



## European Technical Assessment

**ETA-04/0062**  
**of 20/03/2015**

### GENERAL PART

**Technical Assessment Body issuing the European Technical Assessment:**

Centre Scientifique et Technique du Bâtiment (CSTB)

**Trade name of the construction product:**

**REVITHERMONO**

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

Product Area Code: 04  
External Thermal Insulation Composite System with rendering (ETICS)

**Manufacturer:**

**PPG Architectural Coatings EMEA**  
Immeuble « Les Fontaines »  
10 rue Henri Sainte Claire Deville  
F-92565 Rueil Malmaison Cedex

**Manufacturing plant(s):**

**PPG Architectural Coatings EMEA**  
Immeuble « Les Fontaines »  
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**This European Technical Assessment contains:**

24 pages including 7 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:**

Annex 7 contains confidential information and is not included in the European Technical Assessment when that assessment is publicly available

European Technical Approval Guideline No 004 (ETAG 004), edition 2013, used as European Assessment Document (EAD)

**This version replaces:**

ETA-04/0062 valid from 29/05/2013 to 20/03/2015

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## SPECIFIC PART

### 1. Technical description of the product

The External Thermal Insulation Composite System “**REVITHERMONO**”, subject to this European Technical Assessment (hereinafter ETA) and called ETICS in the following text, is a kit designed and installed in accordance with the Manufacturer’s instructions, deposited with the CSTB. The ETICS comprises the components listed in the following table, which are factory-produced by the Manufacturer or a supplier. The ETICS is made up on site from these components.

The ETICS also includes ancillary materials which are defined in clause 3.2.2.5 of the ETAG 004<sup>1</sup>. They shall be used in accordance with the Manufacturer’s instructions.

The ETICS is described according to its method of fixing, as defined in clause 2.2 of the ETAG 004.

Method of fixing	Component	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
<b>Bonded ETICS</b> (purely bonded or bonded with supplementary anchors)	<b>Insulation product</b>		
	“Standard” expanded polystyrene (EPS) boards, see Annex 1 (1/2)		20 to 300
	“Special” expanded polystyrene (EPS) boards with groove on the surface to be covered by the base coat “Panneaux ISO Bossage”, cf. Annex 5		50 to 300
	<b>Adhesives</b>		
	<b>ENDUIT COLLE:</b> acrylic based paste requiring addition of 30 to 37% in weight grey cement CEM II A or B 32.5 R	3.0 to 3.5 [prepared product]	—
	<b>PPG Mortier Poudre Collage - Calage:</b> grey cement based powder requiring addition of about 27% in weight water	2.5 to 3.0 [powder]	—
	<b>ENDUIT MONOCOLLE:</b> acrylic copolymer based ready to use paste	1.5 to 2.0 [ready to use]	—
	<b>Supplementary anchors for insulation product</b>		
	Plastic anchors, see Annex 2 (1/2)	—	—
<b>Mechanically fixed ETICS with anchors and supplementary adhesive</b>	<b>Insulation product</b>		
	“Standard” expanded polystyrene (EPS) boards, see Annex 1 (1/2)		40 to 300
	“Special” expanded polystyrene (EPS) boards with groove on the surface to be covered by the base coat “Panneaux ISO Bossage”, cf. Annex 5		50 to 300

<sup>1</sup> ETAG 004 is available on the EOTA website: [www.eota.eu](http://www.eota.eu).

Method of fixing	Component	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
<b>Mechanically fixed ETICS with anchors and supplementary adhesive</b>	<b>Supplementary adhesives</b>		
	<b>ENDUIT COLLE:</b> acrylic based paste requiring addition of 30 to 37% in weight grey cement CEM II A or B 32.5 R	3.0 to 3.5 [prepared product]	—
	<b>PPG Mortier Poudre Collage - Calage:</b> grey cement based powder requiring addition of about 27% in weight water	2.5 to 3.0 [powder]	—
	<b>ENDUIT MONOCOLLE:</b> acrylic copolymer based ready to use paste	1.5 to 2.0 [ready to use]	—
	<b>Anchors for insulation product</b>		
	Plastic anchors, see Annex 2 (1/2)	—	—
<b>Mechanically fixed ETICS with profiles</b>	<b>Insulation product</b>		
	"Standard" expanded polystyrene (EPS) boards, see Annex 1 (2/2)		40 to 200
	<b>Profiles for insulation product</b>		
	Polyvinyl chloride (PVC) profiles, see Annex 6	—	—
	<b>Anchors for profiles</b>		
	Plastic anchors, see Annex 2 (2/2)	—	—
<b>Every method of fixing</b>	<b>Base coat</b>		
	<b>ENDUIT MONOCOLLE:</b> ready-to-use paste (without cement), styrene acrylic copolymer binder in aqueous dispersion, calcium carbonate and silica particles, specific additives	About 3.5	Mean: 2.0 [dry] Minimal: 1.8 [dry]
	<b>Meshes</b>		
	Glass fibre meshes (standard and reinforced), see Annex 3		
	<b>Finishing coats</b>		
	Ready-to-use pastes - acrylic copolymer and siloxane binder: - <b>CREPITEX TR 1.5</b> (particles size 1 mm) - <b>CREPITEX TR 2.0</b> (particles size 1 mm)	1.5 to 1.8 About 2.0	Regulated by particles size
	Ready-to-use paste – acrylic copolymer and siloxane binder: - <b>CREPITEX TR 2.5</b> (particles size 1.5 mm)	2.5 to 2.8	
	Ready-to-use paste – acrylic copolymer binder: - <b>PANTIGRES N°2</b> (particles size 2 mm)	2.0 to 2.5	

