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European Technical Assessment

ETA 14/0291 of 31/05/2018

General Part

Technical Assessment Body issuing the ETA:	**TECNALIA RESEARCH & INNOVATION**
Trade name of the construction product	BEISSIER THERM E
Product family to which the construction product belongs	External Thermal Insulation Composite System with rendering on expanded polystyrene (EPS) for use as external thermal insulation to the wall of buildings.
Manufacturer	BEISSIER S.A.U. Txirrita Maleo, 14 E-20100 Errenteria Gipuzkoa (Spain)
Manufacturing plant	Txirrita Maleo, 14 E-20100 Errenteria Gipuzkoa (Spain)
This European Technical Assessment contains	26 pages including 2 Annexes which form an integral part of this assessment.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	ETAG 004, edition 2013, used as European Assessment Document (EAD).
This version replaces	ETA 14/0291 of 19/11/2014

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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1. Technical description of the product

This product is an ETICS (External Thermal Insulation Composite System) with rendering – a kit comprising components which are factory-produced by the manufacturer or component suppliers. The ETICS manufacturer is ultimately responsible for all components of the ETICS specified in this ETA (European Technical Assessment).

The ETICS kit comprises a prefabricated insulation product of expanded polystyrene (EPS) to be bonded and mechanically fixed onto the wall. The methods of fixing and the relevant components are specified in Table 1. The insulation product is faced with a rendering system consisting of one or more layers (site applied), one of which contains reinforcement. The rendering is applied directly to the insulating panels, without any air gap or disconnecting layer.

The ETICS may include special fittings (e.g. base profiles, corner profiles) to treat details such as connections, apertures, corners, parapets, sills, etc. Assessment and performance of these components is not addressed on this ETA; however the ETICS manufacturer is responsible for adequate compatibility and performance within the ETICS when the components are delivered as a part of the kit.

The components of the kit are:

	Components	**Coverage (kg/m^2)**	**Thickness (mm)**
	Bonded ETICS with supplementary mechanical fixings and/or profiles (Partially bonded or fully bonded. National application documents shall be taken into account).		
Insulation material with associated method of fixing	Insulation product: • factory prefabricated expanded polystyrene (EPS) board according to EN 13163 Standard EPS EPS with low-conductivity graphite	 -- --	 10 - 200 10 - 200
	Adhesive: • BEISSIER MORTERO BASE FINO BMB 12003 (cement based mortar in powder requiring addition of 25% wt water) according to EN 998-1 • BEISSIER MORTERO BASE LIGERO BME 12003 (cement based mortar in powder requiring addition of 25% wt water) according to EN 998-1 • BEISSIER MORTERO BASE LIGERO BME 12007 (cement based mortar in powder requiring addition of 24% wt water) according to EN 998-1	 3.5 - 4.5 3.5 - 4.5 3.5 - 4.5	 -- -- --

	Components	Coverage (kg/m^2)	Thickness (mm)
Base coat	• BEISSIER MORTERO BASE FINO BMB 12003 (cement based mortar in powder requiring addition of 25% wt water) according to EN 998-1 • BEISSIER MORTERO BASE LIGERO BME 12003 (cement based mortar in powder requiring addition of 25% wt water) according to EN 998-1 • BEISSIER MORTERO BASE LIGERO BME 12007 (cement based mortar in powder requiring addition of 25% wt water) according to EN 998-1	4 - 5 4 - 5 4 - 5	2.5 - 3.5 2.5 - 3.5 2.5 - 3.5
Glass fibre mesh	• Standard mesh: Alkali and slide resistant glass fibre mesh with mass per unit area of about 160 g/m^2 and mesh size of about 4.5 x 4.5 mm. • Standard mesh: Alkali and slide resistant glass fibre mesh with mass per unit area of about 160 g/m^2 and mesh size of about 3.5 x 3.8 mm. • Reinforced mesh: Alkali and slide resistant glass fibre mesh with mass per unit area of about 735 g/m^2 and mesh size of about 4.5 x 5.4 mm.	-- -- --	-- -- --
Key coat (*)	• BEISSIER IMPRIMACION HYDROGRUND Siloxane binder based primer. • BEISSIER IMPRIMACION PETREA Acrylic binder based pigmented primer.	5 - 20 m^2/l 0,125 – 0,175 kg/m^2	-- --
Finishing coat	• BEISSIER BETAELASTIC Facade paint with acrylic/siloxane binders. Particle size < 300 µm. Smooth finishing aspect. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRA SL07 External render based on acrylic binders. Ready to use paste. Particle size 0.7 mm. Floated finishing aspect. According to EN 15824. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRA SL15 External render based on acrylic binders. Ready to use paste. Particle size 1.5 mm. Floated finishing aspect. According to EN 15824. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRS SL07 External render based on acrylic/siloxane binders. Ready to use paste. Particle size 0.7 mm. Floated finishing aspect. According to EN 15824.	2 - 4 m^2/l 1 -2 2 - 3 1 - 2	0.2 (dry) 0.7 - 1 (dry) 1.5 -2 (dry) 0.7 - 1 (dry)

	• BEISSIER REVOCO DECORATIVO GRANOCRYL BRS SL15 External render based on acrylic/siloxane binders. Ready to use paste. Particle size 1.5 mm. Floated finishing aspect. According to EN 15824. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRA SL10 External render based on acrylic binders. Ready to use paste. Particle size 1 mm. Floated finishing aspect. According to EN 15824. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRS SL10 External render based on acrylic/siloxane binders. Ready to use paste. Particle size 1 mm. Floated finishing aspect. According to EN 15824. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRS SL15 “Efecto Loto” External render based on acrylic/siloxane binders. Ready to use paste. Particle size 1.5 mm. Floated finishing aspect. According to EN 15824. • BEISSIER REVOCO DECORATIVO GRANOCRYL BRS SL03 External render based on acrylic/siloxane binders. Ready to use paste. Particle size 0.3 mm. Floated finishing aspect. According to EN 15824.	2 - 3 1 - 2 1 - 2 2 -3 2 -3	1.5 - 2 (dry) 1 - 1.5 (dry) 1 - 1.5 (dry) 1.5 - 2 (dry) 1.5 - 2 (dry)
Ancillary materials	Supplementary fixings: • Plastic anchors for fixings of ETICS according to ETAG 014. Lengths according to EPS board thickness. Base profiles: • L shaped aluminium profiles and associated fixings. Thicknesses according to EPS board thickness. Length approx. 2500 mm Profiles: • Polyvinyl chloride (PVC)profiles: horizontal fixed profiles- vertical connection profiles-vertical fixed profiles Supplementary profiles: • Polyvinyl chloride (PVC) or aluminium profiles for corners, expansion joints, junctions with doors and windows, balconies, etc.).	Remain under the ETA holder responsibility	

Table 1: Components Beisser Therm E

(*) BEISSIER IMPRIMACION HYDROGRUND to be used with the finishing coat BEISSIER BETAELASTIC. BEISSIER IMPRIMACION PETREA to be used with the remaining finishing coats.

