

## European Technical Assessment

**ETA 21/1010**  
of 11.02.2022



### General part

#### Technical Assessment Body issuing the ETA: ITeC

ITeC has been designated according to Article 29 of Regulation (EU) No 305/2011 and is member of EOTA (European Organisation for Technical Assessment)

**Trade name of the construction product**

**ACE-7052 HE**

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

Product Area Code: 03  
Liquid applied roof waterproofing kit, based on polyurea.

**Manufacturer**

**ACE COATINGS SL**  
Campo Sagrado 11  
ES33205 Gijón (Asturias)  
Spain

**Manufacturing plant(s)**

According to Annex N kept by ITeC.

**This European Technical Assessment contains**

8 pages including 2 annexes which form an integral part of this assessment  
and  
Annex N, which contains confidential information and is not included in the European Technical Assessment when that assessment is publicly available.

**This European Technical Assessment is issued in accordance with Regulation (EU) 305/2011, on the basis of**

EAD 030350-00-0402 *Liquid applied roof waterproofing kits.*

### **General comments**

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

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## Specific parts of the European Technical Assessment

### 1 Technical description of the system

ACE-7052 HE is an in-situ liquid applied roof waterproofing kit (LAWRK) based on polyurea manufactured by ACE COATINGS SL, consisting of an unreinforced two-component polyurea membrane formed "in situ" and a primer (when needed for specific substrates): a three-component polyurethane primer (ACE PRIMERFLEX PLUS) or a two-component primer (ACE EPOPRIMER WL). These components are manufactured either by the manufacturer or by a supplier. Thicknesses and application rates of these components are shown in table 1.

Assembled system	Minimum thickness (mm)	Minimum application rate	
Unprotected or PU foam substrate	2,6	ACE PRIMERFLEX PLUS	0,16 kg/m <sup>2</sup> (if needed)
		ACE EPOPRIMER WL:	0,2 kg/m <sup>2</sup> (if needed)
		ACE-7052 HE:	2,7 kg/m <sup>2</sup>
Protected <sup>1</sup>	1,8	ACE PRIMERFLEX PLUS	0,16 kg/m <sup>2</sup> (if needed)
		ACE EPOPRIMER WL:	0,2 kg/m <sup>2</sup> (if needed)
		ACE-7052 HE:	1,9 kg/m <sup>2</sup>

**Table 1:** Components and application data of the assembled system ACE-7052 HE.

Description of the components:

- ACE PRIMERFLEX PLUS: Three-component polyurethane primer.
- ACE EPOPRIMER WL: Two-component epoxy primer.
- ACE-7052 HE: Two-component modified aromatic polyurea. Solvent-free. They are mixed in-situ and applied at high-pressure by a hot-spray equipment.

For an adequate adhesion of the waterproofing layer, the following primer is required on the following substrates:

- Concrete: ACE PRIMERFLEX PLUS or ACE EPOPRIMER WL.
- Ceramic tiles: ACE PRIMERFLEX PLUS or ACE EPOPRIMER WL.
- Mortar: ACE PRIMERFLEX PLUS or ACE EPOPRIMER WL.
- Polyurethane foam: no primer needed.

As an assembled system these components form an elastic and seamless roof waterproofing adhered to the whole substrate. The system build-up of the waterproofing kit ACE-7052 HE is given in Annex 1.

<sup>1</sup> Protected with a permanent heavy protection layer, e.g. a 30 mm mortar layer and tiles.

## 2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The kit is used for the waterproofing of roof surfaces against penetration of atmospheric water.

The kit is applied on the following substrates: concrete, ceramic tiles, mortar and polyurethane foam. In the technical documents the manufacturer gives information about the substrate pre-treatment, if needed.

The provisions made in this ETA are based on an assumed working life of at least 10 years for the kit ACE-7052 HE. These provisions are based upon the current state of the art and the available knowledge and experience.

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

The levels of use categories are given in Annex 1 according to EAD 030350-00-0402. These categories are only valid if the liquid applied roof waterproofing kit is used in compliance with the specifications and conditions given in Annex 2 and the installation instructions of the manufacturer stated in the technical documents.

## 3 Performance of the system and reference to the methods used for its assessment

Performance of the system ACE-7052 HE related to basic requirements for construction works (hereinafter, BWR) were determined according to EAD 030350-00-0402. Essential characteristics of the LARWK system are indicated in table 2.