Method of fixing	Component	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
Every method of fixing	Ready-to-use pastes - acrylic copolymer binder: - <b>PANTIGRES Aspect Gratté</b> (particles size 2 mm)	2.5 to 2.8	Regulated by particles size
	Two-component product: <b>MINERTEX</b> : constituted of powder « MINERTEX POUDRE » to be mixed with 30% in weight « MINERTEX LIANT »	3.5 [prepared product]	
	Ready-to-use paste - acrylic copolymer binder: - <b>CREPITEX Modelable</b> (particles size 0.7 mm)	2.0 to 3.5	
	Ready-to-use pastes: - <b>CREPITEX Système Lisse 1.5</b> ▪ CREPITEX TR 1.5 (to be applied before CREPITEX MODELABLE) ▪ CREPITEX MODELABLE (ready to use paste-acrylic binder)	1.5 to 1.8 1.5 to 2.0	
	- <b>CREPITEX Système Lisse 2.0</b> ▪ CREPITEX TR 2.0 (to be applied before CREPITEX MODELABLE) ▪ CREPITEX MODELABLE (ready to use paste-acrylic binder)	2.0 to 2.5 1.5 to 2.0	
	Ready-to-use pastes: - <b>CREPITEX Système Lisse 1.5 Peinture</b> ▪ CREPITEX TR 1.5 (to be applied before CREPITEX MODELABLE) ▪ CREPITEX MODELABLE (ready to use paste-acrylic binder) ▪ Perloxane	1.5 to 1.8 1.5 to 2.0 2 x 0.14 L/m <sup>2</sup>	
	- <b>CREPITEX Système Lisse 2.0 Peinture</b> ▪ CREPITEX TR 2.0 (to be applied before CREPITEX MODELABLE) ▪ CREPITEX MODELABLE (ready to use paste-acrylic binder) ▪ Perloxane	2.0 to 2.5 1.5 to 2.0 2 x 0.14 L/m <sup>2</sup>	
	Paint: <b>Perloxane</b> - Paint to cover the base coat in the groove of the special EPS panel or - Paint to cover the finishing coat Crépitex Système Lisse 1.5 or Crépitex Système Lisse 2.0 (to constitute the finishing coat Crépitex Système Lisse 1.5 Peinture or Crépitex Système Lisse 2.0 Peinture)	2 x 0.14 L/m <sup>2</sup>	

The ETICS is designed to give the walls to which it is applied satisfactory thermal insulation. The minimum thermal resistance of the ETICS shall be higher than 1.0 m<sup>2</sup>.K/W.

The components are protected from moisture during transport and storage by means of appropriate packaging, unless other measures are foreseen by the Manufacturer for this purpose.

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

This ETICS is intended to be used as thermal insulation of buildings' external walls made of masonry (bricks, blocks, stones, etc.) or concrete (cast on site or as prefabricated panels).

The ETICS can be installed on new or existing (retrofit) vertical walls. It can also be installed on horizontal or inclined surfaces which are not exposed to precipitation.

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

The ETICS is not intended to ensure the airtightness of the walls.

The provisions made in this ETA are based on an assumed working life of at least 25 years, provided that the construction works are subject to appropriate design, execution, maintenance and repair. The indications given as to the working life cannot be interpreted as a guarantee given by the Manufacturer or the Technical Assessment Body, 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.

Design, execution, maintenance and repair of the construction works shall take into account principles given in chapter 7 of the ETAG 004 and shall be done in accordance with national instructions.

## **3. Performances of the product and references to the methods used for their assessment**

Performances of the ETICS, related to the basic requirements for construction works (hereinafter BWR), were determined according to chapters 4, 5 and 6 of the ETAG 004.

These performances, given in the following paragraphs, are valid as long as the components are the ones described in § 1 and Annexes 1 to 6 of this ETA.

### **3.1 Mechanical resistance and stability (BWR 1)**

Not relevant.

### 3.2 Safety in case of fire (BWR 2)

Reaction to fire:

Configuration	Declared organic content <sup>(1)</sup>	Declared flame retardant content <sup>(1)</sup>	Class according to EN 13501-1
<ul style="list-style-type: none"> <li>Insulation product: White or grey EPS boards, reaction to fire Class E, thickness <math>\leq 300</math> mm</li> <li>Base coat: <b>ENDUIT MONOCOLLE</b></li> <li>Meshes: - R 131 A 101 C+ - R 131 A 102 C+ - 0161-CA</li> <li>Finishing coats: - <b>CREPITEX TR 2.0</b> - <b>CREPITEX TR 2.5</b></li> </ul>	<p>Base coat: 10.9%</p> <p>Finishing coats: 11.6 to 12.6%</p>	<p>Base coat: 30.1%</p> <p>Finishing coats: 0 to 12.3%</p>	C – s2, d0
<ul style="list-style-type: none"> <li>Insulation product: White EPS boards, reaction to fire Class E, thickness <math>\leq 300</math> mm</li> <li>Base coat: <b>ENDUIT MONOCOLLE</b></li> <li>Meshes: - R 131 A 101 C+ - R 131 A 102 C+ - 0161-CA</li> <li>Finishing coat: - <b>PANTIGRES n°2</b></li> </ul>	<p>Base coat: 10.9%</p> <p>Finishing coat: 13.2%</p>	<p>Base coat: 30.1%</p> <p>Finishing coat: 0%</p>	B – s2, d0
<ul style="list-style-type: none"> <li>Insulation product: White or grey EPS boards, reaction to fire Class E, thickness <math>\leq 300</math> mm</li> <li>Base coat: <b>ENDUIT MONOCOLLE</b></li> <li>Meshes: - R 131 A 101 C+ - R 131 A 102 C+ - 0161-CA</li> <li>Finishing coat: - <b>MINERTEX</b></li> </ul>	<p>Base coat: 10.9%</p> <p>Finishing coat: 31.5%</p>	<p>Base coat: 30.1%</p> <p>Finishing coat: 0%</p>	B – s1, d0