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

2.1. Intended use

This ETICS is intended for use as external insulation of building walls. The walls are made of masonry (bricks, block, stones…) or concrete (cast on site or as prefabricated panels). The characteristics of the walls shall be verified prior to use of the ETICS, specially regarding conditions for reaction to fire classification and for fixing of the ETICS either by bonding or mechanically. The ETICS is designed to give the wall, to which it is applied, satisfactory thermal insulation.

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

The 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.

The choice of the method of fixing depends on the characteristics of the substrate, which could need preparation (see clause 7.2.1 of the ETAG 004) and shall be done in accordance with the national instructions.

The provisions made in this ETA are based on an assumed working life of 25 years as minimum, provided that the conditions laid down in the sections below (manufacturing, transport, installation, use, maintenance, etc) are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but should only be regarded as a means for choosing the appropriate products in relation to the expected economically reasonable working life of the works.

2.2. Manufacturing

The ETA is issued for the ETICS, on the basis of agreed data/information, deposited at Tecnalia Research & Innovation, which identifies the ETICS that has been assessed and judged. Changes to the ETICS or the components or their production process, which could result in this deposited data/information being incorrect, shall be notified to Tecnalia Research & Innovation before the changes are introduced. Tecnalia Research & Innovation 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.

2.3. Design and installation

The ETICS is installed on site. The installation instructions, including special installation techniques and provisions for the qualification of the personnel, are given in the manufacturer´s technical documentation. It is responsibility of the manufacturer to guarantee that the information about design and installation are easily accessible to the concerned people.

This information can be given using reproductions of the respective parts of the 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.

Design, installation and execution of ETICS are to be in conformity with national documents. Such documents and the level of their implementation in Member States' legislation are different. Therefore, the assessment and declaration of performance are done taking into account general assumptions introduced in clauses 7.1 and 7.2 of ETAG 004, used as EAD, which summarize how information introduced in the ETA and related documents is intended to be used in the construction process and gives advice to all parties interested when normative documents are missing.

2.4. Packaging, transport and storage

The information on packaging, transport and storage is given in the manufacturer's technical documentation. It is responsibility of the manufacturer to ensure that this information are easily accessible for the concerned people.

2.5. Use, maintenance and repair

The finishing coat shall normally be maintained in order to fully preserve the ETICS's performance.

Maintenance includes at least:

- Visual inspections of the ETICS.
- 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 performed as soon as the need has been identified.

It is important to be able to carry out maintenance as far as possible using readily available products and equipment, without spoiling appearance. Only products which are compatible with the ETICS shall be used.

The information on use, maintenance and repair is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer to ensure that this information is made know to the concerned people.

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 Requirements, were carried out in compliance with the ETA Guideline 004 concerning External Thermal Insulation Composite Systems with rendering – Edition 2013 (called ETAG 004 in this ETA).

3.1. ETICS Characteristic

Mechanical resistance and stability (BWR 1)

Not relevant.

Safety in case of fire (BWR 2)

Reaction to fire (ETAG 004, clause 5.1.2.1)

Configuration	Max. organic content/Max. heat of combustion	Flame retardant content	Euroclass according to EN 13501-1
Adhesive (BMB 12003)	3.21% / --	No flame retardant	B-s2, d0
Insulation (EPS with low conductivity graphite)	--	--	
Anchors	--	--	
Base Coat (BMB 12003)	3.21 % / --	No flame retardant	
Glass Fibre Mesh (standard)	-/ 8.6 MJ/kg	No flame retardant	
Key Coat (IMPRIMACION PETREA)	--	No flame retardant	
Finishing Coat (GRANOCRYL BRS SL 15)	10% / --	No flame retardant	

Note: A European reference fire scenario has not been laid down for facades. In some Member States, the classification of ETICS according to EN 13501-1 might not be sufficient for the use in facades. An additional assessment of ETICS according to national provisions (e.g. on the basis of a large scale test) might be necessary to comply with Member State regulations, until the existing European classification system has been completed.

Hygiene, health and environment (BWR 3)

Water absorption (ETAG 004, clause 5.1.3.1)

Base Coat	Rendering	Water absorption (kg/m²)	
		After 1 hour	After 24 hours
BME 12007	Without rendering	< 0.5	< 0.5
	IMPRIMACION PETREA + GRANOCRYL BRS SL 15		
	IMPRIMACION PETREA + GRANOCRYL BRS SL 15 Efecto Loto		
	IMPRIMACION HYDROGRUND + BETAELASTIC		

Base Coat	Rendering	Water absorption (kg/m²)	
		After 1 hour	After 24 hours
BME 12003	Without rendering	< 0.5	< 0.5
	IMPRIMACION PETREA + GRANOCRYL BRS SL 15		
	IMPRIMACION PETREA + GRANOCRYL BRS SL 15 Efecto Loto		
	IMPRIMACION HYDROGRUND + BETAELASTIC		

Hygrothermal behaviour (ETAG 004, clause 5.1.3.2.1)

The hygrothermal performance was tested on two different walls, in order to test two different base coats (BEISSIER BME 12007 and BEISSIER BMB 12003). Additional finishing layers have been tested according to clause 5.1.7.1.2.

None of the following defects occurred on the assessed external renderings or the base coat during and after the hygrothermal cycles:

- Blistering or peeling of any finishing coat.
- Failure or cracking associated with joints between insulation product boards or profiles fitted with ETICS.
- Detachment of the render coat.
- Cracking allowing water penetration to the insulating layer (normally ≤ 0.2 mm).

Therefore, the ETICS is considered resistant to hygrothermal cycles.

Freeze-thaw behaviour (ETAG 004, clause 5.1.3.2.2)

Water absorption of the base coat and all the finishing coats is lower than 0.5 kg/m² after 1 hour and 24 hours. Based on these test results, the system can be considered freeze-thaw resistant and there is no need for further testing.

Resistance to hard body impact (ETAG 004, clause 5.1.3.3)

Composition of the system		Category of use
Insulation + reinforced base coat+ key & finishing coat	EPS panel + base coat BME 12007+ glass fibre mesh 160 g/m² + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 03	II
	EPS panel + base coat BME 12007+ glass fibre mesh 160 g/m² + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	II
	EPS panel + base coat BME 12007+ glass fibre mesh 160 g/m² + key coat HYDROGRUND + finishing coat BETAELASTIC	II

Composition of the system		Category of use
	EPS panel + base coat BME 12003+ glass fibre mesh 160 g/m^2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 03	II
	EPS panel + base coat BMB 12003+ glass fibre mesh 160 g/m^2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	II
	EPS panel + base coat BMB 12003+ glass fibre mesh 160 g/m^2 + key coat HYDROGRUND + finishing coat BETAELASTIC	II
	EPS panel + base coat BME 12007+ reinforced mesh 735 g/m^2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	I
	EPS panel + base coat BME 12007+ reinforced mesh 735 g/m^2 + key coat HYDROGRUND + finishing coat BETAELASTIC	I
	EPS panel + base coat BMB 12003+ reinforced mesh735 g/m^2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	I
	EPS panel + base coat BMB 12003+ reinforced mesh 735 g/m^2 + key coat HYDROGRUND + finishing coat BETAELASTIC	I

Water vapour permeability (resistance to water vapour diffusion) (ETAG 004, clause 5.1.3.4)

Composition of the system		Equivalent air thickness S_d (m)
Insulation + reinforced base coat+ finishing coat	EPS standard panel + base coat BME 12007 + glass fibre mesh 160 g/m2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	≤ 2
	EPS standard panel + base coat BMB 12003 + glass fibre mesh 160 g/m2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	≤ 2
	EPS standard panel + base coat BME 12007+ glass fibre mesh 160 g/m2 + key coat HYDROGRUND + finishing coat BETAELASTIC	≤ 2
	EPS standard panel + base coat BMB 12003 + glass fibre mesh 160 g/m2 + key coat HYDROGRUND + finishing coat BETAELASTIC	≤ 2

Release of dangerous substances (ETAG 004, clause 5.1.3.5)

The ETICS complies with the provisions of Guidance Paper H 'A harmonized approach related to dangerous substances under the Construction Products Directive'. A declaration of conformity in this respect was made by the manufacturer.

