

Technický a skúšobný ústav stavebný, n. o.

Studená 3
821 04 Bratislava
Slovak Republic
Tel.: +421 2 49228100
Fax: +421 2 44453617
e-mail: eta@tsus.sk
Internet: www.tsus.sk



TECHNICKÝ A SKÚŠOBNÝ ÚSTAV STAVEBNÝ
BUILDING TESTING AND RESEARCH INSTITUTE

ČLEN EOTA
EOTA MEMBER

European Technical Approval

ETA – 08/0316

(English translation prepared by TSÚS – Original version in Slovak language)

Trade name:

Obchodný názov:

SEMPRE TERM ST

Holder of approval:

Držiteľ osvedčenia:

SEMPRE FARBY Sp. z o.o.
ul. Gen. J. Kuźtronia 60
43-301 Bielsko-Biała
Poland

Generic type and use of construction product:

*Typ a účel použitia
stavebného výrobku:*

External Thermal Insulation Composite System with rendering on expanded polystyrene boards for the use as external insulation to the walls of buildings

Vonkajší tepelnoizolačný kompozitný systém s omietkou na báze dosiek z expandovaného polystyrénu na použitie ako vonkajšia tepelná ochrana stien budov

Validity

Platnosť

from:

od:

28. 06. 2013

to:

do:

27. 06. 2018

Manufacturing plant:

Miesto výroby:

SEMPRE FARBY Sp. z o.o.
ul. Gen. J. Kuźtronia 60
43-301 Bielsko-Biała
Poland

This European Technical Approval contains:

*Toto európske technické
osvedčenie obsahuje:*

19 pages including 1 annex

19 strán vrátane 1 prílohy

This European Technical Approval replaces:

*Toto európske technické
osvedčenie nahrádza:*

ETA-08/0316 with validity from 30. 10. 2008 to 29. 10 2013

ETA-08/0316 s platnosťou od 30. 10. 2008 do 29. 10. 2013



European Organisation for Technical Approvals
Európska organizácia pre technické osvedčovanie

I LEGAL BASES AND GENERAL CONDITIONS

- 1 The European Technical Approval is issued by Building Testing and Research Institute (Technický a skúšobný ústav stavebný, n. o.) 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 products¹, modified by the Council Directive 93/68/EEC² and Regulation (EC) No. 1882/2003 of the European Parliament and of the Council³;
 - Act No. 90/1998 Coll. on construction products in wording of later regulations;
 - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex to Commission Decision 94/23/EC⁴;
 - Guideline for European Technical Approval of „External Thermal Insulation Composite Systems with rendering“ ETAG No. 004, edition 2011.
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¹ Official Journal of the European Communities No. L40, 11.2.1989, p. 12.

² Official Journal of the European Communities No. L220, 30.8.1993, p. 1.

³ Official Journal of the European Union No. L284, 31.10.2003, p. 1.

⁴ Official Journal of the European Communities No. L17, 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, "SEMPRE TERM ST" called ETICS in the following text, is designed and installed in accordance with the ETA-holder's design and installation instructions, deposited with Building Testing and Research Institute. The ETICS comprises the following components, which are factory-produced by the ETA-holder or a supplier. The holder is ultimately responsible for the ETICS.

This ETICS can be sold under the trade name "SEMPRE TERM ST" with trade names of components which are also given in the Annex 1.