Configuration	Declared organic content <sup>(1)</sup>	Declared flame retardant content <sup>(1)</sup>	Class according to EN 13501-1
<ul style="list-style-type: none"> <li>Insulation product: White EPS boards, reaction to fire Class E, thickness <math>\leq 300</math> mm</li> <li>Base coat: <b>ENDUIT MONOCOLLE</b></li> <li>Meshes: <ul style="list-style-type: none"> <li>- R 131 A 101 C+</li> <li>- R 131 A 102 C+</li> <li>- 0161-CA</li> </ul> </li> <li>Finishing coats: <ul style="list-style-type: none"> <li>- CREPITEX TR 1.5,</li> <li>- CREPITEX Modelable,</li> <li>- PANTIGRES Aspect Gratté,</li> <li>- CREPITEX Système Lisse 1.5,</li> <li>- CREPITEX Système Lisse 2.0,</li> <li>- CREPITEX Système Lisse 1.5 Peinture,</li> <li>- CREPITEX Système Lisse 2.0 Peinture</li> </ul> </li> </ul>	Base coat: 10.9%  Finishing coats: 11.9 to 14.2%	Base coat: 30.1%  Finishing coats: 0%	E
Any other configuration	—	—	F <sup>(2)</sup>

<sup>(1)</sup> Percentage declared by the Manufacturer, relative to the dried weight of the component as delivered.

<sup>(2)</sup> No performance determined

Note: a European reference fire scenario has not been laid down for façades. In some Member States, the classification of ETICS according to EN 13501-1 might not be sufficient for the use in façades. 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 States regulations, until the existing European classification system has been completed.

### 3.3 Hygiene, health and the environment (BWR 3)

#### 3.3.1 Water absorption – capillarity test

##### 3.3.1.1 Water absorption of the base coat

- After 1 hour: water absorption  $< 1 \text{ kg/m}^2$
- After 24 hours: water absorption  $< 0.5 \text{ kg/m}^2$

##### 3.3.1.2 Water absorption of the rendering system

Rendering system: Base coat + finishing coat indicated below	Water absorption after 24 hours	
	$< 0.5 \text{ kg/m}^2$	$\geq 0.5 \text{ kg/m}^2$
<ul style="list-style-type: none"> <li>- CREPITEX TR 1.5</li> <li>- CREPITEX TR 2.0</li> <li>- CREPITEX TR 2.5</li> <li>- PANTIGRES N° 2</li> <li>- PANTIGRES Aspect Gratté</li> <li>- CREPITEX Modelable</li> <li>- CREPITEX Système Lisse 1.5</li> <li>- CREPITEX Système Lisse 2.0</li> <li>- CREPITEX Système Lisse 1.5 Peinture</li> <li>- CREPITEX Système Lisse 2.0 Peinture</li> </ul>	X	
- MINERTEX		X

### 3.3.2 Watertightness

#### 3.3.2.1 Hygrothermal behaviour

Heat-rain and heat-cold cycles have been performed on a rig. The ETICS is assessed as resistant to hygrothermal cycles.

#### 3.3.2.2 Freeze-thaw behaviour

Rendering system with the finishing coat MINERTEX: the freeze/thaw cycles have not been performed.

Water absorptions of both the base coat and the other rendering systems are less than  $0.5 \text{ kg/m}^2$  after 24 hours. The ETICS is therefore assessed as resistant to freeze-thaw for these configurations.

### 3.3.3 Impact resistance

Rendering system: Base coat + finishing coat indicated below	Use category		
	single standard mesh	double standard mesh	reinforced mesh + standard mesh
- CREPITEX TR 1.5	Category I		
- CREPITEX TR 2.0			
- CREPITEX TR 2.5			
- PANTIGRES N° 2			
- PANTIGRES Aspect Gratté	Category II	Category I	
- MINERTEX	Category III	Category II	
- CREPITEX Modelable	Category I		
- CREPITEX Système Lisse 1.5 - CREPITEX Système Lisse 2.0			
- CREPITEX Système Lisse 1.5 Peinture - CREPITEX Système Lisse 2.0 Peinture			



### 3.3.4 Water vapour permeability – resistance to water vapour diffusion

Rendering system: Base coat + finishing coat indicated below	Equivalent air thickness $s_d$ (m)
- CREPITEX TR 1.5 - CREPITEX TR 2.0	$\leq 1.0$ (Test result obtained with CREPITEX TR 2.0: 0.7)
- CREPITEX TR 2.5	$\leq 2.0$ (Test result obtained : 1.2)
- PANTIGRES N° 2	$\leq 1.0$ (Test result obtained : 0.6)
- PANTIGRES Aspect Gratté	$\leq 2.0$ (Test result obtained : 1.1)
- MINERTEX	$\leq 1.0$ (Test result obtained : 0.5)
- CREPITEX Modelable	$\leq 1.0$ (Test result obtained : 0.9)
- CREPITEX Système Lisse 1.5 - CREPITEX Système Lisse 2.0	$\leq 2.0$ (Test result obtained with CREPITEX Système Lisse 2.0: 1.5)
- CREPITEX Système Lisse 1.5 Peinture - CREPITEX Système Lisse 2.0 Peinture	$\leq 2.0$ (Test result obtained with CREPITEX Système Lisse 2.0 Peinture: 1.2)

### 3.3.5 Release of dangerous substances

The ETICS belong to Category S/W2, according to EOTA Technical Report No 034.

A written declaration was submitted 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 Regulation (EU) No 305/2011, these requirements need also to be complied with, when and where they apply.

