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Designated according to Article 29 of Regulation (EU) No 305/2011

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European Technical Assessment

ETA 20/0061
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General Part

Technical Assessment Body issuing the European Technical Assessment: Itecons - Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade	
Trade name of the construction product	NEUCETHERM EPS NEUCETHERM CORK
Product family to which the construction product belongs	External Thermal Insulation Composite Systems Product area code:4
Manufacturer	NEUCE – Indústria de Tintas, S.A. Rua Joaquim Francisco Rocha Apartado 4514 3701-902 Romariz Portugal
Manufacturing plant(s)	NEUCE – Indústria de Tintas, S.A. Rua Joaquim Francisco Rocha Apartado 4514 3701-902 Romariz Portugal
This European Technical Assessment contains	16 pages
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 040083-00-0404 *External Thermal Insulation Composite Systems (ETICS) with renderings*
This version replaces	ETA 20/0061, version 1 issued on 30/06/2020

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Specific parts

1. Technical description of the product

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

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

Note: In the ETICS shall be used only one type of insulation, either EPS or ICB, but not both on the same site.

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

Table 1: Components of the ETICS

Component	Description		Coverage (kg/m^2)	Thickness (mm)
Insulation products	NEUCETHERM EPS 100 Expanded polystyrene (EPS) with CE marking.		---	40 to 100
	NEUCETHERM CORK Insulation cork board (ICB) with CE marking		---	40 to 100
Adhesive	NEUCEGLUE R 25 Adhesive mortar based on mineral compounds, cement, re-dispersible powders and chemical adjuvants, with CE marking.		3.0 to 3.5	---
Base Coat	NEUCEGLUE R 25 Adhesive mortar based on mineral compounds, cement, re-dispersible powders and chemical adjuvants, with CE marking.	with standard glass fibre mesh	4.5 to 5.9	---
		with double standard glass fibre mesh		
Finishing coat 1	HYDRONEUCE PRIMÁRIO Water-based white primer based on Hydro Pliolite resin.		0.20	---
	NEUCEGLUE 100 F Based on water-based special co-polymers and selected fillers and aggregates		0.10 to 0.15	---
	NEUCEGOLD Acrylic paint		0.6	---
Finishing coat 2	NEUCETHERM PRIMÁRIO Based on pure acrylic resins, selected fillers and pigments		0.20	---
	NEUCEDECOR Coloured organic coating based on synthetic polymer in a high quality water-based emulsion, mineral fillers and pigments		1.8	---

Component	Description	Coverage (kg/m^2)	Thickness (mm)
Finishing coat 3	NEUCETHERM PRIMÁRIO Based on pure acrylic resins, selected fillers and pigments	0.20	---
	NEUCEGOLD Acrylic paint	0.60	---
Glass fibre mesh	NEUCETHERM rede normal Standard mesh (glass fibre mesh with nominal mesh size 5.0 mm x 4.0 mm and a nominal mass per unit area of 160 gr/m^2)	---	---
	NEUCETHERM rede reforçada Reinforced mesh (glass fibre mesh with mesh size 6.0 mm x 6.0 mm and a nominal mass per unit area of 330 gr/m^2)	---	---
Anchors (supplementary mechanical fixings)	NEUCETHERM BUCHA (according to ETA 16/0509 and ETA 07/0291)	---	---
Ancillary components	Remain under the ETA holder responsibility		

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

2.1 Intended use

This ETICS is intended for use as external insulation of building walls. The walls are made of masonry (bricks and blocks) or concrete (cast on site or as prefabricated panels) with a reaction to fire classification A1 to A2-s2,d0 according to EN 13501-1 or A1 according to the EC decision 96/603/EC as amended. The ETICS is designed to give the wall to which it is applied satisfactory thermal insulation. The characteristics of walls shall be verified prior to use of the ETICS, especially regarding conditions for reaction to fire classification and for fixing of the ETICS either by bonding or mechanically.

The ETICS shall be designed and installed in accordance with ETA holder´s installation instructions and this ETA. The kit consists of components defined by the ETA holder and manufactured either by the ETA holder or his supplier(s).

The ETICS is made of non-loadbearing construction elements. It does not contribute directly to the stability of 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 provisions made in this European Technical Assessment (ETA) are based on an assumed intended working life of at least 25 years, provided that the conditions laid down in the following sections 2.2 to 2.5 for the packing, transport, storage, installation are met and that the installed ETICS is subjected to an appropriate use, maintenance and repair as well. The indications given on the working life cannot 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.