1.1 Definition of the construction product (kit)

	Components (see Clause 2.3 for further description, characteristics and performances of the components)	Coverage kg/m ²	Thickness mm
Insulation materials with associated methods of fixing	<p>Bonded ETICS with supplementary anchors. According to ETA-holder's prescription the minimal bonded surface shall be 40 %. National application documents shall be taken into account).</p> <ul style="list-style-type: none"> • Insulation product: Expanded polystyrene boards (see Clause 2.3.1 of ETA) • Adhesive TESOROMONT START TS-100 Preparation: mixing of 0,18 l to 0,20 l water/1 kg powder Composition: cement, sands, additives • Supplementary anchors _ See list of anchors in table in Clause 2.3.2 of ETA. 	/	50 to 150
	<p>Mechanically fixed ETICS with anchors and supplementary adhesive (see Clause 2.2.8.3) for possible associations EPS/anchors). According to ETA-holder's prescription the minimal bonded surface shall be at least 40 %. National application documents shall be taken into account.</p> <ul style="list-style-type: none"> • Insulation products Expanded polystyrene boards (see Clause 2.3.1 of ETA) • Supplementary adhesive TESOROMONT START TS-100 Preparation: mixing of 0,18 l to 0,20 l water/1 kg powder Composition: cement, sands, additives • Anchors _ See list of anchors in table in Clause 2.3.2 of ETA. 	/	50 to 200
Base coat	<ul style="list-style-type: none"> • TESOROMONT UNIWERSALNY TU-200 Preparation: mixing of 0,20 l to 0,22 l water/1 kg powder Composition: cement, sands, additives 	5,4 (powder)	5,0
Glass fibre mesh	<ul style="list-style-type: none"> • Standard glass fibre mesh: TG 15 (glass fibres mesh with mesh size (4 ± 0,5) mm and (4 ± 0,5) mm, mass per unit area: 160 g/m²+10%/-5%) 	/	/
Key coats	<ul style="list-style-type: none"> • TESORO GRUNT: ready to use pigmented liquid (used only under finishing coat TESORO TYNK) 	0,20	

	<ul style="list-style-type: none"> • MARESIL GRUNT: ready to use pigmented liquid (used only under finishing coat MARESIL TYNK) 	0,20	
Finishing coats	<ul style="list-style-type: none"> • Ready to use pastes – acrylic binder TESORO TYNK (particles size 1,5/2,0/2,5/3,0 mm), floated structure 	2,3 to 4,5	
	<ul style="list-style-type: none"> • Ready to use pastes – acrylic binder TESORO TYNK (particles size 1,5/2,0/2,5/3,0 mm), ribbed structure 	2,3 to 4,5	
	<ul style="list-style-type: none"> • Ready to use pastes – silicate-silicone binder MARESIL TYNK (particles size 1,5/2,0/2,5/3,0 mm), floated structure 	2,3 to 4,5	
	<ul style="list-style-type: none"> • Ready to use pastes – silicate-silicone binder MARESIL TYNK (particles size 1,5/2,0/2,5/3,0 mm), ribbed structure 	2,3 to 4,5	
Ancillary materials	Descriptions in accordance with Clause 3.2.2.5 of the ETAG 004. Remain under the ETA-holder responsibilities.		

1.2 Intended use

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

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 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 No. 004) and shall be done in accordance with the national instructions.

The provisions made in this European Technical Approval (ETA) are based on an assumed intended working life of at least 25 years, provided that the conditions laid down in Clauses 4.2, 5.1 and 5.2 for the packaging, transport, storage and installation as well as appropriate use, maintenance and repair are met. The indications given as to the working life cannot be interpreted as a guarantee given by the manufacturer or the Approval 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.

2 Characteristics of the product and methods of verification

2.1 General

The identification tests and the assessment of the fitness for use of this ETICS according to the Essential Requirements were carried out in compliance with the "ETA Guidance No. 004" concerning External Thermal Insulation Composite Systems with rendering (called ETAG No. 004 in this ETA).

2.2 ETICS characteristics

2.2.1 Reaction to fire

The reaction to fire was determined according to ETAG 004, Clause 5.1.2.1. The product as defined under Clause 1.1 reached the following classification stated in Tables 1 to Table 5.