## 3.4 Safety and accessibility in use (BWR 4)

### 3.4.1 Bond strength

#### 3.4.1.1 Bond strength of the base coat onto insulation product

- Initial state: bond strength  $\geq 0.08$  MPa
- After hygrothermal cycles: bond strength  $\geq 0.08$  MPa
- After freeze-thaw cycles: test not performed (see § 3.3.2.2 of this ETA)

### 3.4.1.2 Bond strength of adhesives onto substrate and insulation product

#### ENDUIT MONOCOLLE:

	Bond strength (MPa) after:		
	Initial state	48 h immersion water + 2 h at 23°C-50% RH	48 h immersion water + 7 days at 23°C-50% RH
Concrete	≥ 0.25	≥ 0.08	≥ 0.25
Brick	≥ 0.25	≥ 0.08	≥ 0.25
Insulation product	≥ 0.08	≥ 0.03	≥ 0.08

#### ENDUIT COLLE and PPG Mortier Poudre Collage-Calage :

	Bond strength (MPa) after:		
	Initial state	48 h immersion water + 2 h at 23°C-50% RH	48 h immersion water + 7 days at 23°C-50% RH
Concrete	≥ 0.25	≥ 0.08	≥ 0.25
Insulation product	≥ 0.08	≥ 0.03	≥ 0.08

The ETICS can so be installed on the substrate with application of the adhesive on the following minimal surfaces:

	Tensile strength perpendicular to the faces of EPS		
	≥ 100 kPa	≥ 120 kPa	≥ 150 kPa
<b>ENDUIT COLLE</b>	35%	35%	35%
<b>ENDUIT MONOCOLLE</b>	30%	25%	25%
<b>PPG Mortier Poudre Collage - Calage</b>	30%	25%	20%

### 3.4.2 Fixing strength (transverse displacement)

Test not required because the ETICS fulfils the following criteria:

$$E.d < 50,000 \text{ N/mm}$$

$E$  modulus of elasticity of the base coat without mesh (MPa)

$d$  mean dried thickness of the base coat (mm)

### 3.4.3 Resistance to wind load

#### 3.4.3.1 Resistance to wind load of mechanically-fixed ETICS using anchors

<b>Anchors</b>	<b>Plate diameter (mm)</b>	$\geq 60$		
	<b>Plate stiffness (kN/mm)</b>	$\geq 0.3$		
<b>Insulation product</b>	<b>Type</b>	EPS boards		
	<b>Tensile strength perpendicular to the face (kPa)</b>	$\geq 120$		
	<b>Thickness (mm)</b>	$\geq 60$	$\geq 80$	$\geq 100$
<b>Maximum load (Pull-through test)</b>	<b>Anchors not placed at the panel joints: <math>R_{\text{panel}}</math> (N)</b>	Minimal: 506	Minimal: 649	Minimal: 658
		Average: 512	Average: 657	Average: 688
	<b>Anchors placed at the panel joints: <math>R_{\text{joint}}</math> (N)</b>	Minimal: 429	Minimal: 554	Minimal: 611
		Average: 455	Average: 570	Average: 616

<b>Anchors</b>	<b>Plate diameter (mm)</b>	$\geq 60$		
	<b>Plate stiffness (kN/mm)</b>	$\geq 0.6$		
<b>Insulation product</b>	<b>Type</b>	EPS boards		
	<b>Tensile strength perpendicular to the face (kPa)</b>	$\geq 120$		
	<b>Thickness (mm)</b>	$\geq 60$	$\geq 80$	$\geq 100$
<b>Maximum load (Pull-through test)</b>	<b>Anchors not placed at the panel joints: <math>R_{\text{panel}}</math> (N)</b>	Minimal: 509	Minimal: 707	Minimal: 949
		Average: 520	Average: 720	Average: 968
	<b>Anchors placed at the panel joints: <math>R_{\text{joint}}</math> (N)</b>	Minimal: 433	Minimal: 610	Minimal: 806
		Average: 464	Average: 617	Average: 821

For the use of anchors mounted countersunk, the above indicated values apply for insulation thickness greater or equal to 80 mm and plate diameter equal to 60 mm.

Anchors which can be used are described in Annex 2 (1/2) of this ETA.

The design wind load resistance of the ETICS fixed with anchors is determined as follows:

$$R_d = \frac{R_{\text{panel}} \cdot n_{\text{panel}} + R_{\text{joint}} \cdot n_{\text{joint}}}{\gamma}$$

$n_{\text{panel}}$  number of anchors not placed at the panel joints, per m<sup>2</sup>

$n_{\text{joint}}$  number of anchors placed at the panel joints, per m<sup>2</sup>

$\gamma$  national safety factor

### 3.4.3.2 Resistance to wind load of mechanically-fixed ETICS using profiles

Insulation product	Type		EPS boards	
	Thickness (mm)		≥ 60	
	Tensile strength perpendicular to the face (kPa)		≥ 150	≥ 180
	Shear strength (N/mm <sup>2</sup> )		≥ 0.02	≥ 0.05
	Shear modulus (N/mm <sup>2</sup> )		≥ 1.0	≥ 1.5
Maximum load (Static Foam Block Test)	500 × 500 mm boards: R (N/panel)	a + b <sup>(1)</sup>	Minimal: 950	Minimal: 1250
			Average: 1010	Average: 1320
		a + c	Minimal: 1060	Minimal: 1440
			Average: 1260	Average: 1710
		a + d	Minimal: 1430	Minimal: 1850
			Average: 1470	Average: 1890

- <sup>(1)</sup> a: horizontal profiles fixed every 30 cm;  
b: 43 to 47 cm-long connection profiles;  
c: 20 cm-long vertical profiles fixed with one anchor in the middle;  
d: 40 to 43 cm-long vertical profiles fixed with two anchors at 30 cm interval.

Profiles and anchors which can be used are described respectively in Annex 6 and Annex 2 (2/2) of this ETA.

### 3.4.4 Width of crack – Render Strip Tensile Test

No performance was determined for the ETICS.

### 3.5 Protection against noise (BWR 5)

No performance was determined for the ETICS.

### 3.6 Energy economy and heat retention (BWR 6)

Thermal resistance and thermal transmittance are defined in clause 5.1.6 of the ETAG 004.

### 3.7 Sustainable use of natural resources (BWR 7)

No performance was determined for the ETICS.