2.2 Manufacturing

The European Technical Assessment is issued for the ETICS on the basis of agreed data/information, deposited with the Itecons - Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade, which identifies the ETICS that has been assessed and judged. Changes to the ETICS or production process, which could result in the deposited data/information being incorrect should be notified to Itecons before changes are introduced. The Itecons will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

2.3 Design and installation

The installation instruction including special installation techniques and provisions for the qualification of the personnel are given in the manufacturer's technical documentation.

2.4 Packing, transport and storage

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

2.5 Use, maintenance and repair

The finishing coat shall be normally maintained in order to fully preserve the ETICS performance. Maintenance includes at least:

- visual inspection of the ETICS,
- 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 performed as soon as the need has been identified.

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

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

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

The identification tests and the assessment for the intended use of this ETICS according the Essential Requirements were carried out in compliance with the EAD 040083-00-0404, "External Thermal Insulation Composite Systems (ETICS) with Renderings" – edition January 2019 (hereinafter referred to as "EAD").

3.1 ETICS characteristics

3.1.1 Mechanical resistance and stability (BWR 1)

Not relevant.

3.1.2 Safety in case of fire (BWR 2)

3.1.2.1 Reaction to Fire

The reaction to fire was tested according to ISO 11925-2:2010, ISO 11925-2:2010/Cor1:2011 and EN 13823:2010+A1:2014 and classified according to EN 13501-1:2007+A1:2009.

The NEUCETHERM EPS system meets the requirements of class B-s1, d0. This classification is valid for the different configurations of the NEUCETHERM EPS system assessed in this ETA.

The NEUCETHERM CORK system meets the requirements of class B-s1, d0. This classification is valid for the different configurations of the NEUCETHERM CORK system assessed in this ETA.

Note: A European reference fire scenario has not been laid down for facades. In some Member States, the classification of ETICS according to EN 13501-1:2007+A1:2009 might not be sufficient for the use in facades. An additional assessment of ETICS according to national provisions (e.g. on the basis of large scale test) might be necessary to comply with Member State regulations, until the existing European classification system has been completed.

3.1.2.2 Facade fire performance

No performance determined.

3.1.2.3 Propensity to undergo continuous smouldering of ETICS

No performance determined.

3.1.3 Hygiene, health and environment (BWR 3)

3.1.3.1 Content, emission and/or release of dangerous substances

No performance determined.

3.1.3.2 Water absorption

The results of the water absorption test of the base coat (system without finishing) and the rendering system, are presented in Table 2, and verify the following condition:

- Water absorption after 1 hour < 1 kg/m^2
- Water absorption after 24 hours < 0.5 kg/m^2

The system is therefore judged to have satisfactory performance concerning water absorption.

Table 2: Water absorption (capillary test)

System specimens	Water absorption after 1 h [kg/m^2]	Water absorption after 24 h [kg/m^2]
EPS + base coat + standard mesh	0.10	0.24
EPS + base coat + standard mesh + finishing coat 1	0.02	0.05
EPS + base coat + standard mesh + finishing coat 2	0.15	0.47
EPS + base coat + standard mesh + finishing coat 3	0.02	0.05
ICB + base coat + standard mesh	0.14	0.43
ICB + base coat + standard mesh + finishing coat 1	0.06	0.32
ICB + base coat + standard mesh + finishing coat 2	0.09	0.46

System specimens	Water absorption after 1 h [kg/m²]	Water absorption after 24 h [kg/m²]
ICB + base coat + standard mesh + finishing coat 3	0.06	0.22

3.1.3.3 Watertightness of the ETICS: Hygrothermal behaviour

Hygrothermal cycles have been performed on a rig.
The ETICS is assessed resistant to hygrothermal cycles, it means ETICS passed the test without defects.

3.1.3.4 Watertightness of the ETICS: Freeze-thaw behaviour

The ETICS is freeze-thaw resistant if the water absorption of both reinforced base coat and the rendering system are less than 0.5 kg/m^2 after 24 hours (see 3.1.3.2).

3.1.3.4 Impact resistance

The resistance to hard body impact (3 and 10 Joules) tests carried out on samples of system composition lead to the use categories presented in Table 3.

