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Authorised and notified according to Article 10 of the Council Directive of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products (89/106/EEC)

**MIEMBRO DE EOTA**
EOTA MEMBER

# European Technical Approval ETA 07 / 0002

English translation prepared by IETcc. Original version in Spanish language

| | |
|---|---|
| **Nombre comercial:**<br>Trade name: | **Sistema WALL-TERM ®** |
| **Beneficiario del DITE**<br>Holder of approval: | **MATERIS PAINTS ESPAÑA SL**<br>c/ Francia nº 7.<br>Polígono Industrial Pla de Llerona.<br>08520 LAS FRANQUESAS DEL VALLÉS.<br>(Barcelona). España |
| **Área genérica y uso del producto de construcción:**<br><br>Generic type and use of construction product: | **Sistema de aislamiento térmico por el exterior con revoco para uso como aislamiento térmico por el exterior de muros de edificación.**<br>External Thermal Insulation Composite System with rendering on polystyrene for use as external insulation of building walls. |
| **Validez desde:**<br>**hasta :**<br>Validity from / to: | 16 / April / 2007<br>16 / April / 2012 |
| **Planta de fabricación:**<br>Manufacturing plant: | **MATERIS PAINTS ESPAÑA SL**<br>c/ Francia nº 7.<br>Polígono Industrial Pla de Llerona.<br>08520 LAS FRANQUESAS DEL VALLÉS.<br>(Barcelona). España |
| **Este Documento de Idoneidad Técnica Europeo contiene:**<br>This European Technical Approval contains: | **15 páginas.**<br>15 pages. |

## I. LEGAL BASES AND GENERAL CONDITIONS

1. This European Technical Approval is issued by the ***Instituto de Ciencias de la Construcción Eduardo Torroja*** in accordance with:

   - Council Directive (89/106/EEC) of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products [(1)], modified by Council Directive 93/68/EEC of July 1993 [(2)] and Regulation (EC) nº1882/2003 of the European Parliament and of the Council [(3)].

   - *Real Decreto 1630/1992 de 29 de diciembre, por el que se dictan disposiciones para la libre circulación de productos de construcción en aplicación de la Directiva 89/106/CEE [(4)]. Real Decreto 1328/1995, de 28 de julio, por el que se modifican, en aplicación de la Directiva 93/68/CEE las disposiciones para la libre circulación, aprobadas por el Real Decreto 1630/1992, de 29 de diciembre. (BOE 19.895) y la Orden CTE/2276/2002 de 4 de septiembre.*

   - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex of Commission Decision 94/23/EC [(5)].

   - Guideline for European Technical Approval of External Thermal Insulation Composite Systems with rendering", ETAG 004, edition March 2000.

2. The ***Instituto de Ciencias de la Construcción Eduardo Torroja*** is authorised to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant(s) *(e.g. concerning the fulfilment of assumptions made in this European Technical Approval with regard to manufacturing).* Nevertheless, the responsibility for the conformity of the products to the European Technical Approval and for their fitness for intended use remains with the holder of the European Technical Approval.

3. This European Technical Approval is not to be transferred to other manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those laid down in the context of this European Technical Approval.

4. This European Technical Approval may be withdrawn by the ***Instituto de Ciencias de la Construcción Eduardo Torroja*** in particular pursuant to information by the Commission according to Article 5 (1) of Council Directive 89/106/EEC.

5. Reproduction of this European Technical Approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of the ***Instituto de Ciencias de la Construcción Eduardo Torroja****.* In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European Technical Approval.

6. The European Technical Approval is issued by the Approval Body in its official language. This version corresponds to the version circulated within EOTA. Translations into other languages have to be designated as such.

(1) Official Journal of the European Communities nº L 40, 11.2.1989, p.12.
(2) Official Journal of the European Communities nº L 220, 30.08.1993, p.1.
(3) Official Journal of the European Union nº L 284, 31.10. 2003, p.25.
(4) *Boletín Oficial del Estado nº 34 de 9 de febrero de 1993.*
(5) Official Journal of the European Communities nº L 17, 20.1.1994, p.34.