### 3.8 Aspects of durability and serviceability

Bond strength after ageing:

Rendering system: Base coat + finishing coat indicated below	Bond strength (MPa)
<ul style="list-style-type: none"> <li>- CREPITEX TR 1.5</li> <li>- CREPITEX TR 2.0</li> <li>- CREPITEX TR 2.5</li> <li>- PANTIGRES N° 2</li> <li>- PANTIGRES Aspect Gratté</li> <li>- MINERTEX</li> <li>- CREPITEX Modelable</li> <li>- CREPITEX Système Lisse 1.5</li> <li>- CREPITEX Système Lisse 2.0</li> <li>- CREPITEX Système Lisse 1.5 Peinture</li> <li>- CREPITEX Système Lisse 2.0 Peinture</li> </ul>	≥ 0.08

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

According to Decision 97/556/EC (Decision of the Commission of 14 July 1997, L 229 of 20.8.1997, p. 15), as amended by Decision 2001/596/EC (Decision of the Commission of 8 January 2001, L 209 of 2.8.2001, p. 33)<sup>2</sup>, the systems of AVCP given in the following table apply:

Product	Intended use	Levels or classes (Reaction to fire)	System
External Thermal Insulation Composite Systems with rendering	in external walls subject to fire regulation	A1 <sup>(1)</sup> , A2 <sup>(1)</sup> , B <sup>(1)</sup> or C <sup>(1)</sup>	1
		<ul style="list-style-type: none"> <li>- A1<sup>(2)</sup>, A2<sup>(2)</sup>, B<sup>(2)</sup>, C<sup>(2)</sup></li> <li>- D, E, F</li> <li>- (A1 to E)<sup>(3)</sup></li> </ul>	2+
	in external walls not subject to fire regulation	any	2+

<sup>(1)</sup> Products/materials for which as clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material).

<sup>(2)</sup> Products/materials not covered by footnote 1.

<sup>(3)</sup> Products/materials that do not require to be tested for reaction to fire (e.g. Products/materials of Classes A1 according to Commission Decision 96/603/EC).

The systems of AVCP are described in Annex V of Regulation (EU) No 305/2011, as amended by Delegated Regulation (EU) No 568/2014.

<sup>2</sup> Decisions are published in the *Official Journal of the European Union (OJEU)*, see [www.new.eu-lex.europa.eu/oj/direct-access.html](http://www.new.eu-lex.europa.eu/oj/direct-access.html).

**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 the CSTB.

The control plan is given in Annex 7. As the control plan contains confidential information, Annex 7 is not included in the published parts of this ETA.

Issued in Marne-la-Vallée on 20/03/2015

by

Charles BALOCHE, Technical Manager of the CSTB

Factory-prefabricated, uncoated boards made of expanded polystyrene (EPS) according to EN 13163 and having characteristics described in the following table. The surface of the boards is homogeneous and without “skin”. Mass per unit area ( $\text{kg/m}^2$ ) depends on both thickness of the board and density of EPS.

<b>Reaction to fire / EN 13501-1</b>		Class E
<b>Thermal resistance / EN 13163</b>		Defined in the CE marking
<b>Dimensional tolerances</b>	<b>Thickness / EN 823</b>	T(1) [ $\pm 1.0 \text{ mm}$ ]
	<b>Length / EN 822</b>	L(2) [ $\pm 2.0 \text{ mm}$ ]
	<b>Width / EN 822</b>	W(2) [ $\pm 2.0 \text{ mm}$ ]
	<b>Squareness / EN 824</b>	S(2) [ $\pm 2 \text{ mm/m}$ ]
	<b>Deviation from squareness on thickness / EN 824</b>	$\leq 2 \text{ mm/m}$
	<b>Flatness / EN 825</b>	P(5) [ $\leq 5 \text{ mm}$ ]
<b>Dimensional stability</b>	<b>Under specified temperature and humidity / EN 1604: 48 h at 70°C</b>	DS (70,-)1 [ $\leq 1\%$ ]
	<b>Under specified temperature and humidity / EN 1604: 48 h at 70°C and 90% RH</b>	DS(70,90)1 [ $\leq 1\%$ ]
	<b>Under laboratory condition / EN 1603</b>	DS(N)2 [ $\pm 0.2\%$ ]
<b>Water absorption (partial immersion) / EN 1609 – method A</b>		$< 1 \text{ kg/m}^2$
<b>Water vapour diffusion resistance factor (<math>\mu</math>) / EN 12086</b>		20 to 60
<b>Tensile strength perpendicular to the faces in dry conditions / EN 1607</b>		TR 100 [ $\geq 100 \text{ kPa}$ ]
<b>Shear strength / EN 12090</b>		SS20 [ $\geq 0.02 \text{ N/mm}^2$ ]
<b>Shear modulus / EN 12090</b>		GM 1000 [ $\geq 1.0 \text{ N/mm}^2$ ]
<b>Dynamic stiffness / EN 29052-1</b>		No performance determined
<b>Air flow resistance / EN 29053</b>		Not relevant

<b>ETICS REVITHERMONO</b>	<b>ANNEX 1 (1/2)</b> of ETA-04/0062
<b>Insulation product for bonded ETICS or mechanically-fixed ETICS with anchors</b>	

Factory-prefabricated, uncoated boards with grooved edges, made of expanded polystyrene (EPS) according to EN 13163 and having characteristics described in the following table. The surface of the boards is homogeneous and without “skin”. Coverage (kg/m<sup>2</sup>) depends on both thickness of the board and density of EPS.