In addition to the specific clauses relating to dangerous substances contained in this ETA, there may be other requirements applicable to the ETICS 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 Regulation No 305/2011, these requirements need also to be complied with, when and where apply.

Safety and accessibility in use (BWR 4)

Bond Strength between base coat and insulation product (ETAG 004, clause 5.1.4.1.1)

Composition	Initial State	After hygrothermal cycles	After freeze/thaw cycles
Standard EPS panel + base coat BME 12007 + Standard mesh 160 g/m²	≥0.08 MPa or cohesive failure in thermal insulation material	≥0.03 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant)
Standard EPS panel + base coat BMB 12003 + Standard mesh 160 g/m²	≥0.08 MPa or cohesive failure in thermal insulation material	≥0.03 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant)

Bond Strength test between adhesive and substrate (ETAG 004, clause 5.1.4.1.2)

Composition	Initial State	Immersion in water for 2 days and 2h drying	Immersion in water for 2 days and 7 days drying
Concrete slab according to ETAG 004 clause 5.1.4.1.2 + base coat BME 12007 (5 mm thickness)	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
Concrete slab according to ETAG 004 clause 5.1.4.1.2 + base coat BMB 12003 (5 mm thickness)	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa

Bond Strength test between adhesive and insulation product (ETAG 004, clause 5.1.4.1.3)

Composition	Initial State	Immersion in water for 2 days and 2h drying	Immersion in water for 2 days and 7 days drying
Standard EPS panel + base coat BME 12007 (5mm thickness)	≥0.08 MPa or cohesive failure in thermal insulation material	≥0.03 MPa or cohesive failure in thermal insulation material	≥0.08 MPa or cohesive failure in thermal insulation material
Standard EPS panel + base coat BMB 12003 (5mm thickness)	≥0.08 MPa or cohesive failure in thermal insulation material	≥0.03 MPa or cohesive failure in thermal insulation material	≥0.08 MPa or cohesive failure in thermal insulation material

The minimal bonded surface S, which shall exceed 20%, is calculated as follows:

$$S\ (\%) = [0.03 \times 100] / B$$

Where:

B= minimum mean failure resistance of the adhesive to the insulation product in dry conditions (MPa)

0.03 MPa correspond to the minimum requirements.

Protection against noise (BWR 5)

No performance assessed.

Energy economy and heat retention (BWR 6)

Thermal resistance and thermal transmittance (ETAG 004, clause 5.1.6.1)

The additional thermal resistance provided by the ETICS (R_{etics}) to the substrate wall is calculated from the thermal resistance of the insulation product ($R_{insulation}$), determined as described in the appropriate harmonized standard (EN 13163 for EPS insulation), and the tabulated R_{render} value of the render system (R_{render} is about 0.02 m^2K/W).

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

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:

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

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_{etics} = thermal resistance of the ETICS [(m^2K)/W]

$R_{substrate}$= thermal resistance of the substrate wall [(m^2K)/W]

R_{se} = external surface thermal resistance [(m^2K)/W]

R_{si} = internal surface thermal resistance [(m^2K)/W]

ΔU = correction term of the thermal transmittance for mechanical fixing devices.

$$\Delta U = X_p * n \text{ (for anchors)} + \mathbf{\Sigma}\psi i * \ell i \text{ (for profiles)}$$

X_p = point thermal transmittance value of the anchor [W/K]. See Technical Report no 25. If not specified in the anchors ETA, the following values apply:

= 0.002 W/K for anchors with a plastic screw/nail, stainless steel screw/nail with the head covered by plastic material, and for anchors with an air gap at the head of the screw/nail.

= 0.004 W/K for anchors with a galvanized steel screw/nail with the head covered by a plastic material.

= 0.008 W/K for all other anchors (worst case).

n = number of anchors per m^2

ψi = linear thermal transmittance value of the profile [W/(mK)]

ℓi = length of the profile per m^2

Sustainable use of natural resources (BWR 7)

No performance assessed.

Aspects of durability and serviceability

Bond strength after ageing (ETAG 004, clause 5.1.7.1)

Composition	Immersion in water for 7 days and 7 days drying	After freeze/thaw cycles
Standard EPS panel + base coat BME 12007 + Standard mesh 160g/m^2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	≥0.08 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant)
Standard EPS panel + base coat BMB 12003 + Standard mesh 160g/m^2 + key coat IMPRIMACION PETREA + finishing coat GRANOCRYL BRS SL 15	≥0.08 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant)
Standard EPS panel + base coat BME 12007 + Standard mesh 160g/m^2 + key coat HYDROGRUND + finishing coat BETAELASTIC	≥0.08 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant)
Standard EPS panel + base coat BMB 12003 + Standard mesh 160g/m^2 + key coat HYDROGRUND + finishing coat BETAELASTIC	≥0.08 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant)
Standard EPS panel + base coat BME 12007 + standard mesh 160 g/m^2 + key coat IMPRIMACION PETREA + GRANOCRYL BRS SL 15 Efecto Loto	≥0.08 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant
Standard EPS panel + base coat BME 12003 + standard mesh 160 g/m^2 + key coat IMPRIMACION PETREA + GRANOCRYL BRS SL 15 Efecto Loto	≥0.08 MPa or cohesive failure in thermal insulation material	Test not performed (system is considered freeze thaw resistant

3.2. CHARACTERISTICS OF THE COMPONENTS

Detailed information on the chemical composition and other identifying characteristics of the components, following annex C of ETAG 004, has been deposited at Tecnalia Research & Innovation. Further information can be observed from the product data sheets, which are part of the Technical Documentation for this ETA.

Insulation Product Characteristics:

Factory-made uncoated panels made of expanded polystyrene EPS according to EN 13163 '*Thermal insulation products for buildings. Factory made products of expanded polystyrene (EPS). Specifications'* shall be used, having the description and characteristics defined in the table below.