Essential characteristic	Section of the EAD	Performance
<i>BWR 2 – Safety in case of fire</i>		
External fire performance	2.2.1	<u>Without protection layer:</u> <b>B<sub>ROOF</sub> (t1)</b> Classification valid for: - Substrate: Any non-combustible substrates with a reaction to fire classification A1 or A2-s1,d0 with a density of at least 652,5 kg/m <sup>3</sup> . Any non-combustible continuous substrate with a minimum thickness of 10 mm. - Roof pitch: ≤ 20°.
		<u>With protection layer:</u> <b>B<sub>ROOF</sub> (t1, t2, t3 or t4)</b> with a protection layer covered by Commission Decision 2001/671/CE and 2000/553/CE. <u>ACE-7052 HE applied on PU foam substrates:</u> No Performance Assessed
Reaction to fire	2.2.2	E

Essential characteristic	Section of the EAD	Performance
<i>BWR 3 – Hygiene, health and the environment</i>		
Content, emission and/or release of dangerous substances	2.2.3	Not assessed
Resistance to water vapour	2.2.4	$\mu = 2239 \pm 242$
Watertightness	2.2.5	Pass (the assembled system remains watertight)
Resistance to wind loads	2.2.6	<p>Delamination strength:</p> <p><u>With ACE PRIMERFLEX PLUS as primer:</u></p> <ul style="list-style-type: none"> <li>- Concrete: <math>\geq 50</math> kPa (15520 kPa)</li> <li>- Ceramic tiles: <math>\geq 50</math> kPa (3120 kPa)</li> <li>- Mortar: <math>\geq 50</math> kPa (930 kPa)</li> </ul> <p><u>With ACE EPOPRIMER WL as primer:</u></p> <ul style="list-style-type: none"> <li>- Concrete: <math>\geq 50</math> kPa (63600 kPa)</li> <li>- Ceramic tiles: <math>\geq 50</math> kPa (23860 kPa)</li> <li>- Mortar: <math>\geq 50</math> kPa (930 kPa)</li> </ul> <p><u>Without primer:</u></p> <ul style="list-style-type: none"> <li>- PU foam: <math>\geq 50</math> kPa (5970 kPa)</li> </ul>
Resistance to mechanical damage (perforation)	2.2.7	<p>P4 (I4, L4) for non-compressible substrates.</p> <p>P2 (I2, L2) for PU foam.</p>
Resistance to fatigue movement	2.2.8	W2
Resistance to low and high surface temperatures.	2.2.9	<p>Resistance to the effects of low temperatures: test passed.</p> <p>Resistance to the effects of extreme low temperatures TL3 (- 20 °C): test passed.</p> <p>Resistance to the effects of high temperatures TH4 (+ 90 °C): test passed.</p> <p><u>Categories declared</u></p> <p>P4 (I4, L4) for non-compressible substrates.</p> <p>P2 (I2, L2) for PU foam.</p>

Essential characteristic	Section of the EAD	Performance
Resistance to ageing media	2.2.10	<p>W2, S (severe)</p> <p>Resistance to heat ageing:</p> <ul style="list-style-type: none"> <li>- TL4 (- 30 °C): I4 (P4) for non-compressible substrates.</li> <li>- Resistance to fatigue movement at - 10 °C: test passed.</li> <li>- Tensile properties: see table 3.</li> </ul> <p>Resistance to UV radiation + moisture ageing:</p> <ul style="list-style-type: none"> <li>- I4 (P4) for non-compressible substrates.</li> <li>- Tensile properties: see table 3.</li> </ul> <p>Resistance to water ageing:</p> <ul style="list-style-type: none"> <li>- L4 (P4) for non-compressible substrates.</li> <li>- L2 (P2) for PU foam as substrate.</li> </ul> <p>Resistance to wind loads (delamination strength):</p> <ul style="list-style-type: none"> <li>o For non-compressible substrates: <ul style="list-style-type: none"> <li>▪ With ACE PRIMERFLEX PLUS as primer: <math>\geq 50</math> kPa (2690 kPa)</li> <li>▪ With ACE EPOPRIMER WL as primer: <math>\geq 50</math> kPa (3650 kPa)</li> </ul> </li> <li>o Without primer (applied on PU foam): <math>\geq 50</math> kPa (1480 kPa)</li> </ul>
Resistance to plant roots	2.2.11	No penetration of roots.
Effects of variations in kit components and site practices	2.2.12	<p>Variations in kit components and site practices (+ 4 °C and + 50 °C):</p> <ul style="list-style-type: none"> <li>- Tensile properties: see table 3</li> <li>- Resistance to dynamic indentation: I4 (P4) for non-compressible substrates.</li> </ul>
Effects of day joints	2.2.13	Delamination strength: $\geq 50$ kPa (47900 kPa)
<i>BWR 4 - Safety and accessibility in use</i>		
Slipperiness	2.2.14	$\mu = 0,59$

**Table 2:** Performance of ACE-7052 HE.

Conditions of testing	Tensile strength (MPa)	Elongation at break (%)
Before ageing	38,6	104
After heat ageing	33,2	124
After UV radiation + moisture ageing	13,2	107
Effects of variations in kit components and site practices:		
- Application at T <sub>max</sub> (+ 50 °C)	48,2	71
- Application at T <sub>min</sub> (+ 4 °C)	24,5	92

**Table 3:** Tensile properties of ACE-7052 HE.

The verification of durability and serviceability is part of testing the essential characteristics. Durability and serviceability are only ensured if the specifications of intended use according to Annex 2 and specifications of technical documents of the manufacturer are kept.