Table 1 – Classification of reaction to fire for ETICS

Configuration 1	Max. organic content	Flame retardant content	Euroclass according to EN 13501-1
Adhesive: TESOROMONT START TS-100 EPS 70 (EPS-EN 13163-TR100) thickness from 50 mm to 150 mm reaction to fire: E density: 14,75 kg/m ²	Base coat: max. 1,27 Finishing coat: max. 8,08 %	EPS: in quantity ensuring reaction to fire class E Base coat: 0 % Finishing coat: 0 %	C-s2, d0
Base coat: TESOROMONT UNIWERSALNY TU-200			
Glass fibre mesh: TG 15 with mesh size: (4,0 mm × 4,0 mm) ± 0,5 mm and mass per unit area: 160 g/m ² +10%/-5%			
Key coats: TESORO GRUNT MARESIL GRUNT			
Finishing coats: TESORO TYNK MARESIL TYNK (except grain size 1,5 mm)			

Table 2 – Classification of reaction to fire for ETICS

Configuration 2	Max. organic content	Flame retardant content	Euroclass according to EN 13501-1
Adhesive: TESOROMONT START TS-100 EPS 70 (EPS-EN 13163-TR100) thickness from 50 mm to 150 mm reaction to fire: E density: 14,75 kg/m ²	Base coat: max. 1,27 Finishing coat: max. 5,06 %	EPS: in quantity ensuring reaction to fire class E Base coat: 0 % Finishing coat: 0 %	B-s1, d0
Base coat: TESOROMONT UNIWERSALNY TU-200			
Glass fibre mesh: TG 15 with mesh size: (4,0 mm × 4,0 mm) ± 0,5 mm and mass per unit area: 160 g/m ² +10%/-5%			
Key coat: MARESIL GRUNT			
Finishing coat: MARESIL TYNK (only grain size 1,5 mm)			

Mounting and fixing:

The assessment of reaction to fire for configuration 1 is based on tests with maximal insulation layer thickness of SBI/150 mm, STN EN ISO 11925-2/60 mm and insulation material density 14,75 kg/m² and a render system with maximum organic content 1,27 % for base coat and 8,08 % for finishing coat and thickness 3,0 mm.

The assessment of reaction to fire for configuration 2 is based on tests with maximal insulation layer thickness of SBI/150 mm, STN EN ISO 11925-2/60 mm and insulation material density 14,75 kg/m² and a render system with maximum organic content 1,27 % for base coat and 5,06 % for finishing coat and thickness 3,0 mm.

For the SBI configuration this ETICS is mounted directly to a calcium silicate plasterboard substrate of reaction to fire classification A2-s1, d0 with a minimum density of 800 kg/m² ± 10 kg/m².

The installation of the ETICS was carried out by the manufacturer (holder of approval) following the manufacturer's specifications (instruction sheet) using a single layer of the glass fibre mesh all over the test specimen (no overlapping glass fibre mesh).

The test specimens were prefabricated and did not include any joints. The panel edges were rendered except the upper and bottom edges.

Anchors were not included in the tested ETICS as they have no influence on the test result.

Please note that in some member states the classification on the basis of SBI test is not accepted. Additional tests might be required e.g. large scale tests to demonstrate compliance with a member state's fire regulation.

Further the edges of the ETICS always have to be protected against fire.

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.

2.2.2 Water absorption (capillarity test)**Table 3 – Water absorption of base coat**

		Water absorption after 24 hours	
		< 0,5 kg/m ²	≥ 0,5 kg/m ²
Base coat	TESOROMONT UNIWERSALNY TU-200	x	

Table 4 – Water absorption of rendering coats

Base coat TESOROMONT UNIWERSALNY TU-200		Water absorption after 24 hours	
		< 0,5 kg/m ²	≥ 0,5 kg/m ²
Rendering systems: base coat + key coats according to Clause 1.1 + finishing coats indicated hereafter:	TESORO TYNK		x
	MARESIL TYNK		x

2.2.3 Hygrothermal behaviour

- Hygrothermal cycles have been performed on a rig.

None of the following defects occurred during the testing:

- blistering or peeling of any finishing;
- failure or cracking associated with joints between insulation product boards or profiles fitted with ETICS;
- detachment of render;
- cracking allowing water penetration to the insulation layer.

The ETICS is so **assessed resistant to hygrothermal cycles**.

