and wall, and in corners between walls: May also be used to bridge cracks and joints.

Alternatively, in inner and outer corners the joints can

be reinforced with the prefabricated corners ARDEX SK 90 (90 degree) and ARDEX SK 270 (270 degree).

For reinforcement around drain and large pipe penetrations ARDEX STD tætningsmanchet, ARDEX SSB 35 x 35 and ARDEX SK-F 425 x 425 are used.

For reinforcement around pipes ARDEX SK-S; SK-W; ARDEX SRM 12/22; SRM 2 x 12/22; SRM 2 x25/35; SRM 40-60; SRM 50-80; SRM 80-110 and ARDEX STD can be used.

Generally the reinforcement is not intended to cover the entire floor and wall covering, but is used over joints and in corners and around pipe penetrations and floor gullies

##### Adhesives

By this assessment the following adhesives are covered: ARDEX X 7 F, ARDEX X 7 G Flex, ARDEX X 7 G Plus, ARDEX X 77, ARDEX X 77 S, ARDEX X 78, ARDEX X 32, ARDEX Ditra FBM, ARDEX FB 9L, ARDEX S 48, ARDEX EG 8, ARDEX WA, ARDEX N 23, ARDEX S 28 Neu, ARDEX X 701 F, ARDEX Marmor und Granitkleber, ARDEX X 7 G Die Erfolgsformel, ARDEX Colachem Compact.

Additional adhesives covered by this assessment are: ARDEX AR 300, X 78 S

##### Kit build-up

The kit is constructed as follows:

- layers between 160 g/m<sup>2</sup> to 250 g/m<sup>2</sup> ARDEX P 2D Primer in one or two applications depending on substrate and required water vapour tightness
- Reinforcement of strip sealants ARDEX SK 12 Tricom and ARDEX SFB 10 bridging joints between floor and wall, and in corners between walls. In inner and outer corners the joints can, alternatively be reinforced with the prefabricated corners ARDEX SK 90 (90 degree) and ARDEX SK 270 (270 degree). Reinforcement around drain and large pipe penetrations ARDEX STD tætningsmanchet, ARDEX SSB 35 x 35 and ARDEX SK-F 425 x 425 are used. Reinforcement around pipes ARDEX SK-S; SK-W; ARDEX SRM 12/22; SRM 2 x 12/22; SRM 2 x25/35; SRM 40-60; SRM 50-80; SRM 80-110 and ARDEX STD which is embedded in a layer of ARDEX 7+8 membrane.
- at least 1800 g/m<sup>2</sup> two component ARDEX 7+8, ARDEX8+9 and ARDEX 8+9L

distributed evenly over the surface in at least two applications . Note that the above mentioned amount corresponds to a dry film thickness of 1,0 mm.

- a layer of ceramic tiles adhered to the kit with cement based tile adhesive ARDEX X 7 F, ARDEX X 7 G Flex, ARDEX X 7 G Plus, ARDEX X 77, ARDEX X 77 S, ARDEX X 78, ARDEX X 32, ARDEX Ditra FBM, ARDEX S 48, ARDEX EG 8, ARDEX FB 9L, ARDEX WA, ARDEX N 23, ARDEX S 28 Neu, ARDEX X 701 F, ARDEX Marmor und Granitkleber, ARDEX X 7 G Die Erfolgsformel, ARDEX Colachem Compact, ARDEX AR 300, X 78 S

The provisions made in this European Technical Assessment are based on an assumed intended working life of the kit of 25 years.

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.

## **2 Specification of the intended use in accordance with the applicable EAD**

The intended use of the covering kit is:

1. watertight covering for use beneath a wearing surface, normally in the form of tiles, on substrates of wood based panels, gypsum boards, fibre cement boards, cement bonded boards, watertight boards made from a polystyrene core with a cement based glass fibre reinforced covering and concrete, i.e. moisture sensitive substrates, which are flexible and with jointing and susceptible to cracking

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

Circular and rectangular gullies made from stainless steel or plastic type PE, with flange for adhesion of the membrane or with clamping ring or with collar

2. Indoor applications, where the liquid applied kit is not exposed to temperatures (i.e. temperature of structure) below 5 °C and above 40 °C, in the following uses:

- Floor and wall surfaces with only occasional direct exposure to water, e.g. at a good distance from shower or bathtub.
- Floors and walls in shower areas or around bathtubs used for a few showers daily, e.g. in ordinary dwellings, multi-family houses and hotels
- Floor and 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.