# II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

## 1 Definition of products and intended use

The External Thermal Insulation Composite System (from now on, referred to as ETICS) "Sistema WALL-TERM®" is designed and installed in accordance with the ETA-holder design and installation instructions, deposited at the *Instituto de Ciencias de la Construcción Eduardo Torroja*, (from now on IETcc*)* (6). This ETICS comprises the following components, which are factory produced by the ETA holder or a supplier. It is made up on site from these components. The ETA holder is ultimately responsible for the ETICS. "Sistema WALL-TERM®" is a bonded system with supplementary mechanical fixings used primarily to provide stability until the adhesive has dried and act as a temporary connection to avoid the risk of detachment.

### 1.1 Definition of the construction products

| | **Components**<br>*(See clause 2.3 for further description, characteristics and performances)* | **Coverage** (wet) app . [kg/m²] | **Thickness range** [mm] |
|---|---|---|---|
| Insulation material with associated method of fixing | ***BONDED ETICS with supplementary mechanical fixings*** | | |
| | **Adhesive: "*WALL-TERM"* ®**<br>(Paste requiring addition of máx. 30 % cement CEM II applied as strips from 60 to 80 mm wide) | 3 - 4 | -- |
| | **Insulation material:**<br>(Factory prefabricated expanded polystyrene boards according to EN 13163:2001) | -- | 30 to 100 |
| Base coat | **Adhesive:*"WALL-TERM"* ®**<br>(Paste requiring addition of 30 % cement). Identical with the equally named adhesive given above | 7 | 1.5 to 2 mm per layer in 2 layers |
| Glass fiber mesh | ***"ROTATEX WG 50 G9"***<br>(Standard glass fiber alkali resistant mesh with mass per unit area ≥ 150 gr/m²)<br>***"ARS 208"***<br>(Reinforced glass fiber alkali resistant mesh with mass per unit area ≥ 720 gr/m²) | -- | -- |
| Primer coat | ***"SIMILAR LISO"* ®**<br>(Acrylic binder based painture applied in one layer, requiring addition of 10-20 % water) specific for the following products: *REVETON 3000, REVETON 5000* and *REVETON 7000* | 0.20 | 0.1 (app) |
| | ***"COTEFILM imprimación acuosa"* ®**<br>(Acrylic binder based painture applied If required, in one layer requiring addition of 10-20 % water for 1st layer) specific for the following products: *COTEFILM NG liso, COTEFILM NG granulado, COTEFILM NG rugoso,* and *CUARZO TREX.* | 0,25 | 0.1 (app) |
| Finishing coat | ***"REVETON 3000"* ®**<br>(Acrylic binder based ready to used paste) | 3,5 | 2-3 |
| | ***"REVETON 5000"* ®**<br>(Acrylic binder based ready to used paste) | 2,5 | 2 |
| | ***"REVETON 7000"* ®**<br>(Acrylic binder based ready to used paste) | 2,5 | 2 |
| | ***"CUARZO TREX"* ®**<br>(Acrylic binder based ready to used paste) | 2,4 -3 | 2 |
| | ***"COTEFILM NG liso"* ®**<br>(Acrylic binder based ready to used paste) | 2,20 $m^2$/l | 0.250-0.300 mm per layer in 2 layers |
| | ***"COTEFILM NG granulado"* ®**<br>(Acrylic binder based ready to used paste) | 0,85 $m^2$/l | |
| | ***"COTEFILM NG rugoso"* ®**<br>(Acrylic binder based ready to used paste) | 1,82 $m^2$/l | |

| | | |
|---|---|---|
| Ancillary elements | **Supplementary fixings:** (Expansion plastic anchors for insulation material with different length in relation with thickness of insulation board) | Remain under the ETA-holder responsibility |
| | **Aluminium profiles** (base, corners , top and window sills) and its fixing devices. | |
| | **Polyurethane mastic**: *"MASITEX P ® "* | |

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

### 1.2 Intended use

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). The ETICS is designed to give the wall to which 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 is installed, neither to ensure the air tightness of the building structure but it can contribute its durability by providing enhanced protection from the effect of weathering.

