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European Technical Assessment

ETA 22/ 0069
01/ 04/ 2022

English translation prepared by IETcc. Original version in Spanish language

General Part

Technical Assessment Body issuing the European Technical Assessment: Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc)	
Trade name of the construction product	**IBERTERM SATE**
Product family to which the construction product belongs	External Thermal Insulation Composite System with rendering for use on building walls
Manufacturer	**Ibérica de Revestimientos Grupo EMP, S.L.U.** Polígono industrial de Santianes s/n. 33518 Sariego, Asturias. Spain
Manufacturing plant(s)	Polígono industrial de Santianes s/n. 33518. Sariego, Asturias. Spain DAW Italia GmbH & Co KG - Marchio Caparol, Largo Murjahn, 1 - 20071 Vermezzo con Zelo (MI), Italy Farben Lacke Bautenschutz GmbH. Roßdörfer Straße 50 64372 Ober-Ramstadt. Deutschland
This European Technical Assessment contains	9 pages including 2 Annex which form an integral part of this assessment. Annex 3 contains confidential information and is not included in the European Technical Assessment when that assessment is publicly disseminated
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	040083-00-0404: External thermal insulation composite systems (ETICS) with renderings
This ETA is corrigendum '1' of	ETA 22/0069, issued on 01/04/2022

Specific parts

1 Technical description of the product

The External Thermal Insulation Composite System (from now on, referred to as ETICS) "IBERTERM SATE" is designed and installed in accordance with the manufacturer, design and installation instructions, deposited at the IETcc[(1)]. It is made up on site from these components. The manufacturer is ultimately responsible for the ETICS.

IBERTERM SATE is defined as "bonded system with supplementary mechanical fixings" used with EPS- panel. The minimum number of fasteners per square metres are 6 for EPS.

This ETICS comprises the following components, which are factory supply by the manufacturer.

<table>
<tr><th colspan="4">Components</th><th>Coverage ([kg/m²)</th><th>Thickness [mm]</th></tr>
<tr><td>Thermal Insulation + method of fixing</td><td colspan="3">PANEL EPS- EPS ELASTIFIED: Bonded Board of Expanded polystyrene (EPS) (EN 13163) with supplementary mechanical fixings (minimum 6 fasteners/m²)</td><td>-</td><td>20 - 400</td></tr>
<tr><td>Adhesive</td><td colspan="3">IBERTERM mortero de pegado y armadura 310. Minimum bonded surface: 40% for EPS. Cement based mortar in powder requiring addition and mixing with 22,0 ± 1,% water</td><td>3.0 – 5.0 (powder)</td><td>≥ 3,0</td></tr>
<tr><td>Base coat</td><td colspan="3">IBERTERM mortero de pegado y armadura 310 + IBERTERM MALLA 160</td><td>3.0 – 5.0 (powder)</td><td>3 – 4</td></tr>
<tr><td rowspan="8">Glass fibre mesh</td><td colspan="3">IBERTERM MALLA 160. Standard glass fibre alkali resistant mesh</td><td>0.16</td><td>0.58</td></tr>
<tr><td colspan="5">Other different mesh can be used in this ETICS, if they have the CE marking according to EAD 040016-00-0404 and the following characteristics</td></tr>
<tr><td colspan="2">Characteristics</td><td colspan="3">Values</td></tr>
<tr><td colspan="2">Mesh size (mm)</td><td colspan="3">(3.5 x 3.8) ± 0.8</td></tr>
<tr><td colspan="2">Elongation after ageing (%)</td><td colspan="3">≤ 4.0</td></tr>
<tr><td colspan="2">Mass per unit area (g/m²)</td><td colspan="3">≥ 145</td></tr>
<tr><td colspan="2">Thickness</td><td colspan="3">0.46 ± 0.26 mm</td></tr>
<tr><td colspan="2">Organic content</td><td colspan="3">20 ± 6</td></tr>
<tr><td colspan="5">After ageing (alkali conditioning), the mean value of residual strength of the standard mesh (see EAD 1.3.8.1) in the weft and warp direction shall be at least: 50 % of the strength in the as-delivered state and ≥ 20 N/mm.</td></tr>
<tr><td>Primer coat</td><td colspan="3">Primercap Texturado. Acrylic binder based painter which may require optionally 10-15 % water</td><td>0.35 – 0.4</td><td>----</td></tr>
<tr><td>Finishing coat</td><td colspan="2">Ibermortero K15 (1.5 mm)
Ibermortero K10 (1.0 mm))</td><td>Acrylic binder based ready to use paste with 2 different size grading particles</td><td>2.5 - 3.5</td><td>1.2 -2.5</td></tr>
<tr><td rowspan="6">Fasteners</td><td colspan="4">Plastic anchors (expansion element and sleeve) for insulation material with different lengths in relation with thickness of insulation board. For MW can is used an additional washer of 14 cm diameter</td><td rowspan="6">Remain under the manufacturer responsibility</td></tr>
<tr><td>Fasteners</td><td>ETA n.º</td><td>Diameter Plate (mm)</td><td>Stiffness (kN/mm)</td><td>Minimum tension load (N)*</td></tr>
<tr><td>IBERTERM Fijación.</td><td>14/0130</td><td>60</td><td>0,6</td><td>500</td></tr>
<tr><td colspan="4">*These values show the minimum pull out of the fastener in the weakest support (enclosed in its ETA). Other higher values appear in their ETAs.</td></tr>
<tr><td colspan="4">Other fasteners can be used with CE marking (EAD 330196-00-0604</td></tr>
<tr><td>Ancillary elements</td><td colspan="3">Aluminium and PVC profiles: base, corners, top and window sills, expansion joint and its fixing devices</td></tr>
</table>