<b>Reaction to fire / EN 13501-1</b>		Class E
<b>Thermal resistance / EN 13163</b>		Defined in the CE marking
<b>Dimensional tolerances</b>	<b>Thickness / EN 823</b>	± 1.5 mm
	<b>Length / EN 822</b>	± 1.0 mm
	<b>Width / EN 822</b>	W(1) [± 1.0 mm]
	<b>Squareness / EN 824</b>	S(2) [± 2%]
	<b>Flatness / EN 825</b>	P(5) [≤ 5 mm]
<b>Dimensional stability</b>	<b>Under specified temperature and humidity / EN 1604: 48 h at 70°C 500 × 500 mm panels</b>	≤ 0.30% and no individual value > 0.35%
	<b>Under specified temperature and humidity / EN 1604: 48 h at 70°C 1000 × 500 and 1000 × 600 mm panels</b>	≤ 0.25%
	<b>Under laboratory condition / EN 1603</b>	≤ 0.15%
<b>Water absorption (partial immersion) / EN 1609 – method A</b>		< 1 kg/m <sup>2</sup>
<b>Water vapour diffusion resistance factor (μ) / EN 12086</b>		20 to 60
<b>Tensile strength perpendicular to the faces in dry conditions / EN 1607</b>		TR 150 [≥ 150 kPa]
<b>Shear strength / EN 12090</b>		SS 20 [≥ 0.02 N/mm <sup>2</sup> ]
<b>Shear modulus / EN 12090</b>		GM 1000 [≥ 1.0 N/mm <sup>2</sup> ]
<b>Dynamic stiffness / EN 29052-1</b>		No performance determined
<b>Air flow resistance / EN 29053</b>		Not relevant

<b>ETICS REVITHERMONO</b>	<b>ANNEX 1 (2/2)</b> of ETA-04/0062
<b>Insulation product for mechanically-fixed ETICS with profiles</b>	



Anchors with ETA according to European Technical Approval Guideline No 014 (hereinafter ETAG 014). The anchors are composed of a plastic expansion sleeve with a plate having diameter of 60 mm and a plastic or metallic nail or screw. Use categories and characteristic resistances in the substrate are given in each anchor's ETA. Validity of the anchor's ETA shall be checked before using the anchor.

Trade name	ETA reference	Mounting <sup>(1)</sup>	Plate stiffness (kN/mm)
Fischer TERMOZ 8 U, 8 UZ	ETA-02/0019	a	≥ 0.3
Fischer TERMOZ 8 N, 8 NZ	ETA-03/0019	a	
Ejotherm NTK U	ETA-07/0026	a	
Spit ISO-60	ETA-04/0076	a	
Ejotherm STR U 2G	ETA-04/0023	a, b	≥ 0.6
Ejot H1 eco	ETA-11/0192	a	
Ejot H3	ETA-14/0130	a	

<sup>(1)</sup> a: surface mounting; b: countersunk mounting.

Additionally, every anchor with an ETA according to ETAG 014 and having the following characteristics can be used:

- plate diameter ≥ 60 mm;
- plate stiffness ≥ 0.3 kN/mm according to EOTA Technical Report No 026;
- load resistance of the plate ≥ 1.0 kN according to EOTA Technical Report No 026.

These characteristics, the use categories and the characteristic resistances in the substrate shall be taken from the corresponding anchor's ETA.

<b>ETICS REVITHERMONO</b>	<b>ANNEX 2 (1/2)</b> of ETA-04/0062
<b>Anchors for insulation product</b>	

Anchors with ETA according to European Technical Approval Guideline No 014. The anchors are composed of a plastic expansion sleeve with a collar and a metallic nail or screw with flat head having dimensions adapted to the diameter of the profile's perforation (see Annex 6).

Use categories and characteristic resistances in the substrate are given in each anchor's ETA. Validity of the anchor's ETA shall be checked before using the anchor.

Trade name	ETA reference
Ejotharm NK U	ETA-05/0009
Ejotharm SDK U	ETA-04/0023
Ejotharm SDF-K plus	ETA-04/0064
Spit Hit M	ETA-06/0032

<b>ETICS REVITHERMONO</b>	<b>ANNEX 2 (2/2)</b> of ETA-04/0062
<b>Anchors for profiles</b>	

Glass fibre meshes:

- standard mesh: with mesh size between 3 and 6 mm;
- reinforced mesh: implemented in addition to the standard mesh, to improve the impact resistance.

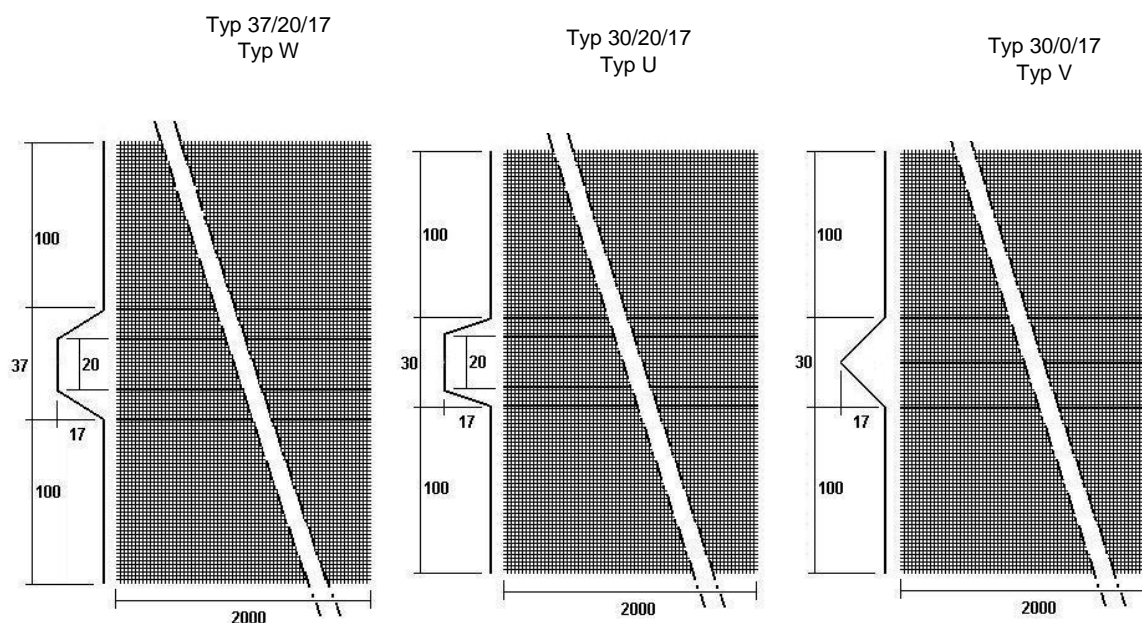
Trade name	Mass per unit area (g/m <sup>2</sup> )	Residual strength after ageing (N/mm)		Relative residual strength after ageing (%) <sup>(1)</sup>	
		Warp	Weft	Warp	Weft
Standard meshes					
ARMATURE 500 (R 131 A 101 C+)	166	≥ 20	≥ 20	≥ 50	≥ 50
ARMATURE 150 (R 131 A 102 C+)	161	≥ 20	≥ 20	≥ 50	≥ 50
ARMATURE 500 (0161-CA)	156	≥ 20	≥ 20	≥ 50	≥ 50
Reinforced mesh					
ARMATURE HR (ARS 208)	710	≥ 20	≥ 20	≥ 40	≥ 40

<sup>(1)</sup> Percentage of the strength in the as-delivered state.