Table 3: Impact resistance to hard body impacts

System specimens	Hard body impact	Impact zone – diameter (mean value) [mm]	Categories of impact resistance[1]
System specimens tested on the rig			
EPS + base coat + standard mesh	10 J	47.09 Cracks reaching the insulation product	III
	3J	20.40 Cracks without reaching the insulation product	
EPS + base coat + standard mesh + reinforced mesh	10 J	21.74 Cracks without reaching the insulation product	II
	3 J	15.91 Cracks without reaching the insulation product	
EPS + base coat + standard mesh + finishing coat 2	10 J	39.28 Cracks without reaching the insulation product	II
	3 J	18.47 Cracks without reaching the insulation product	
EPS + base coat + standard mesh + reinforced mesh + finishing coat 2	10 J	26.43 Cracks without reaching the insulation product	II
	3 J	18.19 Superficial damages without cracks formation	
EPS + base coat + standard mesh + finishing coat 3	10 J	62.91 Cracks reaching the insulation product	III
	3 J	24.12 Cracks without reaching the insulation product	
EPS + base coat + standard mesh + reinforced mesh + finishing coat 3	10 J	26.83 Cracks without reaching the insulation product	II
	3 J	16.01 Cracks without reaching the insulation product	
ICB + base coat + standard mesh	10 J	29.76 Cracks without reaching the insulation product	II
	3 J	22.83 Superficial damages without cracks formation	

System specimens	Hard body impact	Impact zone – diameter (mean value) [mm]	Categories of impact resistance[1]
ICB + base coat + standard mesh + reinforced mesh	10 J	24.08 Cracks without reaching the insulation product	II
	3 J	14.16 Superficial damages without cracks formation	
ICB + base coat + standard mesh + finishing coat 2	10 J	26.69 Cracks without reaching the insulation product	II
	3 J	17.70 Cracks without reaching the insulation product	
ICB + base coat + standard mesh + reinforced mesh + finishing coat 2	10 J	23.02 Cracks without reaching the insulation product	II
	3 J	17.39 Superficial damages without cracks formation	
ICB + base coat + standard mesh + finishing coat 3	10 J	39.04 Cracks without reaching the insulation product	II
	3 J	17.91 Cracks without reaching the insulation product	
ICB + base coat + standard mesh + reinforced mesh + finishing coat 3	10 J	24.72 Cracks without reaching the insulation product	II
	3 J	12.96 Superficial damages without cracks formation	
System specimens tested out of the rig on small samples			
EPS + base coat + standard mesh + finishing coat 1	10 J	38.03 Cracks without reaching the insulation product	II
	3 J	21.52 Cracks without reaching the insulation product	
EPS + base coat + standard mesh + reinforced mesh + finishing coat 1	10 J	27.25 Cracks without reaching the insulation product	II
	3 J	13.38 Cracks without reaching the insulation product	
ICB + base coat + standard mesh + finishing coat 1	10 J	30.92 Cracks without reaching the insulation product	II
	3 J	16.74 Cracks without reaching the insulation product	
ICB + base coat + standard mesh + reinforced mesh + finishing coat 1	10 J	26.28 Cracks without reaching the insulation product	II
	3 J	16.49 Cracks without reaching the insulation product	

[1] Categories of impact resistance and examples of use:

Category II – A zone liable to impacts from thrown or kicked objects, but in public locations where the height of the ETICS will limit the size of the impact; or at lower levels where access to the buildings is primarily to those with some incentive to exercise care.

Category III – A zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects.

3.1.3.5 Water vapour permeability

Table 4 presents the resistance to water vapour diffusion of rendering system (base coat and finishing coat) for the system configuration, expressed by the equivalent air thickness.

Table 4: Equivalent air thickness

System specimens	Water vapour diffusion resistance factor mean value [-]	Equivalent air thickness mean value(m)
base coat + standard mesh + finishing coat 1	92.3	0.4
base coat + standard mesh + finishing coat 2	42.1	0.2
base coat + standard mesh + finishing coat 3	125.8	0.4

3.1.4 Safety and accessibility in use (BWR 4)

3.1.4.1 Bond strength

3.1.4.1.1 Base coat onto insulation products

Tests were performed on the systems NEUCETHERM EPS and NEUCETHERM CORK after hygrothermal cycles and on insulation panels with rendering system (finishing coat not tested on the rig) after ageing by immersion in water for 7 days and then dried for at least 7 days at (23 ± 2)°C and (50 ± 5) % RH. The results are presented in Table 5 and Table 6.

Table 5: Bond strength between base coat and insulation product after hygrothermal cycles

System	Bond strength (after hygrothermal cycles)	
	Minimum value (MPa / Failure pattern)	Mean value (MPa)
EPS + base coat + standard mesh	0.12 cohesion failure (100% rupture in the insulation product)	0.13
EPS + base coat + standard mesh + reinforced mesh	0.11 cohesion failure (100% rupture in the insulation product)	0.12
EPS + base coat + standard mesh + finishing coat 2	0.08 cohesion failure (100% rupture in the insulation product)	0.09
EPS + base coat + standard mesh + reinforced mesh + finishing coat 2	0.09 cohesion failure (100% rupture in the insulation product)	0.13
EPS + base coat + standard mesh + finishing coat 3	0.09 cohesion failure (100% rupture in the insulation product)	0.11
EPS + base coat + standard mesh + reinforced mesh + finishing coat 3	0.09 cohesion failure (100% rupture in the insulation product)	0.11
ICB + base coat + standard mesh	0.06 cohesion failure (100% rupture in the insulation product)	0.06
ICB + base coat + standard mesh + reinforced mesh	0.04 cohesion failure (100% rupture in the insulation product)	0.05
ICB + base coat + standard mesh + finishing coat 2	0.04 cohesion failure (100% rupture in the insulation product)	0.05
ICB + base coat + standard mesh + reinforced mesh + finishing coat 2	0.04 cohesion failure (100% rupture in the insulation product)	0.05