(1) The technical documentation of this European Technical Assessment is deposited at the *Instituto de Ciencias de la Construcción Eduardo Torroja* (IETcc) and, as far as relevant for the tasks of the notified bodies involved in the attestation of conformity procedure, is handed over to the notified bodies.

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

2.1 Intended use(s)

This ETICS is intended to be used as external thermal insulation for building walls. The walls are made of masonry (bricks, blocks…) or concrete (cast on site or as prefabricated panels) with a reaction to fire classification A1 to A2-s2,d0 according to EN 13501-1 or A1 according to the EC decision 96/603/EC as amended. The ETICS is designed to give the wall to which is applied satisfactory thermal insulation.

This ETICS is made of non-load bearing construction elements. It does not contribute directly to the stability of the wall on which is installed, but it can contribute its durability by providing enhanced protection from the effect of weathering.

This ETICS can be used on new or existing (retrofit) vertical walls. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation. The ETICS is not intended to ensure the airtightness of the building structure.

This ETA covers application of ETICS on supports of masonry or concrete.

2.2 Relevant general conditions for the use of the kit

The provisions made in this European Technical Assessment are based on an assumed working life of 25 years from installation in the works, according to EAD 040083-00-0404, provided that the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met. In this respect.

The indications given on the working life cannot be interpreted as a guarantee given neither by the product manufacturer nor by EOTA nor by the Technical Assessment Body issuing this ETA, but are regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

Installation. The ETICS is installed on site. It is the responsibility of the manufacturer to guarantee that the information about design and installation of this ETICS is effectively communicated to the concerned people. This information can be given using reproductions of the respective parts of this ETA. Besides, all the data concerning the execution shall be clearly indicated on the packaging and/or the enclosed instruction sheets using one or several illustrations.

The wall on which the ETICS is applied shall be sufficiently stable and airtight. Its stiffness shall be large enough to ensure that ETICS is not subjected to deformations, which could lead to damage.

*Design***.** In any case, the user shall comply with the national regulations and particularly concerning fires and wind load resistance. Only the components described in clause 1 with characteristics according to clause 3 of this ETA can be used for this ETICS.