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

Characteristic	Assessment of characteristic
<b>3.2 Safety in case of fire (BWR2)</b>	
Reaction to fire	No performance determined
<b>3.3 Hygiene, health and the environment (BWR3)</b>	
Dangerous substances	The kit does not contain/release DS specified in TR 034, dated March 2012*)
Vapour permeability	<p><u>Test A:</u> The vapour permeability of the 160 g/m<sup>2</sup> ARDEX P 2 D in one application and approx. 1,8 kg/m<sup>2</sup> ARDEX 8+9 LG in two applications when tested at 23°C and RH 50→93%. The test has been performed with the membrane facing a climate of 93 % RH:</p> <p>Z-value = <math>1,25 \cdot 10^{11}</math> s/m equal to sd = 24,4 m and g value <math>9,88E-09</math> kg/m<sup>2</sup>*h for kits applied to the gypsum board according to above application rate mentioned in test A.</p> <p><u>Test B:</u> The vapour permeability of the 160+90 g/m<sup>2</sup> ARDEX P 2 D in one application and approx. 1,8 kg/m<sup>2</sup> ARDEX 8+9 LG in two applications when tested at 23°C and RH 50→93%. The test has been performed with the membrane facing a climate of 93 % RH:</p> <p>Z-value = <math>1,87 \cdot 10^{11}</math> s/m equal to sd = 36,4 m and g value <math>7,26 E-09</math> kg/m<sup>2</sup>*h for kits applied to the gypsum board according to above application rate mentioned in test B.</p>
Moisture resistance	
Water tightness	A sample with approx. 1.8 kg/m <sup>2</sup> ARDEX 8+9 LG in two applications with no primer. <b>Watertight</b> according to paragraph A.7 EN 14891
Crack bridging ability	A sample with 2 x ARDEX 8+9 LG with no primer fulfil the requirements for <b>Assessment category 1</b> : Crack width 0,75 mm.
Bond strength	<p><u>Test A)</u> ARDEX P 2 D and ARDEX 8+9LG with tile adhesive ARDEX X 7 G Flex applied to a concrete substrate fulfil <b>Assessment category 2</b>: Bond strength &gt; 0,5 MPa</p> <p><u>Test B)</u> ARDEX P 2 D, ARDEX 8+9 with tile adhesive ARDEX X 7 F, ARDEX X 7 G Flex, ARDEX X 7 G Plus, ARDEX X 77, ARDEX X 77 S, ARDEX X 78, ARDEX X 32, ARDEX Ditra FBM , ARDEX FB 9L, ARDEX S 48, ARDEX EG 8, ARDEX WA, ARDEX N 23, ARDEX S 28 Neu, ARDEX X 701 F, ARDEX Marmor und Granitkleber, ARDEX X 7 G Die Erfolgsformel, ARDEX Colachem Compact applied to a concrete substrate fulfil <b>Assessment category 2</b>: Bond strength &gt; 0,5 MPa</p>