2.2.4 Freeze/thaw behaviour

- The water absorptions of base coat used in this ETICS are less than 0,5 kg/m² after 24 hours but nevertheless the corresponding configuration(s) of the ETICS have been assessed as **freeze/thaw resistant** according to simulated method (5.1.3.2.2 of ETAG 004).
- The water absorptions of rendering systems using base coat with all finishing coats except finishing coat TESORO TYNK (grain size 1,5 mm) are more than 0,5 kg/m² after 24 hours, but the ETICS has not been assessed as **freeze/thaw resistant** according to simulated method (5.1.3.2.2 of ETAG 004) (no performance determined).
- The water absorption of rendering system using base coat with finishing coat TESORO TYNK (grain size 1,5 mm) is less than 0,5 kg/m² after 24 hours and so **the corresponding configuration(s) of the ETICS are assessed as freeze/thaw resistant**.

2.2.5 Impact resistance

- The resistance to hard body impacts (3 Joules and 10 Joules) and to perforation lead to the following use categories.

Table 5 – Use categories for ETICS according to impact resistance

TESOROMONT UNIWERSALNY TU-200		Single standard mesh
Rendering systems: base coat + key coats according to Clause 1.1 + finishing coats indicated hereafter:	TESORO TYNK	Category III
	MARESIL TYNK	

2.2.6 Water vapour permeability

Table 6 – Water vapour permeability of rendering systems

TESOROMONT UNIWERSALNY TU-200		Equivalent air thickness m
Rendering systems: base coat + key coat according to Clause 1.1 + finishing coats indicated hereafter:	TESORO TYNK (only grain size: 1,5 mm)	≤ 2,0 (test results obtained with finishing coat TESORO TYNK, ribbed structure, particles size 1,5 mm: 0,65)
	TESORO TYNK	≤ 2,0 (test results obtained with finishing coat TESORO TYNK, ribbed structure, particles size 3,0 mm: 0,93)
	MARESIL TYNK	≤ 2,0 (test results obtained with finishing coat MARESIL TYNK, floated structure, particles size 3,0 mm: 0,22)

2.2.7 Dangerous substances

A written declaration was submitted by the ETA-holder.

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 provision). In order to meet the provisions of the Construction Product Directive, these requirements need also to be complied with, when and where they apply.

2.2.8 Safety in use

2.2.8.1 Bond strength

- Base coat TESOROMONT UNIWERSALNY TU-200 onto EPS (EN 13163 – TR100), white

Table 6 – Bond strength of base coat onto insulation product

Conditionings		
Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)
≥ 0,08 MPa	≥ 0,08 MPa	< 0,08 MPa*
* Failure occurred in insulation product.		

Base coat TESOROMONT UNIWERSALNY TU-200 onto EPS (EN 13163 – TR100), grey

Table 7 – Bond strength of base coat onto insulation product

Conditionings		
Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)
≥ 0,08 MPa	Not performed	Not performed

- Adhesive onto substrate and EPS (EN 13163 – TR100) (safety in use of the bonded ETICS)

Table 8 – Bond strength of adhesive onto substrate and EPS (EN 13163 – TR100)

		Conditionings		
		Initial state	48 h immersion in water + 2 h 23 °C/50% RH	48 h immersion in water + 7 days 23 °C/50% RH
TESOROMONT START TS-100	Concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
	Insulation product EPS –EN 13 163-TR100 (white)	≥ 0,08 MPa	≥ 0,03 MPa	< 0,08 MPa*
	Insulation product EPS –EN 13 163-TR100 (grey)	≥ 0,08 MPa	≥ 0,03 MPa	≥ 0,08 MPa

*Failure occurred in the insulation product.

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

$$S (\%) = [0,03 \times 100]/B$$

where:

B is minimum mean failure resistance of the adhesive to the insulation product in dry conditions expressed in MPa;

0,03 MPa corresponds to the minimum requirements.

The ETICS shall be installed on the substrate with application of the adhesive on the following minimal surface (% of total) according to Table 9.