- special meshes (ARMATURE à Bossage) (Annex 4): performed glass fibres meshes cut into ARMATURE 500. Strip implemented in the groove of the EPS special "Panneaux ISO Bossage".

<b>ETICS REVITHERMONO</b>	<b>ANNEX 3</b> of ETA-04/0062
<b>Glass fibre meshes</b>	

## Dimensions in millimeters



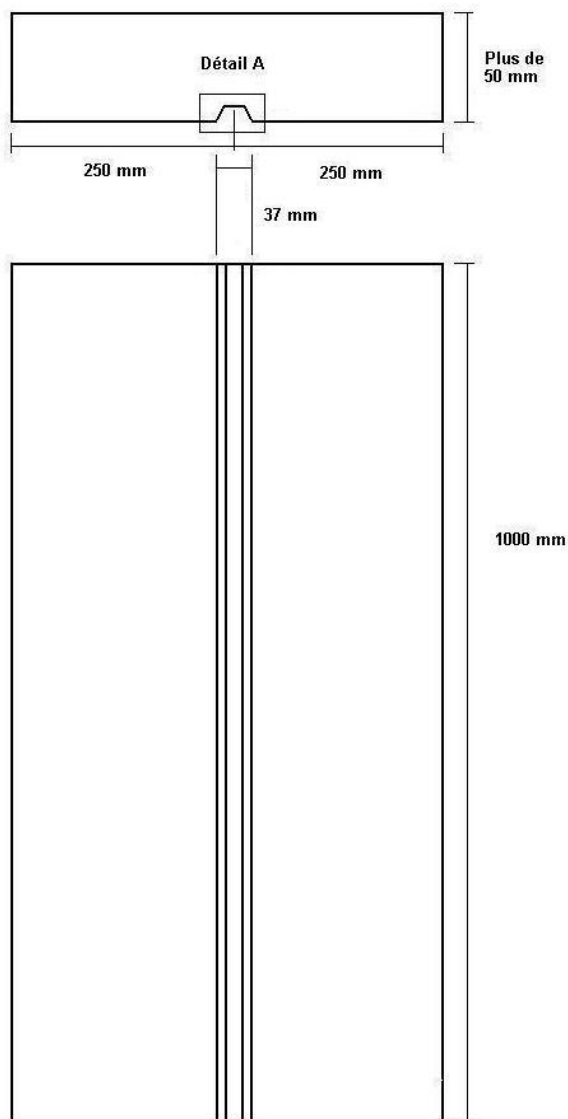
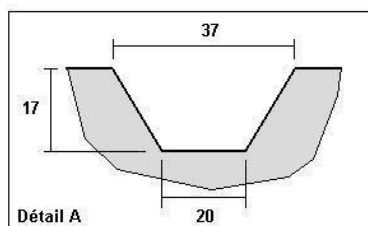
**ETICS REVITHERMONO**

**Descriptions of the Armature à Bossage**

**ANNEX 4**  
of ETA-04/0062

## Dimensions in millimeters

Typ 37/20/17  
Typ W



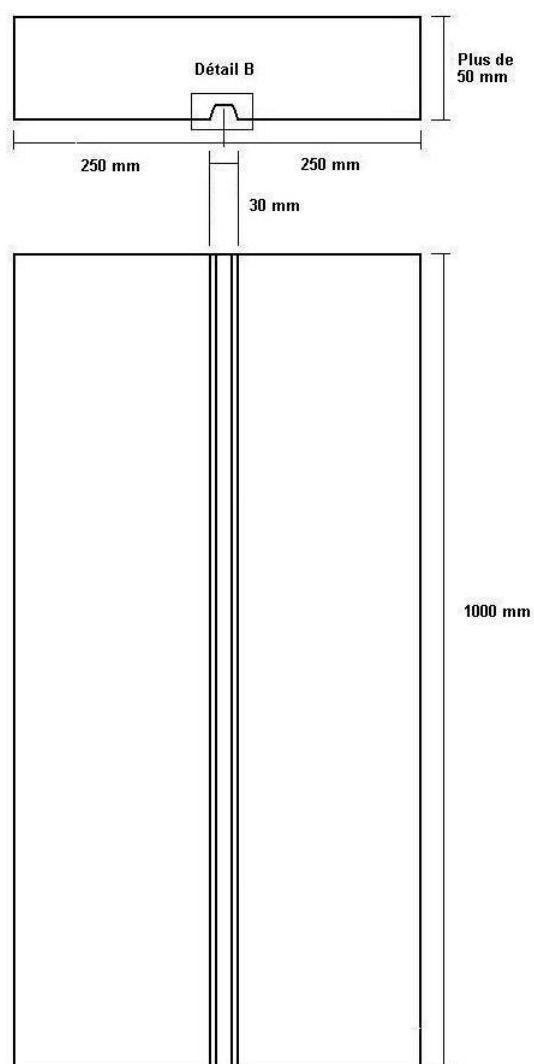
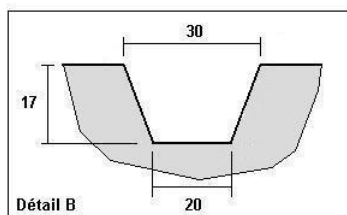
### ETICS REVITHERMONO