Characteristic	Assessment of characteristic
Scratching resistance	<p><u>Test C)</u> ARDEX P 2 D and ARDEX 8+9 with tile adhesive ARDEX X 7 G Flex on substrates**) fulfil <b><u>Assessment category 2</u></b>: Bond strength &gt; 0,3 Mpa.</p> <p>Additional ARDEX P 2 D and ARDEX 8+9 with tile adhesive ARDEX AR 300 and X 78 S applied to a concrete substrate fulfil <b><u>Assessment category 1</u></b>: Bond strength &gt; 0,3 Mpa</p>
Joint bridging ability	<p>ARDEX 8+9LG in two applications, together with ARDEX SK 12. Comply with <b><u>Assesment category 2: Watertight</u></b></p> <p>ARDEX P 2 D and ARDEX 8+9LG in two applications, together with ARDEX SK 12. Comply with <b><u>Assesment category 2: Watertight</u></b></p>
Water tightness around penetrations	<p>One sample was made with ARDEX 8+9 total application rate approx. 1765 g/m<sup>2</sup>. while another sample was made with ARDEX P 2 D total application rate approx. 250 g/m<sup>2</sup> and ARDEX 8+9 total application rate approx. 1765 g/m<sup>2</sup>, ARDEX reinforcements as described in section II.1 ***) comply with. <b><u>Assesment category 2: Watertight</u></b></p>
<b>3.7 Sustainable use of natural resources (BWR7)</b>	Not relevant
<b>3.8 Related aspects of durability and serviceability</b>	
Resistance to temperature	<p>Products tested and descibed under bond strength test A –B and C comply with assesment catgory accordingly, with regrads to resistance to temperature: Test A–B and C. Assessment category 2: Bond strength &gt; 0,5 Mpa. Test additional comply with assesment category 1: Bond strength &gt; 0,3 Mpa</p> <p>Since crack bridging and joint bridging test has not been performed after heat ageing the kit fulfils the requirements for <b><u>Assessment category 1</u></b>.</p>
Resistance to water	<p>Products tested and descibed under bond strength test A –B and C comply with assesment catgory accordingly with regrads to resistance to temperature:            Test A–B and C. <b><u>Assesment category 2</u></b>: Bond strength &gt; 0,5 Mpa.            Test additional. <b><u>Assesment category 1</u></b>: Bond strength &gt; 0,3 Mpa</p>

Characteristic	Assessment of characteristic
Resistance to alkalinity	<p>Products tested and described under bond strength test A –B and C comply with assesment catgory accordingly with regrads to resistance to temperature:</p> <p>Test A–B and C. <b>Assessment category 2:</b> Bond strength &gt; 0,5 Mpa.</p> <p>Test additional. <b>Assessment category 1:</b> Bond strength &gt; 0,3 Mpa</p>
Repairability	No performance determined
Thickness	<p>The required weight of the ARDEX 7+8, ARDEX 8+9 and ARDEX 8+9L membrane is 1,8 kg/m<sup>2</sup> pr. mm dry thickness of the layer. The minimum thickness of the membrane shall be 1,0 mm.</p>
Applicability	Applicable

\*) In accordance with <http://europa.eu.int/-/comm/enterprise/construction/internal/dangsub/dangmain.htm> In addition to 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 EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

\*\*) The assessment of the fitness for use of the kit on the generic description of the boards is based on test on the following specified substrates in addition to concrete according to EN 1323; Knauf TOP2000 Super, Rigips drywall, Sperrholz plywood, Spanplatte V100 chipboard, Gipsdiele gypsum wall board, Gasbeton aac, Lux Element rigid foam panel.

\*\*\*) In accordance with the provisions of ETAG 022 part 1 – Annex A, the kit has been tested with three types of floor gullies; two circular gullies, one made from stainless steel with a flange for floors with a membrane and one in PP plastic with a clamping ring type KL/150, and on rectangular gully made from stainless steel with a flange for installation in wood based floors structures

### **Aspects related to the performance of the product**

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

The performance of the watertight membrane 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 can be used,
- the appropriate tools shall be used and adjuvant, precautions shall be taken,
- inspecting the substrate surface for cleanliness and correct treatment,
- inspection in the process of establishing the kit and of the finished watertight membrane and documentation of the results.

The information as to the handling of waste products shall be observed.

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 MTD deposited to this ETA

## **4 Attestation and verification of constancy of performance (AVCP)**

### **4.1 AVCP system**

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

There is no declared fire performance, and hence the Decision 2003/655/EC of the European Commission with regard to reaction to fire is not relevant.