The systems can be used on new or existing (retrofit) vertical walls. They can also be used on horizontal or inclined surfaces which are not exposed to precipitation. According to the characteristics of the substrate, it could be needed preparation (see clause 7.2.1. of ETAG 004) an on the national instructions.

The provisions made in this European Technical Approval are based on an assumed working life of 25 years as minimum, provided that the conditions laid down in sections 4.2, 5.1. and 5.2. for the packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met.

The indications given on the working life can not be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

## 2 Characteristics of products and methods of verification

### 2.1 General

The identification tests and the assessment for the intended use of this ETICS according to the Essential Requirements were carried out in compliance with the ETA Guidance n. 004: External Thermal Insulation Composite Systems with Rendering (called ETAG 004, in this ETA). The characteristics (of the components as well as the ETICS not mentioned in this ETA nor in its annexes shall correspond to the respective values laid down in the technical documentation of this ETA, checked by IETcc).

### 2.2 Characteristics of the ETICS

#### 2.2.1 Reaction to fire

Euro class according to EN 13501-1:2002
F without testing (no performance determined).

A European reference fire scenario has not been laid down for facades. In some Member States, the classification of the ETICS according to EN 13501-1:2002 might not be sufficient for the use in facades. An additional assessment of the system according to the national provision (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.

### 2.2.2 Water absorption

Test results on samples obtained were:

| Base Coat ***WALL-TERM®*** | **System Composition:** Base coat ***WALL-TERM®*** *(thickness 4 mm) plus the following primer and finishing coats* | | | | | | |
|---|---|---|---|---|---|---|---|
| | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 3000®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 5000®*** | Primer coat ***SIMILAR liso ®*** Finishing coat ***REVETON 7000®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***CUARZO TREX®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG liso®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG granulado®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG rugoso®*** |
| After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ | After 1 h: < 1kg/$m^2$ After 24 h: < 0,5 kg/$m^2$ |

### 2.2.3 Hygrothermal behaviour

It has been assessed on one rig. During heat rain and heat – cold cycles, none of the following defects occurs during testing:

- Blistering or peeling of any finishing.
- Failure or cracking associated with joints between insulation product boards or profiles fitted with system.
- Detachment of render.
- Cracking allowing water penetration to the insulation layer.

This system is therefore assessed as **resistant to higrothermal cycles.**

### 2.2.4 Freeze / thaw behaviour

Water absorptions results of the base coat and the rendering systems compositions, are less than 0.5 kg/$m^2$ after 24 hours and this system is assessed as freeze/thaw resistant.

### 2.2.5 Impact Resistance

The resistance to hard body impacts (3 and 10 Joules) and to perforation tests carried out on samples lead to the following categories:

| | **System Composition:** Base coat ***WALL-TERM®*** *with standard mesh plus the following primer and finishing coats* | | | | | | |
|---|---|---|---|---|---|---|---|
| | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 3000®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 5000®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 7000®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***CUARZO TREX®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG liso®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG granulado®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG rugoso®*** |
| Use category [7] | II | II | II | II | III | II | III |

7 Use category II: A zone liable to impacts from thrown or kicked objects, but in public locations where the height of the system will limit the size of the impact; or at lower levels where access to the building is primarily to those with some incentive to exercise care.
Use category III: A zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects.

| | **System Composition:** Base coat ***WALL-TERM®*** *with reinforcement mesh plus the following primer and finishing coats* | | | | | | |
|---|---|---|---|---|---|---|---|
| | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 3000 ®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 5000®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 7000 ®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***CUARZO TREX®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG liso®*** | Primer coat ***COTEFILM imprimación acuosa*** Finishing coat ***COTEFILM NG granulado®*** | Primer coat ***COTEFILM imprimación acuosa*** Finishing coat ***COTEFILM NG rugoso®*** |
| Use category [8] | I | I | I | I | I | I | I |