Table 9 – Minimum admissible bonded surface area for bonded ETICS

Tensile strength perpendicular to the faces of the insulation product	Minimum admissible bonded surface area for bonded ETICS
≥ 100 kPa (EPS-EN 13163-TR100) white and grey	40 %

2.2.8.2 Fixing strength (displacement test)

Test not required because the ETICS fulfills the following criteria:

- The bonded area exceeds 20 % in case of mechanically fixed systems with supplementary adhesive.

2.2.8.3 Wind load resistance

Safety in use of mechanically fixed ETICS using anchors

The following values only apply for the combination (anchor's trade name) / (EPS board's characteristics) mentioned in the first lines of each table.

Table 10 – Failure loads of combination of anchors described in below table and insulation product - EPS-EN 13163-TR100

Anchors for which the following failure loads apply	Trade name	ejotherm NT U	
	Plate diameter (mm)	≥ 60	
Characteristic of the insulation product panels for which the following failure loads apply	Thickness (mm)	≥ 50	
	Tensile strength perpendicular to the face (kPa)	≥ 100	
Failure loads (N)	Anchors not placed at the panel joint (pull – through test)	R_{panel} :	Minimum: 440 Average: 463
	Anchors placed at the panel joint (static foam block test)	R_{joint} :	Minimum: 190 Average: 201

The wind load resistance of the ETICS R_d is calculated as follows:

$$R_d = [R_{\text{panel}} \times n_{\text{panel}} + R_{\text{joint}} \times n_{\text{joint}}] / \gamma$$

where

n_{panel} is number (per m^2) of anchors not placed at the panel joint;
 n_{joint} is number (per m^2) of anchors placed at the panel joint;
 γ is national safety factor.

2.2.9 Thermal resistance

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_D), determined in accordance with Clause 5.2.6.1 ETAG 004, and from the tabulated R_{render} value of the render system (R_{render} is about $0,02 \text{ m}^2\cdot\text{K/W}$),

$$R_{\text{ETICS}} = R_D + R_{\text{render}} [\text{m}^2\cdot\text{K/W}]$$

as described in:

EN ISO 6946 Building components and building elements – Thermal resistance and thermal transmittance – Calculation method

EN 12524 Building materials and products – Hygrothermal properties – Tabulated design values.

If the thermal resistance can not be calculated, it can be measured on the complete ETICS as described:

EN 1934 Thermal performance of buildings – Determination of thermal resistance by hot box method using heat flow meter – Masonry

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:

$$U_c = U + \Delta U [\text{W}/\text{m}^2\cdot\text{K}]$$

where:

- U_c corrected thermal transmittance of the entire wall, including thermal bridges
- U thermal transmittance of the entire wall, including ETICS, without thermal bridges (W/m²·K)
- $$U = 1 / [R_{ETICS} + R_{substrate} + R_{se} + R_{si}]$$
- $R_{substrate}$ thermal resistance of the substrate wall [m²·K/W]
- R_{se} external surface thermal resistance [m²·K/W]
- R_{si} internal surface thermal resistance [m²·K/W]
- ΔU correction term of the thermal transmittance for mechanical fixing devices = $\chi_p \cdot n$ (for anchors)
- χ_p point thermal transmittance of the anchor [W/K]. See EOTA Technical Report 25. If not specified in ETA for the relevant anchors, the following values apply:
- = 0,002 W/K for anchors with a stainless steel screw with the head covered by plastic material and for anchors with an air gap at the head of the screw
 - = 0,004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material
 - = 0,008 W/K for all other anchors (worst case)
- n number of anchors per m²

The influence of thermal bridges can also be calculated as described in:

EN ISO 10211 Thermal bridges in building – Heat flows and surface temperatures – Detailed calculations.

It should be calculated according to this standard if there are more than 16 anchors per m² foreseen. The χ_p -values given by manufacturer do not apply in this case.