Standard EPS

Black EPS with graphite of low conductivity

Description and characteristics	Standard		
Reaction to fire	EN 13501-1	Euroclass E Density 15-20 kg/m^3 Thickness 10-200 mm	
Thermal conductivity (W/mK)	EN 12667	Standard EPS ≤ 0.037 EPS with graphite ≤ 0.032	
Thermal resistance (m²K/W)	----	Defined in the declaration according to EN 13163	
Thickness (mm)	EN 823	T1	±1.5
Length (mm)	EN 822	W2	±1
Width (mm)	EN 822	L2	±1
Squareness (mm)	EN 824	S2	±2 /1000mm
Flatness (mm)	EN 825	P4	±5
Dimensional stability under specified temperature	EN 1603	DS (N) 2	≤ 0.15%
Dimensional stability under specified temperature and humidity	EN 1604	DS (70.90) 1	≤1%
Water absorption (partial immersion)	EN 1609	WL (T) 1	≤1%
Water vapour permeability – diffusion factor	EN 12086	20 - 60	

Description and characteristics	Standard		
Tensile strength perpendicular to the faces in dry conditions (kPa)	EN 1607	≥ 100 (with plastic anchors) ≥ 150 (with profiles)	
Shear Strength (MPa)	EN 12090	≥ 1	
Shear Modulus of elasticity (MPa)	EN 12090	≥ 0.02	
Fixing method	---	Plastic anchors	PVC profiles

Anchors, description of individual product characteristics contained in the ETA.

Trade Name	Plate Diameter (mm)	Characteristic pull-out resistance	Plate stiffness (kN/mm)	Load at plate rupture (kN)
Ejotherm NTKU	60	See ETA 07/0026	0.5	1.44
Ejotherm STR U, STR U 2G	60	See ETA 04/0023	0.6	2.08
Fischer TERMOZ 8 SV	60	See ETA 06/0180	1.1	2.13
Fischer TERMOZ 8 U, 8 UZ, WS 8 L	60	See ETA 02/0019	0.5	2.45 (8 U) 1.43 (8 UZ)
EJOT H1 Eco	60	See ETA 11/0192	0.6	1.4
EJOT H3	60	See ETA 14/0132	0.6	1.25

In addition to this list, the following anchors can be used provided that they comply with the following requirements:

Trade Name	Plate Diameter (mm)	Characteristic pull-out resistance	Plate stiffness (kN/mm)	Load at plate rupture (kN)
-----	60	See relevant ETA	0.5	1.25

Profiles and their fixings

Polyvinyl Chloride (PVC) profiles, used when the substrate does not allow a correct bonding and/or the irregularities are higher than 3 cm. Minimal bonded surface 50%.

Horizontal fixed profiles, length= 250 cm and fixed every 30 cm.

Vertical connection profiles, length = 49.5 cm.

Pull through resistance of fixings from profile ≥ 500 N.

Render

Width of crack (render strip tensile test): test not performed.

Description of glass fibre mesh

Type	Description	Strength after ageing	
		Absolute strength after ageing (N/mm)	Relative residual strength after ageing, of the strength in the as delivered state (%)
Standard glass fibre mesh	Standard fibre mesh of 160 g/m^2, applied in single layer and mesh size 4.5 x 4.5 mm	≥ 20	≥ 50
Standard glass fibre mesh	Standard fibre mesh of 160 g/m^2, applied in single layer and mesh size 3.5 x 3.8 mm	≥ 20	≥ 50
Reinforced glass fibre mesh	Standard fibre mesh of 735 g/m^2, applied in single layer and mesh size 4.5 x 5.4 mm	≥ 20	≥ 50

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

According to the European Commission Decision 97/556/EC, amended by the European Commission Decision 2001/596/EC, and considering the class B for the reaction to fire of the ETICS and that no stage in the production process has been identified that could result in an improvement of the reaction to fire characteristic, the AVCP system (see Annex V of the Regulation EU No. 305/2011) given in the following table applies:

Product	Intended use	Levels or classes (Reaction to fire)	System
BEISSIER THERM E	External Thermal Insulation Composite Systems with Rendering for use on building walls	Any	2+

The AVCP system 2+ is described in Annex V of Regulation (EU) Nº 305/2011, as amended by Delegated Regulation (EU) Nº 568/2014.

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 Assessment and Verification of Constancy of Performance (AVCP) system are laid down in the control plan deposited at Tecnalia Research & Innovation.

The Control Plan is a confidential part of the ETA and is only handed over to the notified body involved in the assessment and verification of constancy of performance.