## **5 Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD**

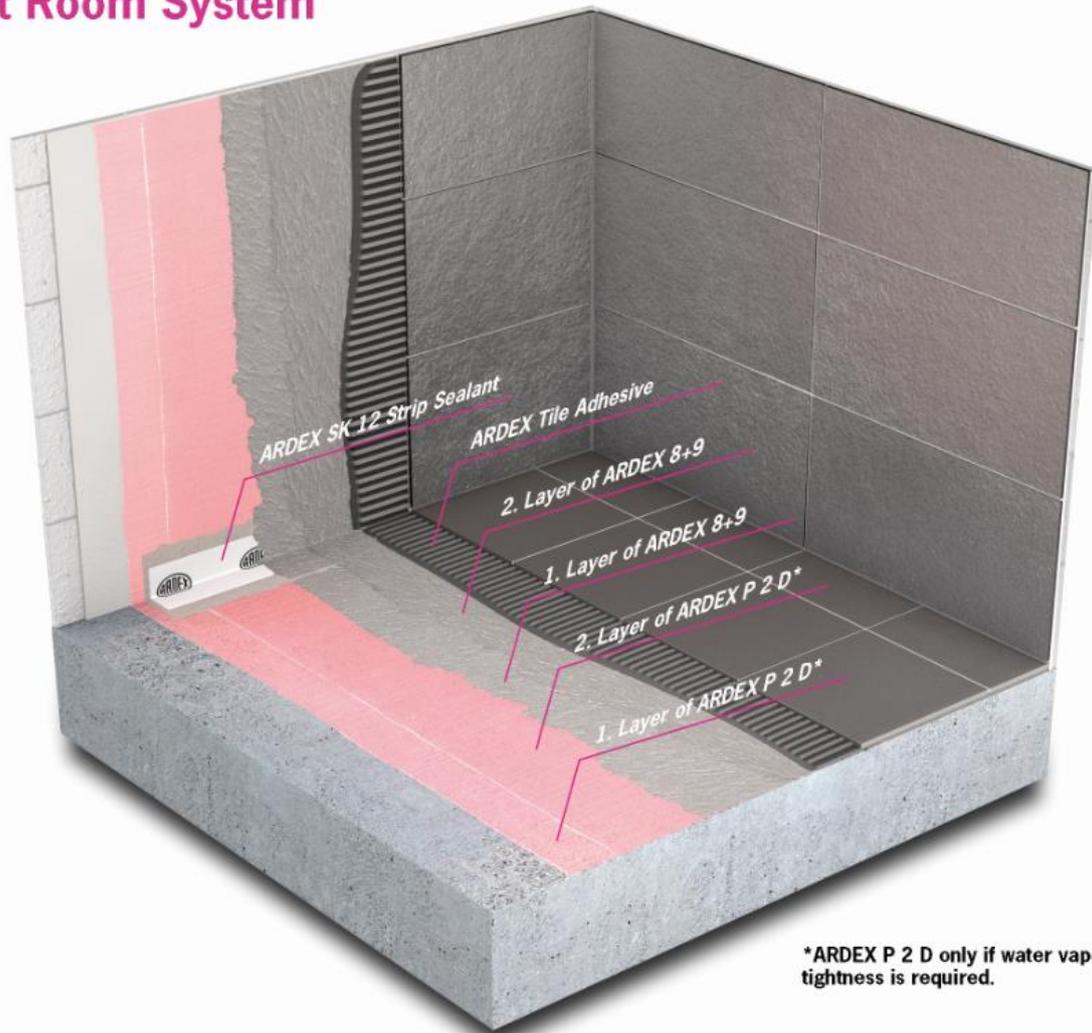
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark

Issued in Copenhagen on 2015-08-25 by



Thomas Bruun  
Manager, ETA-Danmark

## ARDEX 7+8 or ARDEX 8+9 Wet Room System



ARDEX 7+8, ARDEX 8+9 and ARDEX 8+9L watertight covering kit

Principle build-up of the kit

Annex 1

of European Technical Assessment  
ETA-15/0458