#### 4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

According to the European Commission<sup>2</sup> Decision 98/599/EC, amended Decision 2001/596/EC<sup>3</sup>, the systems of AVCP (see EC delegated regulation (EU) No 568/2014 amending Annex V to Regulation (EU) 305/2011) given in the following table apply.

System	Intended use(s)	Level or class	System
ACE-7052 HE	Liquid applied roof waterproofing kit subjected to fire regulations	E	3
	Liquid applied roof waterproofing kit not subjected to fire regulations	Any	3

**Table 4:** Applicable AVCP systems.

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

All the necessary technical details for the implementation of the AVCP system are laid down in the *Control Plan* deposited with the ITeC<sup>4</sup>, with which the factory production control shall be in accordance.

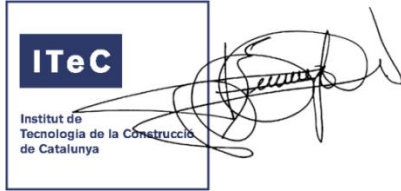
Any change in the manufacturing procedure which may affect the properties of the system shall be notified and the necessary type-testing revised according to the *Control Plan*.

<sup>2</sup> Official Journal of the European Union (OJEU) L287 of 24/10/1998.

<sup>3</sup> Official Journal of the European Union (OJEU) L209 of 02/08/2001.

<sup>4</sup> The *Control Plan* is a confidential part of the ETA and is only handed over to the notified certification body involved in the assessment and verification of constancy of performance.

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**ANNEX 1: Classification of the roof waterproofing system ACE-7052 HE**

Minimum consumption	See Table 1
Minimum thickness of the assembled kit	2,6 mm (unprotected systems or PU foam substrates) 1,8 mm (protected systems)
Support / substrate	Concrete, mortar, ceramic tiles. PU foam.
<b>Classification to use categories</b>	
Working life	W2 (10 years)
Climatic zone	S (severe)
Resistance to mechanical damage (perforation)	P1 to P2 for polyurethane foam substrates. P1 to P4 for ceramic tiles, mortar and concrete substrates.
Roof slope	S1 to S4
Maximum temperature	TH4 (+ 90 °C)
Minimum temperature	TL3 (- 20 °C)
<b>Performance of the system</b>	
Reaction to fire	E
External fire performance	B <sub>ROOF</sub> (t1) <sup>5</sup> B <sub>ROOF</sub> (t1, t2, t3, t4) <sup>6</sup> For PU foam used as substrate: NPA.
Water vapour diffusion resistance factor	$\mu = 2239 \pm 242$
Watertightness	Pass
Release of dangerous substances	Not assessed
Root resistance	Root resistant
Resistance to wind loads	$\geq 50$ kPa
Slipperiness	0,59

**Table 5:** Levels of use categories.

<sup>5</sup> This classification is valid for the following supporting decks:

- Roof pitches  $\leq 20^\circ$
- Any non-combustible continuous deck, according to EN 13501-5:2007, with a minimum thickness of 10 mm.

<sup>6</sup> With protection layer covered by Commission Decisions 2000/553/CE and 2001/671/CE, as indicated in chapter 1.1.

## ANNEX 2: Installation

The levels of use categories and the performance of the roof waterproofing can be assumed only if the installation is carried out according to the installation instructions stated in the technical file of the manufacturer, in particular taking account of the following points:

- Installation by appropriately trained personnel.
- Installation of only those components which are marked components of the kit.
- Installation with required tools.
- Precautions during installation.
- Substrates must be inspected and if necessary, treated to ensure that they are solid, clean and dry.
- Application of the primer on certain substrates defined in the manufacturer's Technical Dossier (and in section 1 of the present document) before applying the waterproofing membrane.
- Inspecting compliance with suitable weather and curing conditions.
- Installation shall be performed ensuring the application rates and thicknesses shown in table 1. The interval between the primer application and the waterproofing application shall be determined case by case regarding the weather conditions and the primer component rates, as indicated in the manufacturer instructions.
- Appropriate hot sprayed equipment must be used and the application shall be carried out exclusively by qualified personnel.
- Inspections during installation and of the finished product and record of the results.
- The instructions for repairing on site and handling of waste products shall be followed.