2.2.10 Aspect of durability and serviceability

2.2.10.1 Bond strength after ageing

Table 11 – Bond strength of rendering systems after ageing

TESOROMONT UNIWERSALNY TU-200		After hydrothermal cycles (on the rig) and after 7 days immersion in water + 7 days 23 °C/50% RH (on samples)	After freeze/thaw cycles
Rendering systems: base coat + key coats according to Clause 1.1 + finishing coats indicated hereafter:	TESORO TYNK	≥ 0,08 MPa	No performance determined
	MARESIL TYNK		

2.3 Components' characteristics

2.3.1 Insulation product

Expanded polystyrene panels for fully or partially bonded ETICS with supplementary mechanical fixings, and mechanically fixed with supplementary adhesive.

Factory-prefabricated, uncoated boards with right edges, made of expanded polystyrene (EPS white and EPS grey) according to EN 13163 and having the description and characteristics defined in table below.

Table 12 – Characteristics of EPS

Description and characteristics	EPS panels (EPS-EN 13 163-TR100), white and grey	
	for bonded ETICS	for mechanically fixed ETICS with anchors
Reaction to fire /STN EN 13501-1	Euroclass E (thickness 50 mm to 150 mm, density 13,5 kg/m ³ to 14,75 kg/m ³)	
Thermal resistance ((m ² .K)/W)	Defined in the CE marking in reference to EN 13163 "Thermal insulation products for buildings – Factory made products of expanded polystyrene"	
Thickness (mm) / EN 823	EPS - EN 13163 – T2	
Length (mm) / EN 822	EPS - EN 13163 – L2	
Width (mm) / EN 822	EPS - EN 13163 – W2	
Squareness (mm) / EN 824	EPS - EN 13163 – S1 and EPS - EN 13163 – S2	
Flatness (mm) / EN 825	EPS - EN 13163 – P3 and EPS - EN 13163 – P4	
Surface condition	Cut surface (homogeneous and without "skin")	
Dimensional stability under	specified temperature and humidity / EN 1604	EPS - EN 13163 – DS(70,-)2
	laboratory condition / EN 1603	EPS - EN 13163 – DS(N)2
Compressive stress or compressive strength (kPa) / EN 826	≥ 70 kPa and <80 kPa EPS - EN 13163 – CS(10)70 (EPS 70)	
Tensile strength perpendicular to the faces in dry conditions / EN 1607	≥ 100 kPa and <150 kPa, EPS - EN 13163 – TR100 (EPS 70)	
Short term water absorption by partial immersion / EN 1609	< 0,5 kg/m ³	
Water vapour diffusion resistance factor (μ) / EN 12086	≥ 20 ≤ 40	
Shear strength (N/mm ²) / EN 12090	≥ 0,02 MPa	–
Shear modulus (N/mm ²) / EN 12090	≥ 1,0 MPa	–

2.3.2 Anchors

Anchors for insulating product:

Table 13 – Anchor used in the ETICS

Trade name	Plate diameter mm	Characteristic resistance in substrate stated in
ejotherm NT U	60	ETA-05/0009

2.3.3 Render

The mean value of the crack width of the base coat with the glass fibre mesh TG 15, measured at a render strain value of 2% is about 0,3 mm.

NOTE One of three samples (measured at weft direction) has been broken at elongation 5,9 mm.

2.3.4 Glass fibre mesh

Table 14 – The characteristics of glass fibre mesh

	Alkaline resistance			
	Residual strength after ageing N/mm		Relative residual resistance: % (after ageing) of the strength in the as delivered state	
	Warp	Weft	Warp	Weft
TG 15 Glass fibre mesh with mesh size (4,0 mm × 4,0 mm) ± 0,5mm mass per unit area: 160 g/m ² +10%/-5%	≥ 20		≥ 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, the system 2+ of attestation of conformity applies.

In addition, according to the decision 2001/596/EC of the European Commission, the systems 1 and 2+ of attestation of conformity apply with regard to reaction to fire.