## 2.2.6 Water vapour permeability

| **Rendering System** | **Equivalent air thickness (m)** | |
|---|---|---|
| | Required value | Test result |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*SIMILAR LISO®)* + Finishing layer *(**"REVETON 3000®"**, thickness 2 mm)* | ≤ 2 | 0,11 |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*SIMILAR LISO®)* + Finishing layer *(**"REVETON 5000®"**, thickness 2 mm)* | ≤ 2 | 0,12 |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*SIMILAR LISO®)* + Finishing layer *(**"REVETON 7000®"**, thickness 2 mm)* | ≤ 2 | 0,10 |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*COTEFILM IMPRIMACIÓN ACUOSA®)* + Finishing layer *(**"CUARZO TREX®"**, thickness 2 mm)* | ≤ 2 | 0,08 |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*COTEFILM IMPRIMACIÓN ACUOSA®)* + Finishing layer *(**"COTEFILM NG liso®"**, thickness 0,3 mm)* | ≤ 2 | 0,13 |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*COTEFILM IMPRIMACIÓN ACUOSA®)* + Finishing layer *(**"COTEFILM NG rugoso®"**, thickness 0,3 mm)* | ≤ 2 | 0,10 |
| Base Coat (*WALL-TERM®, thickness 4 mm)* + Primer coat (*COTEFILM IMPRIMACIÓN ACUOSA)* + Finishing layer *(**"COTEFILM NG granulado®"**, thickness 0,3 mm)* | ≤ 2 | 0,08 |

## 2.2.7 Dangerous Substances

The ETICS complies with the provisions of Guidance Paper H [9]. 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 Construction Products Directive, these requirements need also to be complied with, when and where apply.

8 Use category I: A zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use.

### 2.2.8 Safety in use

#### 2.2.8.1 Bond Strength

**a) Base coat WALLTERM onto EPS board**

| **Bond Strength results** according to ETAG 004 § 5.1.4.1.1. | | |
|---|---|---|
| Breakage at Initial status | Breakage after hygro-thermal cycles | Breakage after free/thaw cycles |
| ≥ 0,08 MPa | ≥ 0,08 MPa | Purposeless |

**b) Adhesive onto substrate**

| **Bond Strength results on Concrete** according to ETAG 004 § 5.1.4.1.2. | | |
|---|---|---|
| Breakage at initial status | Breakage after immersion 48 h and 2 h dry | Breakage after immersion 48 h and 7 d dry |
| ≥ 0,25 MPa | ≥ 0,08 MPa | ≥ 0,25 MPa |

**c) Adhesive onto EPS board**

| **Bond Strength results** according to ETAG 004 § 5.1.4.1.3. | | |
|---|---|---|
| Breakage at initial status | Breakage after immersion 48 h and 2 h dry | Breakage after immersion 48 h and 7 d dry |
| ≥ 0,08 MPa | ≥ 0,03 MPa | ≥ 0,08 MPa |

The ETICS can so be installed on the substrate with application of the adhesive on a minimal surface of 20 %.

### 2.2.9 Thermal resistance

The corrected thermal transmittance of the substrate wall covered by the ETICS is calculated in accordance with the standard EN ISO 6946:

$U_c = U + \Delta U$, where, $\Delta U = X_p * n$, and:

$X_p * n$: has only to be taken into account if it is greater than 0,04 W/(m².K)

$U_c$: Corrected thermal transmittance (W/(m².K))

n: number of anchors (through insulation product) per m²

$X_p$: local influence of thermal bridge caused by an anchor. For anchors with plastic nails (unless a value is specified at the corresponding anchor's ETA), it can be considered as negligible.

U: thermal transmittance of the current part of the covered wall (excluding thermal bridges) (W/(m².K)) determined as follows:

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

Where:

$R_i$: thermal resistance of the insulation product (see CE marking in reference to EPS EN 13163) ((m².K)/W)

$R_{render}$: thermal resistance of the render (about 0,02 (m².K)/W)

$R_{substrate}$: thermal resistance of the substrate of the building (concrete, brick …) ((m².K)/W)

$R_{se}$: external superficial thermal resistance ((m².K)/W)

$R_{si}$: internal superficial thermal resistance ((m².K)/W)

### 2.2.10 Aspect of durability and serviceability: Bond strength after ageing

2.2.10.1 Experience on site of the ETICS

In addition to the hygrothermal cycle test on the rigs, the experience on site has been assessed by the IETcc in Spain.