The works including the details (connection, joint,.) shall be designed in order to avoid water penetration behind the system. The minimal surface area for the bonded ETICS, and the method of bonding shall comply with the characteristics of the ETICS as well as the national regulations. In any case, the minimal surface shall be at least 40 % for EPS.

Execution. The recognition and preparation of the substrate as well as the generalities about the execution of the ETICS shall be carried out in compliance with the manufacturer prescriptions and the corresponding national regulations.

The particularities in execution linked to the method of bonding and the application of the rendering system shall be handled in accordance with manufacturer prescriptions. In particular, it is suitable to comply with the quantities of rendering applied, the thickness regularity and the drying periods between layers.

Use, maintenance and repair of the works. It is accepted that the finishing coats shall normally be maintained in order to fully preserve the system's performance. Maintenance will include at least:

- The repairing of localised damaged areas due to accidents
- The application of various products or paints, possibly after washing or ad hoc preparation.

Necessary repairs should be done rapidly. It is important to be able to carry out maintenance as far as possible using readily available products and equipment, without spoiling appearance.

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

The identification tests and the assessment for the intended use of this ETICS according to the Basic Work Requirements (BWR) were carried out in compliance with EAD 040083-00-0404, The characteristics of each system shall correspond to the respective values laid down in following tables of this ETA, checked by IETcc.

Methods of verification and of assessing and judging are listed afterwards.

3.1 Safety in case of fire (BWR 2)

Basic requirement for construction works 2: Safety in case of fire			
Essential characteristic		**Relevant clause in EAD**	**Performance**
Reaction to fire of ETICS		2.2.1.1	Fire classification
System composition (Adhesive + Insulation + Base coat + primer + finishing coat)			
Thermal insulation (any thickness)	Finishing coat		
EPS	Ibermortero K15 Ibermortero K10		B-s2, d0
Reaction to fire of thermal insulation material		2.2.1.2	EPS: E
Facade fire performance		2.2.2	NPA
Propensity to undergo continuous smouldering of ETICS		2.2.3	NPA

3.2 Hygiene, health and environment (BWR 3)

Basic requirement for construction works 3: Hygiene, health, and the environment					
Essential characteristic	**Relevant clause in EAD**	**Performance**			
Content, emission and/or release of dangerous substances. Leachable substances	2.2.4	The leachable substances are not determined in accordance with this EAD			
Water absorption of the base coat and rendering system (kg/m^2)	2.2.5.1	Rendering		After 1h	After 24h
		IBERTERM mortero de pegado y armadura 310		0.04	0.4
		Ibermortero K15 / Ibermortero K10		0.03	0.3
Water absorption of the thermal insulation	2.2.5. 2	IBERTERM PANEL EPS- EPS ELASTIFIED: EN ISO 29767: ≤ 1 kg/m^2			
Water-tightness of the ETICS Hygrothermal behaviour	2.2.6	The ETICS is assessed resistant to hygrothermal cycles on a rig, passed the test without defects and without pass through of water			
Water tightness of the ETICS: Freeze-thaw behaviour	2.2.7	The water absorption of the base coat and of rendering system is less than 0.5 kg/m^2 after 24 hours and so the system can be assessed as freeze/thaw resistant without any further testing.			
Impact resistance (Category)	2.2.8	Rendering	Samples	160	Double 160
		EPS + base coat + finishing coat			
		IBERTERM mortero de pegado y 310		II	------
		Ibermortero K15 / Ibermortero K10		III	II
Water vapour permeability of the rendering system	2.2.9.1	Base coat + finishing coat		(S_d, m)	Required
		Without finishing coat		----	< 2
		Ibermortero K15 / Ibermortero K10		0.1	
Water vapour permeability of the thermal insulation	2.2.9.2	IBERTERM PANEL EPS- EPS ELASTIFIED: EN 12086: = 20 -80			