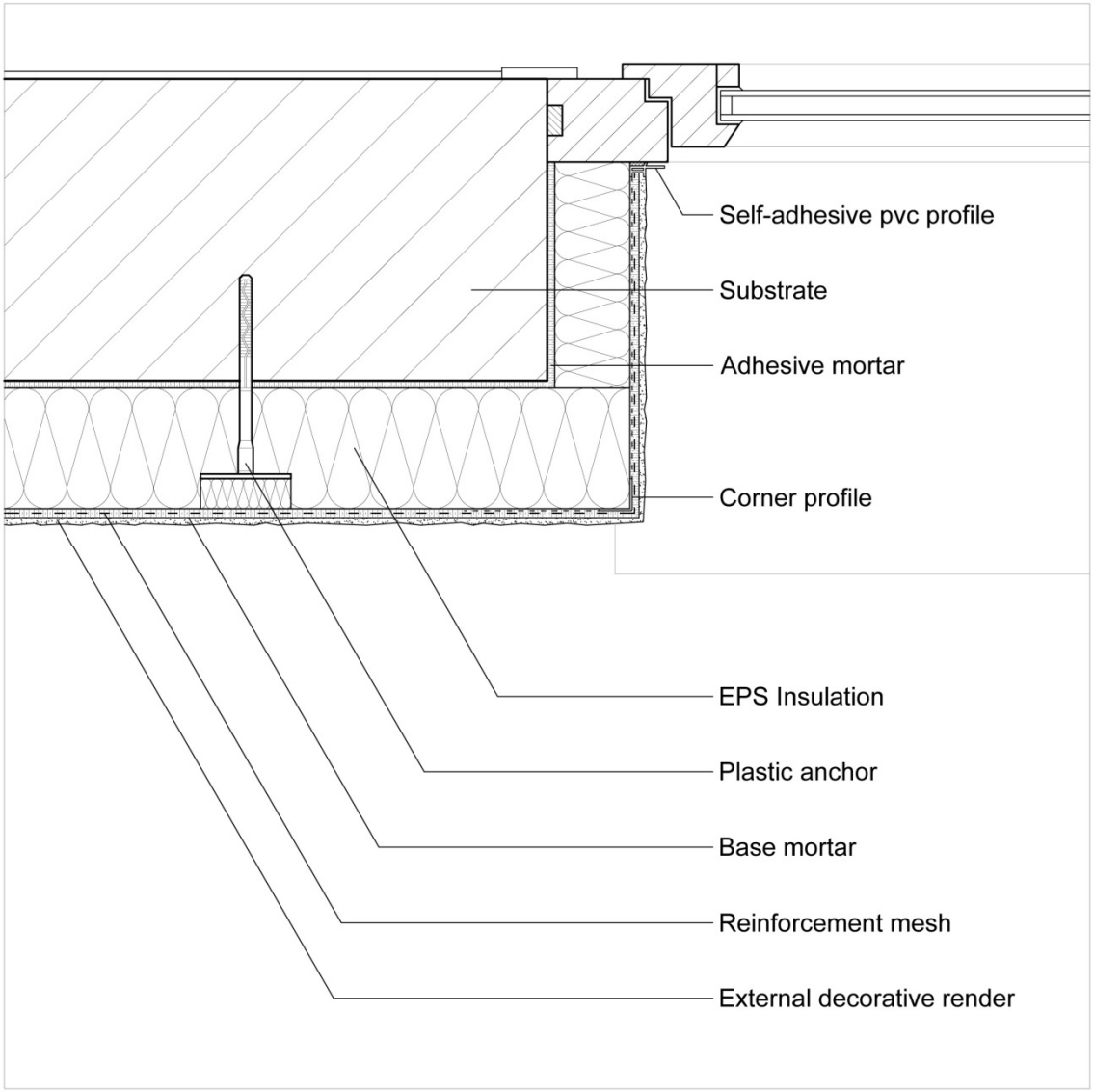
Issued in Azpeitia, on 31/05/2018

Firmado digitalmente por: MIGUEL MATEOS VIZUETE

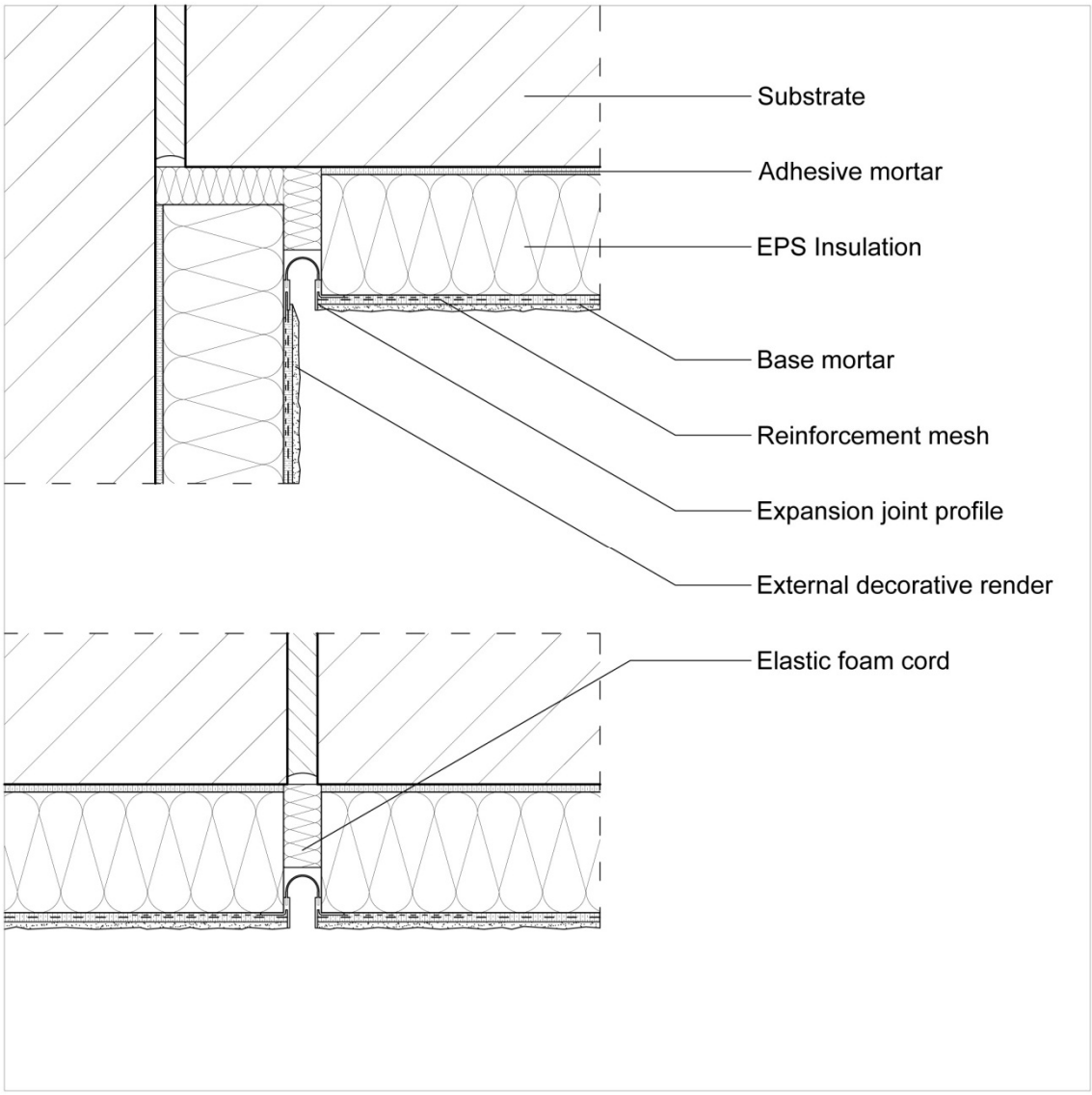
Miguel Mateos

Innovation and Conformity Assessment Point