2.2.10.2 Bond strength after ageing (higrothermal cycles)

| **Bond Strength results according to ETAG 004** § 5.1.7.1.1**. (higrothermal cycles) System Composition:** Base coat ***WALL-TERM®*** *(thickness 4 mm) plus the following primer and finishing coats* | | | | **Bond Strength results according to ETAG 004** § 5.1.7.1.2**. System Composition:** Base coat ***WALL-TERM ®*** *(thickness 4 mm) plus the following primer and finishing coats* | | |
|---|---|---|---|---|---|---|
| Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 3000®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 7000®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***CUARZO TREX®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG liso®*** | Primer coat ***SIMILAR liso®*** Finishing coat ***REVETON 5000®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG granulado®*** | Primer coat ***COTEFILM imprimación acuosa®*** Finishing coat ***COTEFILM NG rugoso®*** |
| ≥ 0,08 MPa | ≥ 0,08 MPa | ≥ 0,08 MPa | ≥ 0,08 MPa | ≥ 0,08 MPa | ≥ 0,08 MPa | ≥ 0,08 MPa |

The rendering system (base coat with each finishing coat indicated in table above) has also proofed its bond strength after ageing by experience on site.

### 2.3 Characteristics of the components

Detailed infomation on the chemical composition and other identifying characteristics of the components, following Annex C of ETAG 004, have been deposited with the IETcc. Further information can be observed from the product data sheets, which are part of the Technical Documentation for this ETA.

### 2.3.1 Insulation product

Factory – prefabricated, uncoated boards made of expanded polystyrene (EPS), having the description, characteristics and performances (as minimum) defined in the table below:

| | |
|---|---|
| Reaction to fire Euroclass / EN 13501-1 | F (NPD) |
| Thickness (mm) (EN 823) | T1 |
| Length (mm) (EN 822) | L1 |
| Width (mm) (EN 822) | W1 |
| Squareness (mm) (EN 824) | S1 |
| Flatness (mm) (EN 825) | P3 |

| | | |
|---|---|---|
| Thermal resistance ($m^2$ K/W) acording to thickness of board (mm) | | See CE marking |
| Dimensional stability under | Laboratory conditions (EN 1603) | DS(N)5 |
| | Temperature and humidity specific conditions (EN 1604) | DS(70,90)1 |
| Water absorption (kg/$m^2$) (partial immersion) (EN 1609) | | < 1 |
| Water vapour diffusion (EN 12086) | | 30 to 70 |
| Tensile strength perpendicular to the faces in dry conditions (EN 1607) | | ≥ TR 100 |
| Shear strength (N/mm²) (EN 12090) | | ≥ 0,02 |
| Shear modulus (N/mm²) (EN 12090) | | ≥ 1,00 |

### 2.3.2 Render

The test has been carried out according to ETAG 004 § 5.5.4.1.(Edition March 2000)

| **Base coat with standard glass fiber mesh** | **Average value of crack width (mm) $w_{m1\%}$** |
|---|---|
| Warp direction | 0,15 mm |
| Weft direction | 0,15 mm |

### 2.3.3 Glass fiber mesh

Tearing strength after ageing of standard and reinforcement glass fibre meshes were tested according to the ETAG 004.

| **Standard mesh** | | | |
|---|---|---|---|
| **Status** | **Units** | **Tearing strength** (mean values) | |
| | | Warp direction | Weft direction |
| After ageing | N / mm | ≥ 20 | ≥ 20 |
| | % | ≥ 50 | ≥ 50 |

| **Reinforcement mesh** | | | |
|---|---|---|---|
| **Status** | **Units** | **Tearing strength** (mean values) | |
| | | Warp direction | Weft direction |
| After ageing | N / mm | ≥ 20 | ≥ 20 |
| | % | ≥ 50 | ≥ 50 |

## 3 Evaluation and attestation of conformity and CE marking

### 3.1 System of attestation of conformity

According to the decision 97/556/EC of the European Commission [10] amended by 2001/596/EC [11] the system 1 or 2+ of attestation of conformity applies depending on reaction to fire. Considering the Class F (without testing) for the reaction to fire of the ETICS, the system of attestation of conformity is 2+. This system of attestation of conformity is defined as follows:

System 2+: Declaration of conformity of the product by the manufacturer on the basis of:

a) Tasks for the manufacturer:
   (1) Initial type-testing of the product
   (2) Factory production control.
   (3) Testing of samples taken at the factory in accordance with a prescribed test plan

b) Tasks for the notified body:
   (4) Certification of factory production control on the basis of:
      - Initial inspection of factory and of factory production control.
      - Continuous surveillance (annual), assessment and approval of factory production control.