3.3 Safety and accessibility in use (BWR 4)

Basic requirement for construction works 4: Safety and accessibility in use					
Essential characteristic	**Clause EAD**	**Performance**			
Bond strength between base coat and insulation product.(minimum / mean value)(kPa)	2.2.11.1	Thermal insulation	Initial state	After hydrothermal cycles (rigs)	After 7 days' water immersion (on samples)
		EPS	110 / 99 ≥ 80	131 / 99 ≥ 80	-----
		The breakage location was 100% on the insulation board EPS			
Bond strength between adhesive and substrate (minimum /mean value) (kPa)	2.2.11.2	Initial state		Immersion 48 h and 2 h drying	Immersion 48 h and 7 d drying
		820 / 790 ≥ 250		452 / 410 ≥ 80	894 / 870 ≥ 250
Bond strength between adhesive and insulation (minimum /mean value) (kPa)	2.2.11.3	Thermal insulation	Initial state	Immersion 48 h and 2 h drying	Immersion 48 h and 7 d drying
		EPS	83 / 79 ≥ 30	97 / 91 ≥ 80	93 / 89 ≥ 80
		The breakage location was 100% on the insulation board EPS			
Fixing strength (transverse displacement test)	2.2.12	NPA. The test is not required since this ETICS is not an mechanically fixed ETICS with supplementary adhesive.			
Pull-through of the fasteners. (minimum / mean value)(N/fastener)	2.2.13.1	In the middle of eps of 6 cm with TR ≥ 100			
		Dry condition (Center // border)			
		616 / 637 // 582 /585			
		The test results are also valid for Insulation product of the same type with ≥ 60 mm thickness and ≥ 100 kPa tensile strength perpendicular to the faces and Anchors with the ≥ 60 mm plate diameter and/or the ≥ 0,6 kN/mm² plate Stiffness			
Tensile perpendicular to the faces of thermal insulation	2.2.14.1	IBERTERM PANEL EPS- EPS ELASTIFIED: EN 1607, TR = 100 kPa			
Shear strength / shear modulus of elasticity th.Insulation	2.2.15	IBERTERM PANEL EPS- EPS ELASTIFIED: EN 12090: Shear strength(kPa): 75; Shear modulus (kPa):1000			
Rendering strip tensile test: base coat	2.2.17	NPA			
Bond strength after ageing (minimum / mean value) (kPa)	2.2.20	**Rendering**		**EPS**	
		Ibermortero K15 / Ibermortero K10		103 / 95	
		The breakage location was 100% on the insulation board EPS,			
Mechanical and physical characteristics of the mesh	2.2.21	Status		Warp	Weft
		Initial / After ageing (N/ mm)		30 / 20	30 / 20
		Deference (%)		≤ 50	
		Elongation after ageing (%)		≤ 4.0	

3.4 Energy economy and heat retention (BWR 6)

Basic requirement for construction works 6: Energy economy and heat retention		
Essential characteristic	**Relevant clause in EAD**	**Performance**
Thermal resistance thermal transmittance	2.2.23.1	IBERTERM PANEL EPS- EPS ELASTIFIED: λ_D = 0,035 W/mK

The additional thermal resistance provided by the ETICS (R_{ETICS}) to the substrate wall is calculated from the thermal resistance of the thermal insulation product ($R_{insulation}$). determined in accordance with 2.2.23.1, and from either the tabulated R render value of the render system (R_{render} is about 0.02 m^2K/W) or R_{render} determined by test according to EN 12667 or EN 12664 (depending on expected thermal resistance).

$$R_{ETICS} = R_{insulation} + R_{render}\ [(m^2 \cdot K)/W]$$

as described in EN ISO 10456.