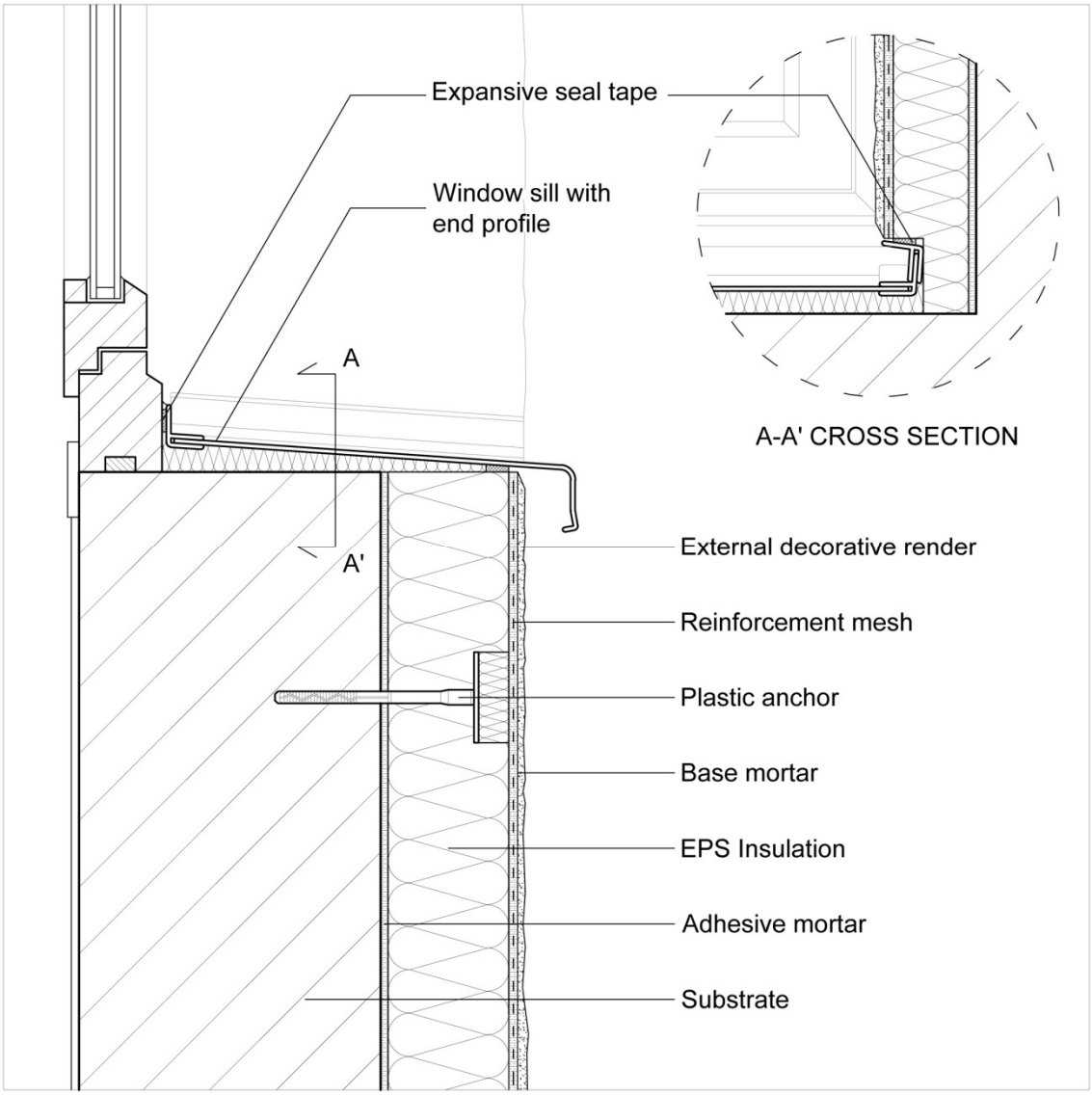
Tecnalia Research & Innovation



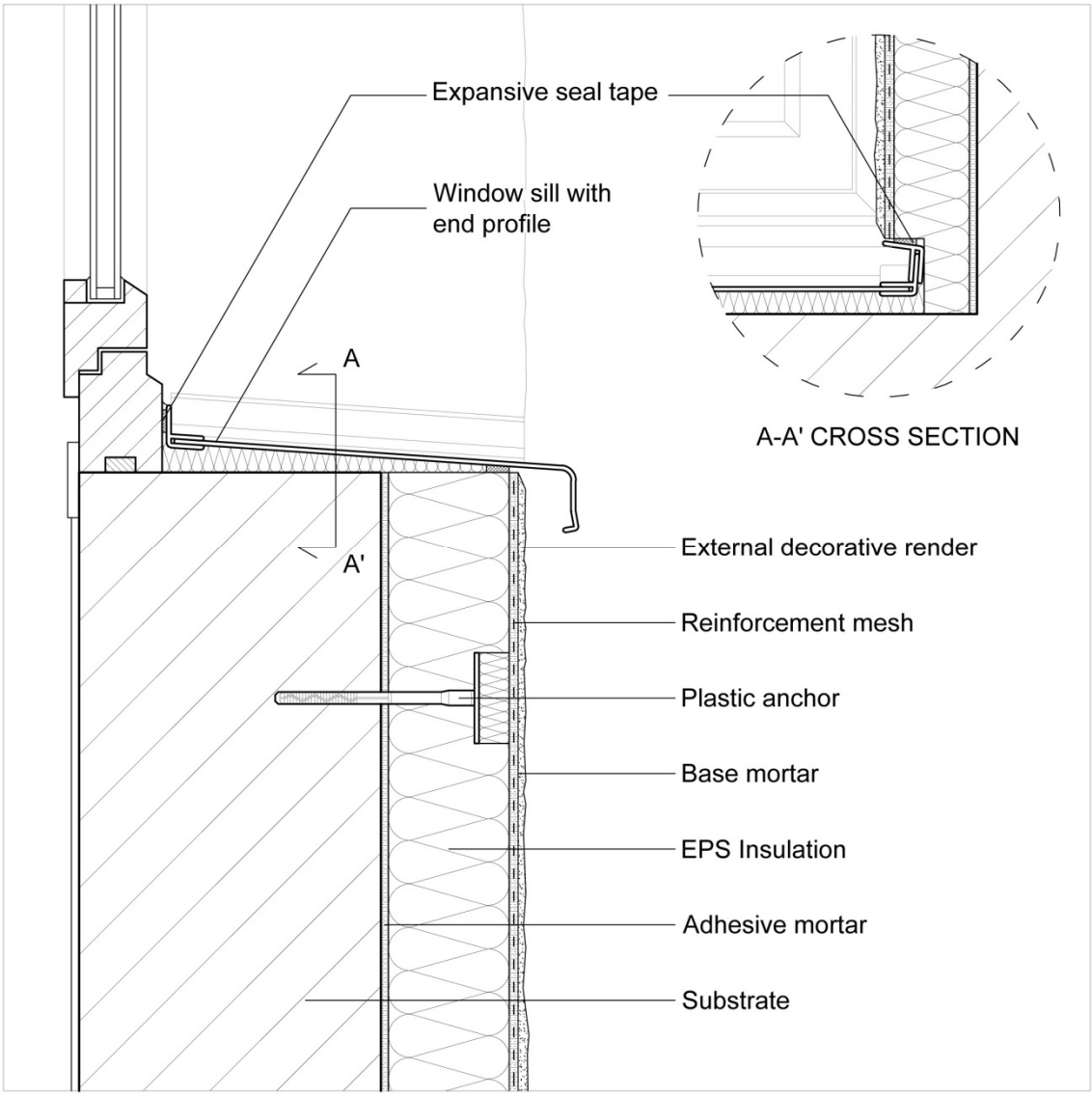
Beissier Therm E: Horizontal cross section (window frame/jamb solution)	**Annex 1: Constructive Details**