### 3.2 Responsibilities

3.2.1. Tasks of the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall insure that the product is in conformity with this ETA.

The manufacturer shall only use raw materials stated in the technical documentation of this ETA. The incoming raw materials are subjected to verifications by the manufacturer before acceptance. The factory production control shall be in accordance with the control plan [12] which is part of the Technical Documentation of this ETA. The control plan has been agreed between the manufacturer and the IETcc and is laid down in the context of the factory production control system operated by the manufacturer and deposited at the IETcc. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan. The records include at least the following information:

- Designation of the product, the basic materials and components.
- Type of control or testing.
- Date of manufacture of the product and date testing of the product or basic material and components.
- Results of controls and testing and, if appropriate, comparison with requirements.
- Signature of person responsible for factory production control.

(10) Oficial Journal of the European Communities L229/14 of 20.08.1997
(11) Oficial Journal of the European Communities L209/33 of 02.08.2001
(12) The control plan is a confidential part of this European Technical Approval and only handed over to the notified body involved in the procedure of attestation of conformity.

The records shall be presented to the notified body involved in the continuous surveillance. On request, they shall be presented to the IETcc.

3.2.1.2 Other tasks of the manufacturer

For initial type - testing of the ETICS and the components the results of the tests performed as part of the assessment for the ETA shall be used unless there are changes in the production line or plant. In such cases the necessary initial type- testing has to be agreed with the IETcc (13).

The manufacturer shall, on the basis of a contract, involve a body which is notified for the tasks referred to in section 3.1 in the field of ETICS in order to undertake the actions laid down in the clause 3.2.2. For this purpose, the control plan referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the notified bodies involved. The manufacturer shall make a declaration of conformity, stating that the ETICS is in conformity with the provisions of this ETA 07/0002 issued on 16th april 2007.

3.2.2 Tasks of notified bodies

The notified body shall perform, in accordance with the provisions laid down in the control plan.

- Initial inspection of factory and of factory production control.
- Continuous surveillance, assessment and approval of factory production control, in accordance with the provisions laid down in the control plan.

The notified body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report. The notified certification body involved by the manufacturer shall issue an EC Certificate of factory production control stating the conformity of the provisions of this ETA.

In cases where the provisions of the ETA and its control plan are no longer fulfilled the notified certification body shall withdraw the certificate of conformity and inform to IETcc without delay.

## 3.3 CE Marking

The CE marking shall be affixed either on a label attached to it, or on its packaging, or on the accompanying commercial documents. The symbol « CE » shall be followed by the identification number of the notified certification body involved and shall be accompanied by the following information:

- Name and address or identifying mark of the ETA-holder (legal entity responsible for the manufacture).
- The last two digits of the year in which the CE marking was affixed.
- Number of the EC certificate of Conformity for the factory production control.
- Number of the European Technical Approval.
- Number of the ETAG.
- ETICS Trade Name.

(13) For the components of the ETICS which the ETA-holder does not manufacture, it is assured that factory production control carried out by the other manufacturers gives the guaranty of the components compliance with this European Technical Approval. In this aim, regarding the foreseen characteristics and controls, either it has been agreed to rely on national certification bodies or to carry out the corresponding controls by suppliers or himself.

## 4 Assumptions under which the fitness of the product for the intended use was favourably assessed

### 4.1 Manufacturing

The composition and manufacturing process used for the components of the ETICS shall comply with those on which the approval tests were based. Composition and manufacturing process are deposited at the IETcc. The ETA is issued for the ETICS on the basis of agreed data/information, deposited with the IETcc, 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 should be notified to the IETcc before the changes are introduced. IETcc will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

### 4.2 Desing and execution

#### 4.2.1 General

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. The requirements given in ETAG 004, edition March 2000, chapter 7 have to be considered.