The thermal bridges caused by mechanical fixing devices influence the thermal transmittance of the entire wall and shall be taken into account using the following calculation:

$$U_c = U + \Delta U\ [W/(m^2 \cdot K)]$$

With: U_c corrected thermal transmittance of the entire wall, including thermal bridges
U thermal transmittance of the entire wall, including ETICS, without thermal bridges

$$U = \frac{1}{R_{ETICS} + R_{substrate} + R_{se} + R_{si}}$$

$R_{substrate}$ thermal resistance of the substrate wall [(m²·K)/W]
R_{se} external surface thermal resistance [(m²·K)/W]
R_{si} internal surface thermal resistance [(m²·K)/W]
ΔU correction term of the thermal transmittance for mechanical fixing devices
$= \chi_p * n$ (for anchors) + $\Sigma\psi i * \ell i$ (for profiles) (formula x)
χ_p point thermal transmittance value of the anchor [W/K]. If not specified in ETA for anchors, the following values apply:
= 0.002 W/K for anchors with a plastic screw/nail, stainless steel screw/nail with the head covered by at least 15 mm plastic material, or with a minimum 15 mm air gap at the head of the screw/nail.
= 0.004 W/K for anchors with a galvanized carbon steel screw/nail with the head covered by at least 15 mm a plastic material or a minimum 15 mm air gap at the head of the screw/nail.
= 0.008 W/K for all other anchors (worst case)
n number of anchors per m^2. In case n is more than 16, the formula (x) is not applied.
ψi linear thermal transmittance value of the profile [W/(m·K)]
ℓi length of the profile per m^2.

The influence of thermal bridges can also be calculated as described in EN ISO 10211.
It shall be calculated according to this standard if there are more than 16 anchors per m^2 foreseen. The declared χ_p -values do not apply in this case.

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

According to the decision 97/556/EC of the European Commission(2) amended by 2001/596/EC(3), a system 2+ of assessment and verification of constancy of performance (see EC delegated regulation (EU) No 568/2014 amending Annex V to Regulation (EU) Nº 305/2011) applies.

Product	Intended uses	Level or Classes	System
IBERTERM SATE	External Thermal Insulation Composite System with rendering for use on building walls	Any	2+

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

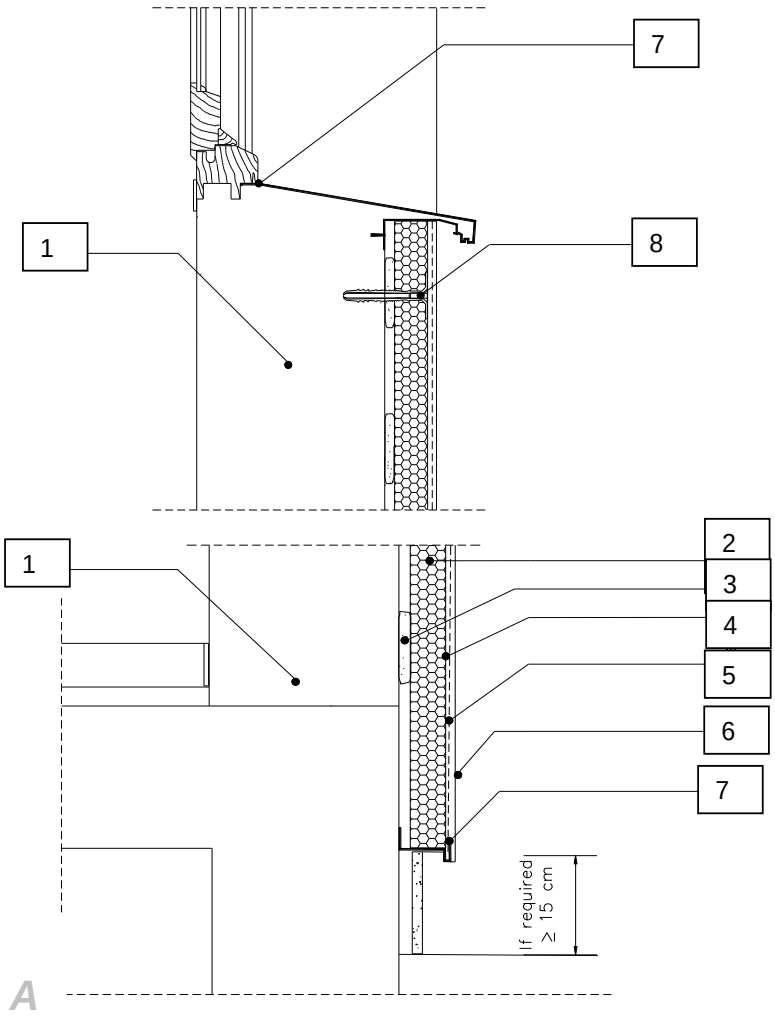
Technical details necessary for the implementation of the AVCP system are laid down in the control plan which is deposited at IETcc(4).