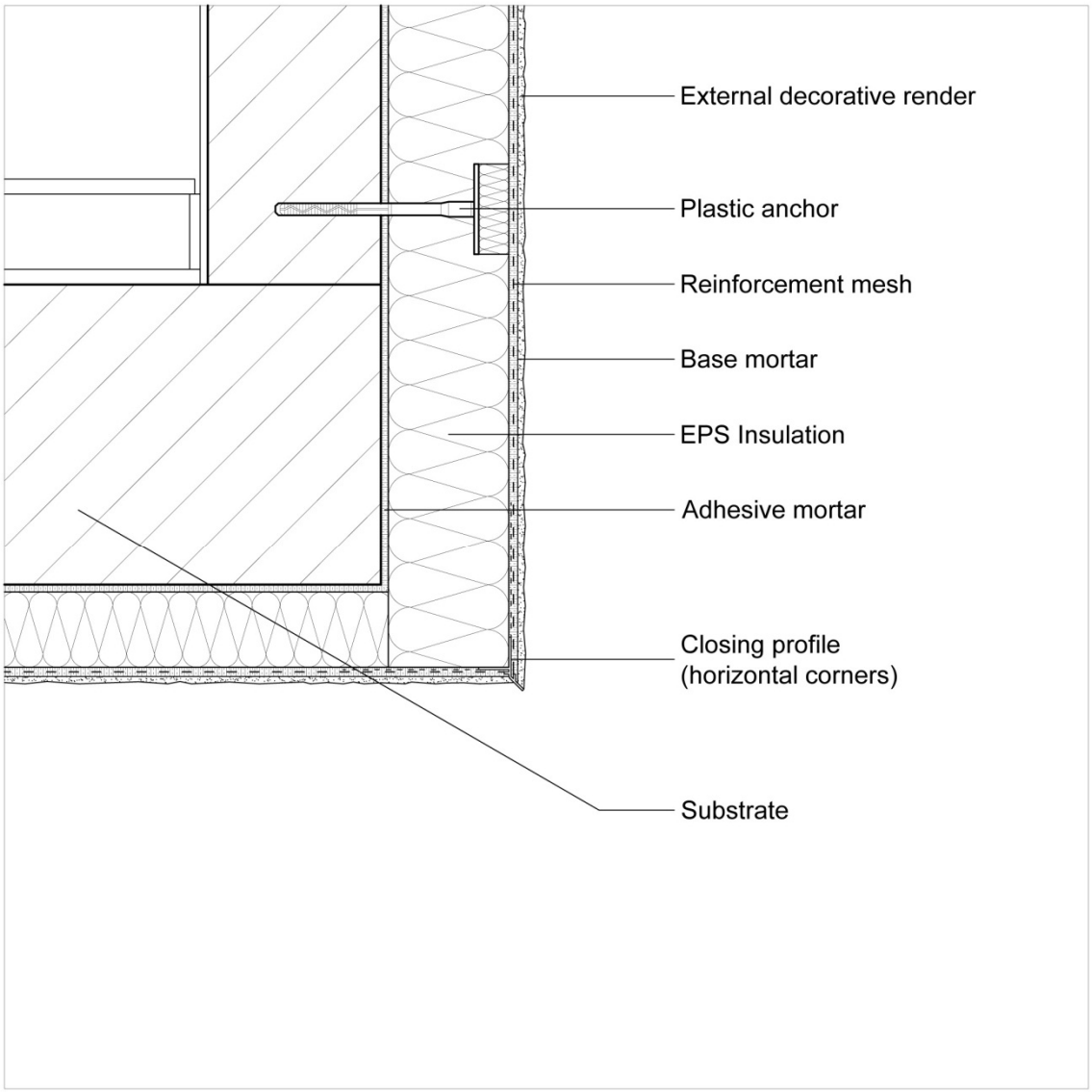
Beissier Therm E: Horizontal cross section (expansion joint solution)	**Annex 1: Constructive Details**



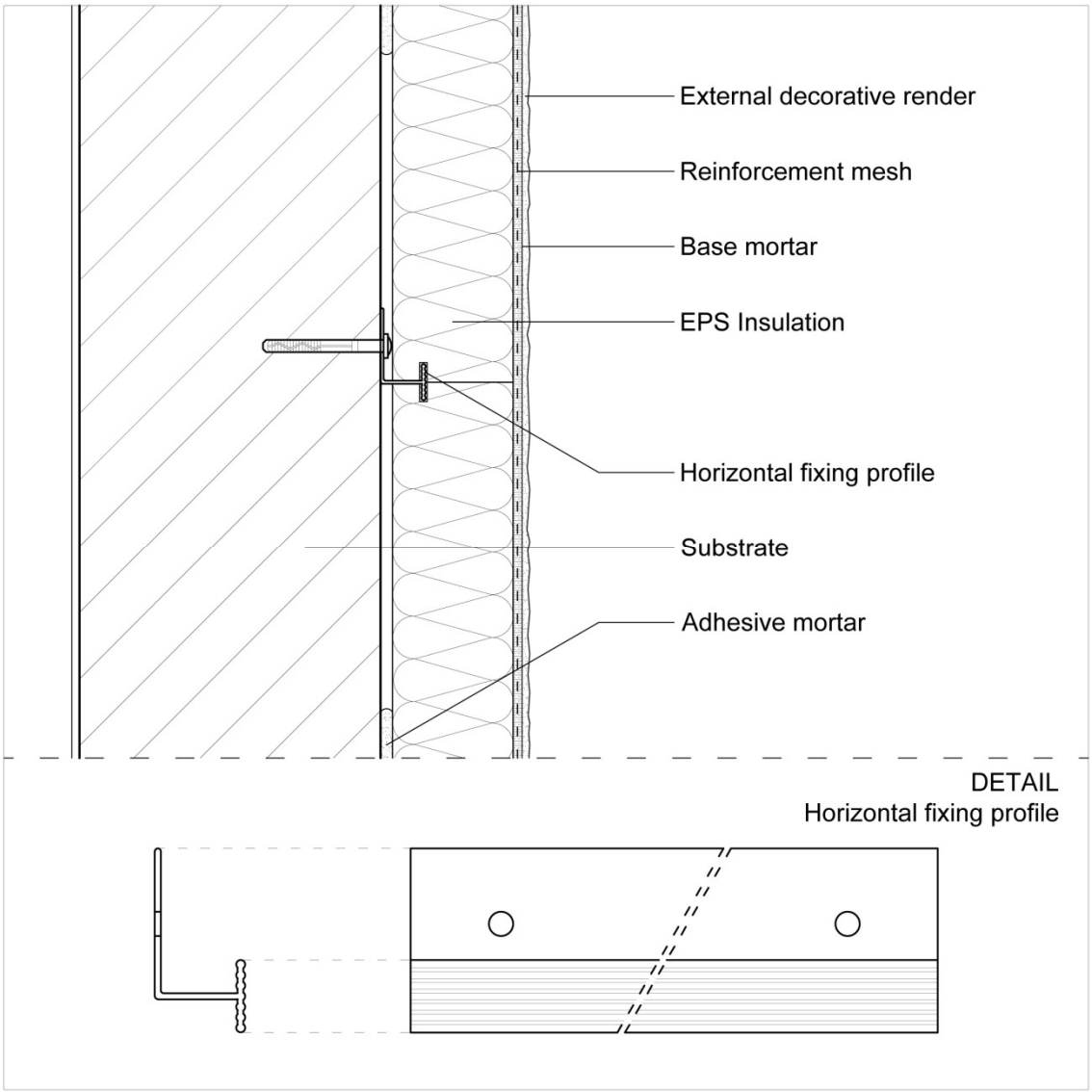
Beissier Therm E: Vertical cross section (base edge solution)	**Annex 1: Constructive Details**