The ETICS is installed on site. It is the responsibility of the ETA-holder 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 European Technical Approval. 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.

#### 4.2.2 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 1.1 with characteristics according to clause 2 of this ETA can be used for the ETICS.

The requirements given in ETAG 004, chapter 7, have to be considered. The works including the details (connection, joint,...) shall be designed in order to avoid water penetration behind the system. To bond the ETICS, the minimal surface area and the method of bonding shall comply with the characteristics of the ETICS (see 2.2.8.1 of this ETA) as well as the national regulations. In any case, the minimal surface shall be at least 20 %.

#### 4.2.3 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:

- Chapter 7 of the ETAG. 004, with imperative removal of any existing paint finishes or renders which may difficult the bond resistance of the system.
- 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 ETA holder prescriptions. In particular it

is suitable to comply with the quantities of rendering applied, the thickness regularity and the drying periods between two layers.

## 5 Recommendations

### 5.1 Packaging, transport and storage

Packaging of the components has to be such that the products are protected from moisture during transport and storage. Adhesive, polyurethane mastic, primer coat and finishing coats can be stored closed and protected from weather up to 12 months since manufacture date. Mesh, plastic anchors and thermal insulation boards must be stored also protected against weather. All of the components must be protected against damage.

### 5.2 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 the repairing of localised damaged areas due to accidents and 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.

Comment: Care should be taken to use products which are compatible with the ETICS.

Instituto de Ciencias de la Construcción Eduardo Torroja
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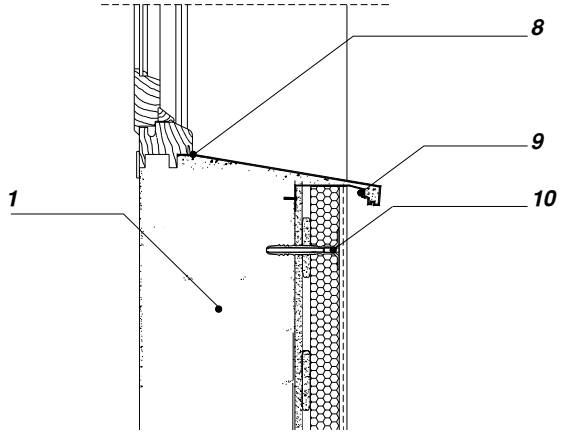
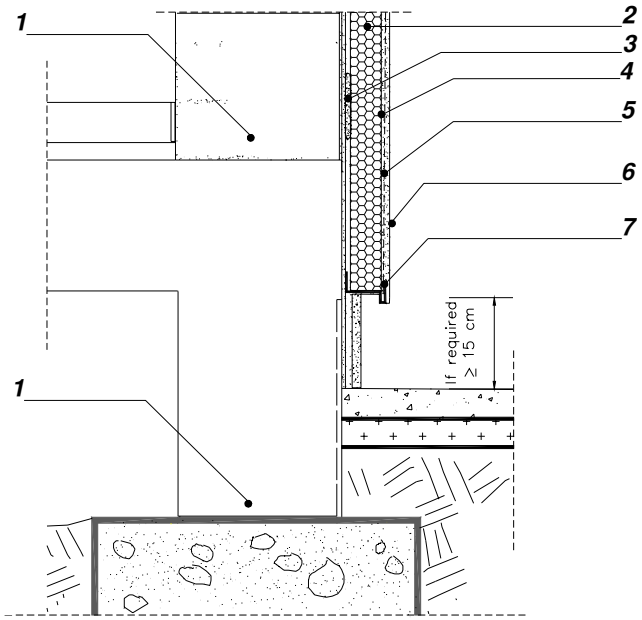
On behalf of the Instituto de Ciencias de la Construcción Eduardo Torroja
Madrid, 16th april 2007