Issued in Madrid on 1 April 2022

By

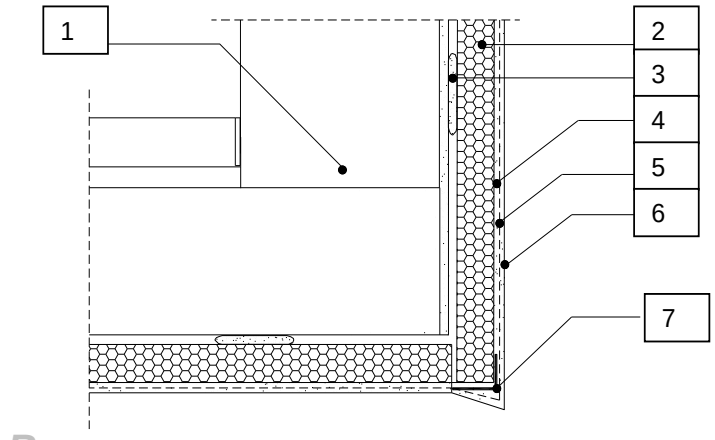
Director
on behalf of Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc – CSIC)

(2) Official Journal of the European Communities L229/14 of 20.08.1997
(3) Official Journal of the European Communities L209/33 of 02.08.2001
(4) The Control Plan is a confidential part of the ETA and only handed over to the notified certification body involved in the assessment and verification of constancy of performance.



1. Substrate
2. *EPS board*
3. Adhesive
4. Base coat
5. Glass fiber mesh (single or double)
6. Finishing coat
7. Aluminium base profile
8. Fixing

DETAIL A: VERTICAL SECTION OF BASE AND APERTURE (WINDOW)	**Annex 1** of European Technical Assessment



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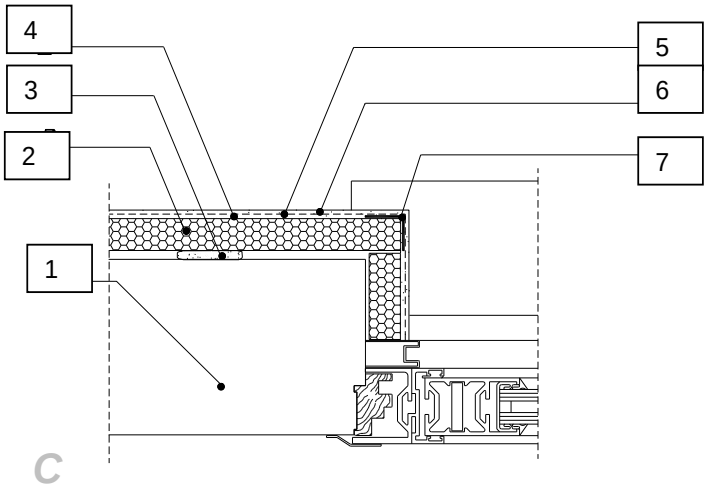

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1. Substrate
2. EPS- boards
3. Adhesive
4. Base coat
5. Glass fiber mesh (single or double)
6. Finishing coat
7. Aluminium corner profile

DETAIL B: VERTICAL SECTION OF APERTURE (WINDOW)
DETAIL C: HORIZONTAL SECTION OF APERTURE (WINDOW)

Annex 2
of European
Technical Assessment