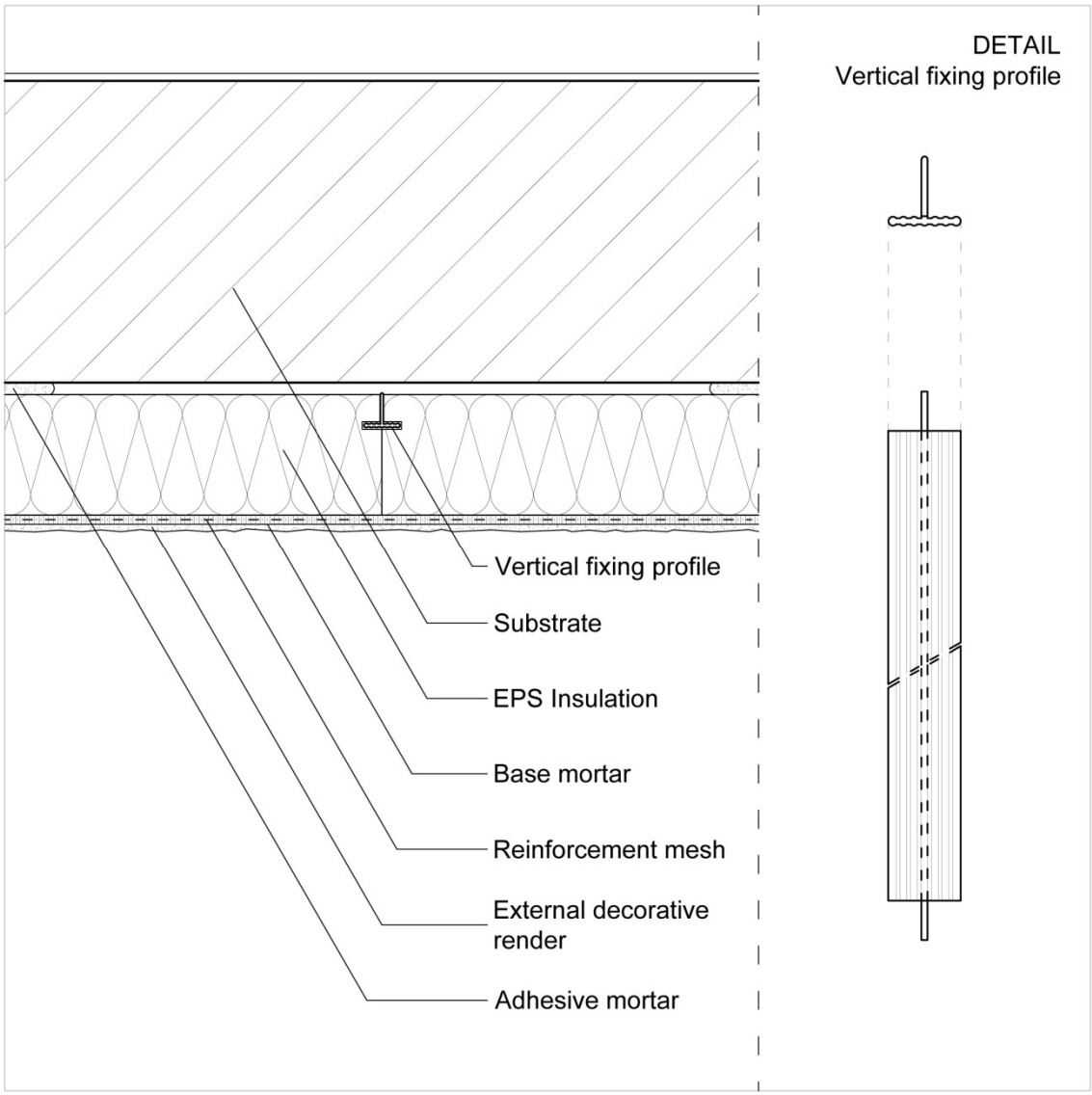
Beissier Therm E: Vertical cross section (sill solution)	**Annex 1: Constructive Details**



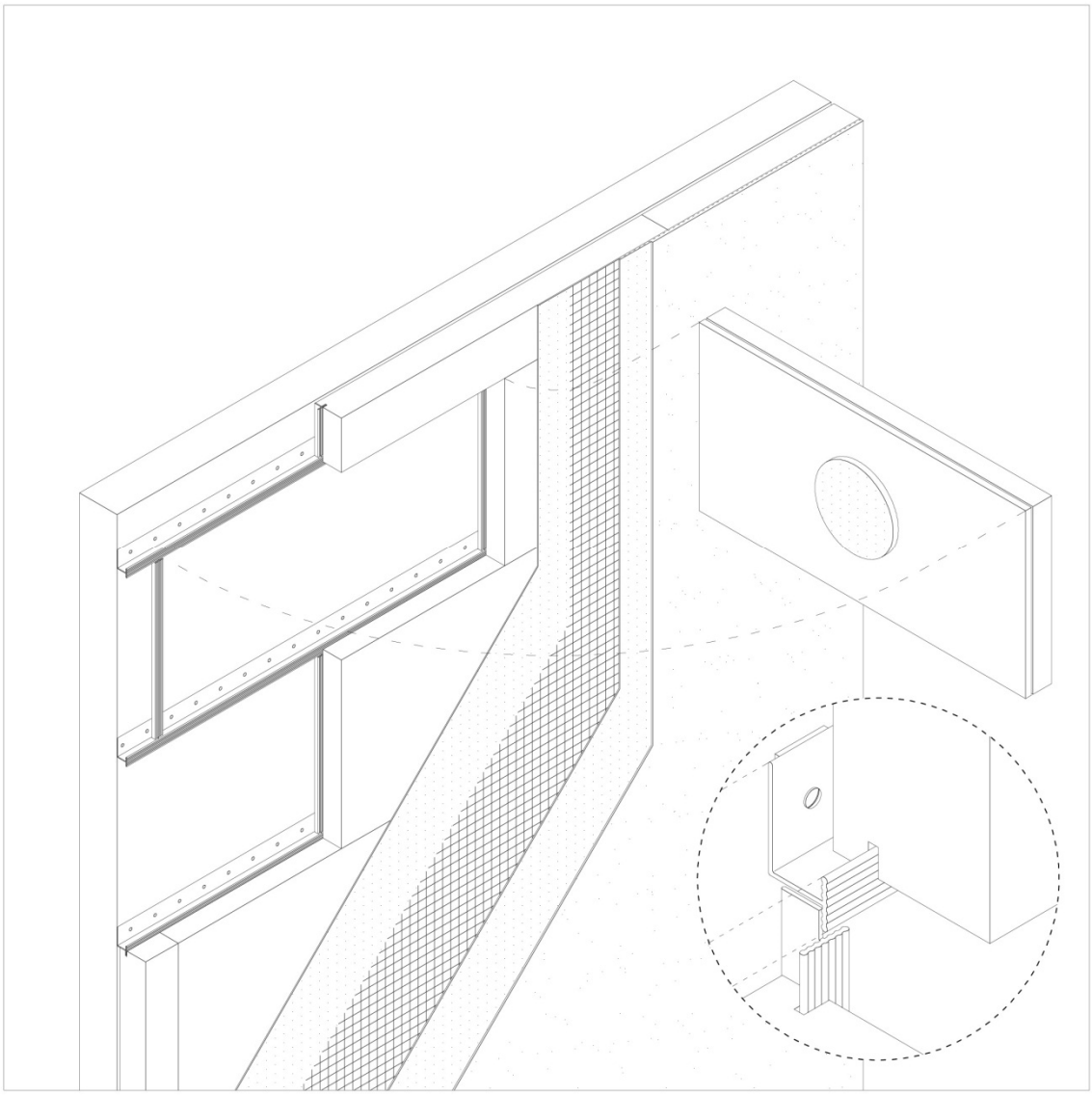
Beissier Therm E : Vertical cross section (lintel solution)	**Annex 1: Constructive Details**



Beissier Therm E : Vertical cross section (bonded ETICS with supplementary PVC profiles)	**Annex 2: PVC Profiles**



Beissier Therm E : Horizontal cross section (bonded ETICS with supplementary PVC profiles)	**Annex 2: PVC Profiles**



Beissier Therm E : General view (bonded ETICS with supplementary PVC profiles)	**Annex 2: PVC Profiles**