**Bonded ETICS and mechanically fixed ETICS with anchors – Description of the special EPS Typ W**

**Annex 5 (1/3)**  
of ETA-04/0062

## Dimensions in millimeters

Typ 30/20/17  
Typ U



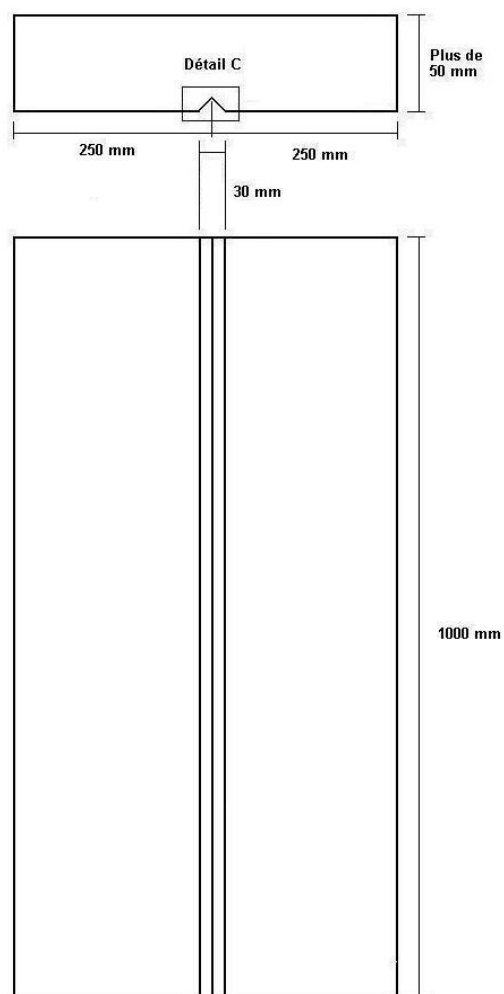
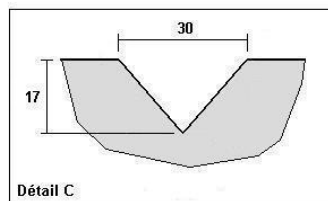
### ETICS REVITHERMONO

**Bonded ETICS and mechanically fixed ETICS with anchors – Description of the special EPS Typ U**

**Annex 5 (2/3)**  
of ETA-04/0062

## Dimensions in millimeters

Typ 30/0/17  
Typ V

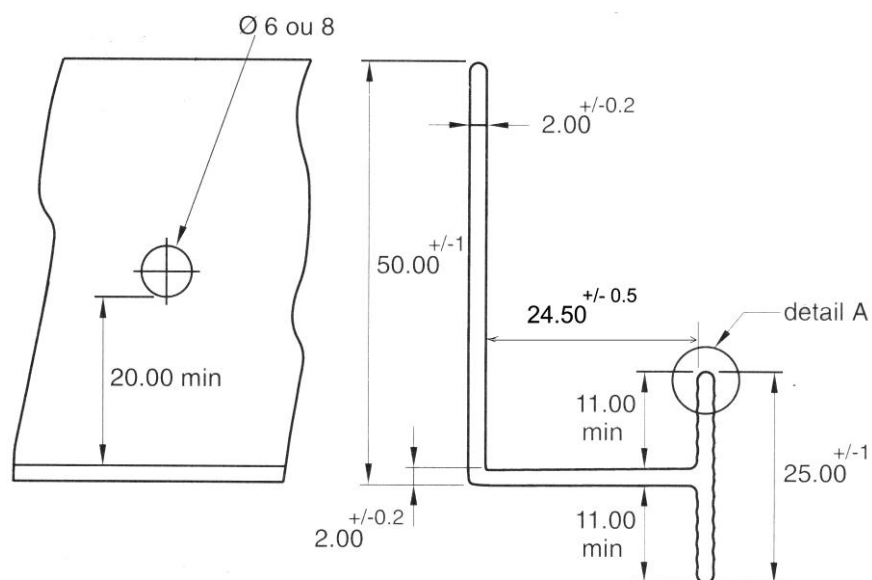


**ETICS REVITHERMONO**

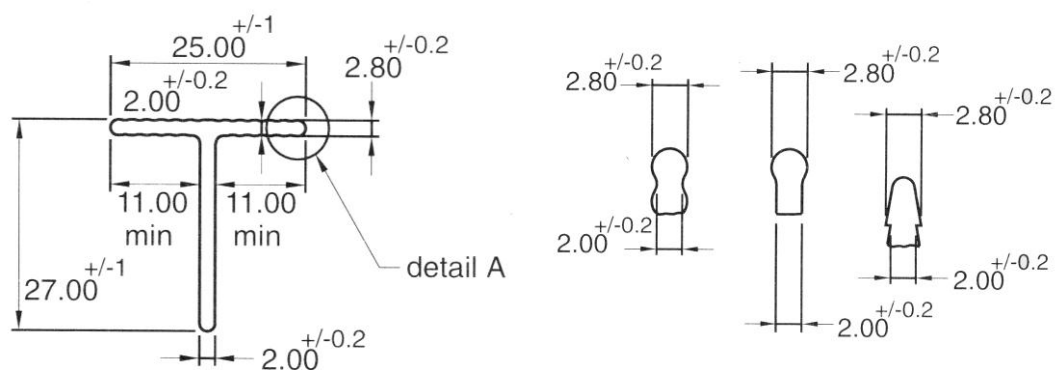
**Bonded ETICS and mechanically fixed ETICS with  
anchors – Description of the special EPS Typ V**

**Annex 5 (3/3)**  
of ETA-04/0062

### Dimensions in millimeters



### Horizontal and vertical fixed profiles



### Vertical connection profiles

### Detail A

**ETICS REVITHERMONO**

**Polyvinyl chloride profiles**

**Annex 6**  
of ETA-04/0062