Mr. Juan Monjo Carrió
Director



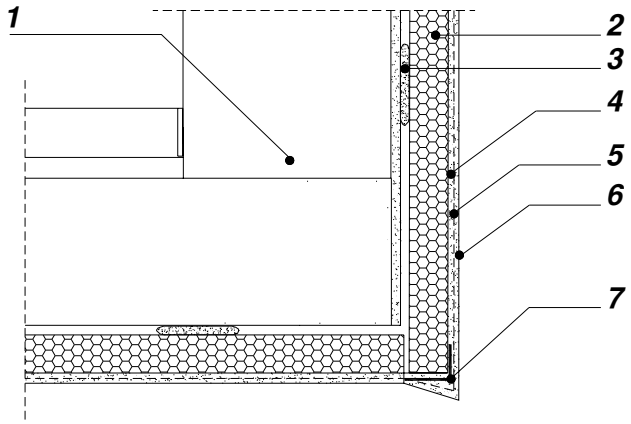

A



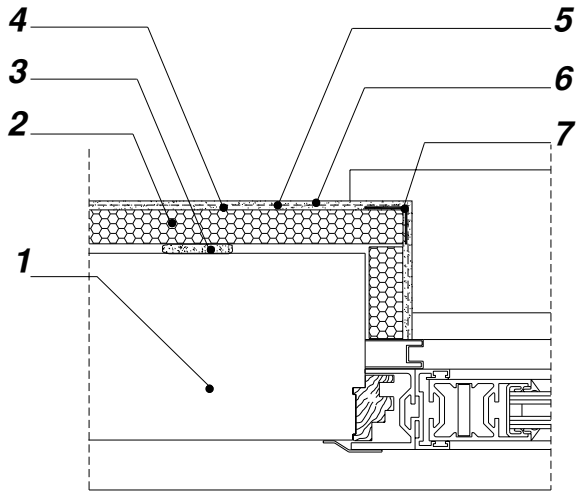

B

1. EXISTING WALL
2. EXPANDED POLYSTYRENE PREFABRICATED BOARD
3. ADHESIVE *"WALL-TERM®"*
4. BASE COAT *"WALL-TERM®" (first and second layer)*
5. GLASS FIBER MESH *(standard or reinforcement)*
6. PRIMER COAT *("COTEFILM IMPRIMACIÓN ACUOSA®"* or "SIMILAR LISO®" plus FINISHING COAT *(REVETON 3000®,* or *REVETON 5000®,* or *REVETON 7000®,* or *CUARZOTREX* ® or *COTEFILM NG LISO®,* or *COTEFILM NG RUGOSO®* or *COTEFILM NG GRANULADO®)*
7. ALUMINIUM PERFORATED BASE PROFILE
8. MASITEX P ® (POLYURETHANE MASTIC)
9. ALUMINIUM NON PERFORATED WINDOW SILL PROFILE
10. PLASTIC ANCHOR

| | |
|---|---|
| External thermal insulation composite system "Sistema WALL-TERM®" | **Annex 1** of European Technical Approval ETA 07/0002 |
| **DETAIL A: SECTION OF APERTURE (WINDOW SILL)**<br>**DETAIL B: SECTION OF WALL** | |




C




D

1. EXISTING WALL
2. EXPANDED POLYSTYRENE PREFABRICATED BOARD
3. ADHESIVE *"WALL-TERM®"*
4. BASE COAT *"WALL-TERM®" (first and second layer)*
5. GLASS FIBER MESH *(standard or reinforcement)*
6. PRIMER COAT *("COTEFILM IMPRIMACIÓN ACUOSA®"* or "SIMILAR LISO®" plus FINISHING COAT *(REVETON 3000®,* or *REVETON 5000®,* or *REVETON 7000®,* or *CUARZOTREX®,* or *COTEFILM NG LISO®,* or *COTEFILM NG RUGOSO®* or *COTEFILM NG GRANULADO®)*
7. ALUMINIUM PERFORATED CORNER PROFILE

External thermal insulation composite system "Sistema WALL-TERM®"

**DETAIL C: VERTICAL SECTION OF APERTURE (LINTEL)**
**DETAIL D: HORIZONTAL SECTION OF APERTURE (JAMB)**

**Annex 2**
of European Technical Approval ETA 07/0002