Concerning the Euroclass B, C and F for the reaction to fire of the ETICS, the system of attestation of conformity, regarding other characteristics than reaction to fire, is system 2+. This system is described in the Council Directive 89/106/EEC Annex III, 2 (ii), First possibility as follows:

Declaration of conformity of the ETICS by the manufacturer on the basis of:

- a) Tasks of the manufacturer:
 - Initial-type testing of the ETICS and the components;
 - Factory Production Control;
 - Testing of samples taken at the factory in accordance with a prescribed Control plan⁵.
- b) Tasks of the Notified Body:
 - Certification of factory production control based on:
 - Initial inspection of factory and factory production control;
 - Continuous surveillance, assessment and approval of factory production control.

Concerning the Euroclass B, C for the reaction to fire of the ETICS, the system of attestation of conformity, regarding reaction to fire characteristic, is system 1. This system 1 is described in the Council Directive 89/106/EEC Annex III, 2 (i), as follows:

Certification of conformity of the ETICS by a Notified Body on the basis of:

- c) Tasks for the manufacturer:
 - Factory Production Control;
 - Further testing of samples taken at the factory by the manufacturer in accordance with a prescribed Control plan.
- d) Tasks for the Notified Body:
 - Initial type-testing of the ETICS and the components;
 - Initial inspection of factory and factory production control;
 - Continuous surveillance, assessment and approval of factory production control.

3.2 Responsibilities

3.2.1 Task of the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All 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 European Technical Approval.

The manufacturer may only use components stated in the technical documentation of this European Technical Approval including Control plan.

For the components of the ETICS which ETA-holder does not manufacture by himself, he shall make sure that the factory production control carried out by the other manufactures gives the guaranty of the components compliance with the European Technical Approval.

The factory production control and the provisions taken by the ETA-holder for components not produced by himself shall be in accordance with the Control plan relating to this European Technical Approval which is part of the technical documentation of this European Technical Approval. The control plan is laid down in the context of the factory production control system operated by the manufacturer and deposited at Building Testing and Research Institute.

⁵ The control plan is a confidential part of the European Technical Approval and only handed over to the notified body or bodies involved in the procedure of attestation of conformity. See Clause 3.2.2.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control plan.

3.2.1.2 Other tasks of manufacturer

The manufacturer shall, on basis of a contract, involve a body (bodies) which is (are) notified for the tasks referred in Clause 3.1 in the field of ETICS in order to undertake the actions laid down in Clause 3.3. For this purpose, the Control plan referred to in Clauses 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the Notified Bodies or Bodies involved.

For initial type testing (in case of system 2+), the results of the tests performed as part of the assessment for the European Technical Approval can be used unless there are changes in the production line or plant. In such cases, the necessary initial-type testing has to be agreed between Building Testing and Research Institute and the Notified Bodies involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provision of this European Technical Approval. The initial-type testing mentioned above could be taken over by the manufacturer for this declaration.

3.2.2 Tasks of Notified Bodies

The Notified Body (Bodies) shall perform the:

- initial type-testing of the product (in case of system 1)

The results of the tests performed as part of the assessment for the European Technical Approval can be used unless there are changes in the production line or plant. In such cases the necessary initial type-testing has to be agreed between Building Testing and Research Institute and the Notified Bodies involved.

- initial inspection of factory and of factory production control

The Notified Body (Bodies) shall ascertain that, in accordance with the Control plan, the factory (in particular the employees and the equipment) and the factory production control are suitable to ensure continuous and orderly manufacturing of the components according to the specifications mentioned in Clause 2 of this ETA.

- continuous surveillance, assessment and approval of factory production control

The Notified Body (Bodies) shall visit the factory at least one a year for a surveillance of this manufacturer having FPC system complying with EN ISO 9001 covering the manufacturing of the ETICS components. It has to be verified that the system of factory production control and the specified automated manufacturing process are maintained taking into account the Control plan.

These tasks shall be performed in accordance with the provisions laid down in the Control plan of this European Technical Approval.

The Notified Body (Bodies) shall retain the essential points of its (their) actions referred to above and state results obtained and conclusions drawn in (a) written report (reports).

- In the case of Attestation of Conformity system 1:

The Notified Body (Bodies) involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European Technical Approval.

- In the case of Attestation of Conformity system 2+:

The Notified Body (Bodies) involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European Technical Approval.

In cases where the provisions of the European Technical Approval and its Control plan are no longer fulfilled, the Notified Body shall withdraw the certificate of conformity and inform Approval Body Building Testing and Research Institute without delay.

3.3 CE marking

The CE marking shall be affixed either on the product itself, on a label attached to it, on its packaging or on the commercial documents accompanying the components of the ETICS. The letters «CE» shall be followed by the identification number of the Notified Body involved and be accompanied by the following additional information:

- the name or identification mark and address of the ETA-holder;
- the last two digits of the year in which the CE marking was affixed;
- the number of the EC certificate of conformity of factory production control (system 2+);
- the number of the EC certificate of conformity of the ETICS (system 1);
- the number of the European Technical Approval;
- the ETICS trade name;
- the number of the ETAG.

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

4.1 Manufacturing

The European Technical Approval is issued for the ETICS on the basis of agreed data/information, deposited with Approval Body Building Testing and Research Institute, which identifies the ETICS that has been assessed and judged. Changes to the ETICS or production process, which could result in this deposited data/information being incorrect, should be notified to Approval Body Building Testing and Research Institute before the changes are introduced. The Approval Body Building Testing and Research Institute 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 alternations to the ETA shall be necessary.

4.2 Installation

4.2.1 General

It is the responsibility of the ETA-holder to guarantee that the information about design and installation of this ETICS are easily accessible to the concerned people. This information can be given using reproductions of the respective parts of the 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.

In any case, the user shall comply with the national regulations and particularly concerning fire and wind load resistance.

Only the components described in Clause 1.1 with the characteristics according to Clause 2 this ETA can be used for the ETICS.

The requirements given in ETAG 004, Chapter 7, as well as the information of Clauses 4.2.2 and 4.2.3, have to be considered.

4.2.2 Design

- To bond the ETICS, the minimal bonded surface and the method of bonding shall comply with characteristics of the ETICS (see Clause 2.2.8.1 of this ETA) as well as the national regulations. The minimal bonded surface shall be at least 40 %.
- To mechanically fix the ETICS, the choice and the rate of the fixings shall be determined concerning:

- the design wind load suction and the national regulations (taking into account the national safety factors, the design rules, ...)
- the characteristic resistance of the anchors into the considered substrate (see installation parameters – effective anchorage depth, characteristic resistance in the ETA of the anchor,
- the safety in use of the ETICS (cf. Clause 2.2.8) according to the method of fixing.

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, in case of bonded ETICS, imperative removal of any existing organic finishes;
- national regulations in effect.

The particularities in execution linked to the different methods of fixing 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 Indications to the manufacturers

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, unless other measures are foreseen by the manufacturer for this purpose.

The components have to be protected against damage.

It is the responsibility of the manufacturer(s) to ensure that these provisions are easily accessible to the concerned people.

5.2 Use, maintenance and repair

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

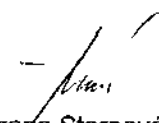
Maintenance includes at least:

- the repairing of localized damaged areas due to accidents;
- the aspect maintenance with products adapted and compatible with the ETICS (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.

It is responsibility of the manufacturer(s) to ensure that these provisions are easily accessible to the concerned people.


prof. Ing. Zuzana Sternová, PhD.
Head of Approval Body

Adhesive	TESOROMONT START TS-100	
Insulation board	according to Sempre Term ST Manual	
Base coat	TESOROMONT UNIWERSALNY TU-200	
Glass fibre mesh	TG 15	
Key coats	TESORO GRUNT	
	MARESIL GRUNT	PROGRESIL GRUNT
Finishing coats	TESORO TYNK	
	MARESIL TYNK	PROGRESIL TYNK
SEMPRE TERM ST		Annex 1 of European Technical Approval ETA-08/0316
Trade name of the components		