System	Bond strength (after hygrothermal cycles)	
	Minimum value (MPa / Failure pattern)	Mean value (MPa)
ICB + base coat + standard mesh + finishing coat 3	0.05 cohesion failure (100% rupture in the insulation product)	0.05
ICB+ base coat + standard mesh + reinforced mesh + finishing coat 3	0.04 cohesion failure (100% rupture in the insulation product)	0.05

Table 6: Bond strength between base coat and insulation product after ageing by immersion in water for 7 days and then dried for at least 7 days at (23 ± 2) °C and (50 ± 5) %.

System	Bond strength (after hygrothermal cycles)	
	Minimum value (MPa / Failure pattern[1])	Mean value (MPa)
EPS + base coat + standard mesh + finishing coat 1	0.12 cohesion failure (100% rupture in the insulation product)	0.14
EPS + base coat + standard mesh + reinforced mesh + finishing coat 1	0.14 cohesion failure (100% rupture in the insulation product)	0.15
ICB + base coat + standard mesh + finishing coat 1	0.04 cohesion failure (100% rupture in the insulation product)	0.04
ICB + base coat + standard mesh + reinforced mesh + finishing coat 1	0.02 cohesion failure (100% rupture in the insulation product)	0.05

3.1.4.1.2 Adhesive onto insulation product

Tests were performed on samples of insulation products with base coat. The results are summarized in Table 7.

Table 7: Bond strength between adhesive and insulation product

Specimen	Bond strength							
	Initial state		After conditioning					
			48 h immersion in water + 2 h 23 °C/50% RH			48 h immersion in water + 7 days 23 °C/50% RH		
	Tested adhesive thickness (mm)	Minimum value (MPa)	Tested adhesive thickness (mm)	Minimum value (MPa)	Mean value (MPa)	Tested adhesive thickness (mm)	Minimum value (MPa)	Mean value (MPa)
EPS + adhesive	4.60	0.13 adhesion failure (between adhesive and insulation product)	4.61	0.07 adhesion failure (between adhesive and insulation product)	0.10	4.22	0.08 cohesion failure (100% rupture in the adhesive)	0.14
ICB + adhesive	3.16	0.05 cohesion failure (100% rupture in the insulation product)	3.28	0.04 cohesion failure (100% rupture in the insulation product)	0.04	3.13	0.05 cohesion failure (100% rupture in the insulation product)	0.05

3.1.4.1.3 Adhesive onto substrate

Tests were performed on samples of substrate (concrete) faced with adhesive product. The results are summarized in Table 8.

Table 8: Bond strength between adhesive and substrate

Specimen	Bond strength							
	Initial state		After conditioning					
	Tested adhesive thickness (mm)	Minimum value (MPa)	48 h immersion in water + 2 h 23 °C/50% RH			48 h immersion in water + 7 days 23 °C/50% RH		
			Tested adhesive thickness (mm)	Minimum value (MPa)	Mean value (MPa)	Tested adhesive thickness (mm)	Minimum value (MPa)	Mean value (MPa)
Adhesive + substrate (concrete)	4.31	0.65 cohesion failure (100% rupture in the adhesive)	2.85	0.35 cohesion failure (100% rupture in the adhesive)	0.47	4.05	0.56 cohesion failure (100% rupture in the adhesive)	0.79

3.1.4.2 Dynamic wind uplift test

The dynamic wind uplift test was carried out according to section 2.2.13.3 of EAD 040083-00-0404.

None of the following defects occurred during the testing:

- insulation panels break;
- delamination in the insulation product or between the insulation product and its facing;
- detachment of the rendering system;
- insulation panel pulled off a fastener;
- mechanical fastener torn out of the substrate;
- detachment of the insulation panel from the supporting structure.

So, no failure was observed at the maximum test suction of 6500 N. The admissible value of the characteristic resistance is determined according the following equation:

$R_k = Q_1 \times C_s \times C_a$

Where:

Q_1 = The $W_{100\%}$ load cycle preceding that in which the test specimen fails;

C_a = Geometric factor allowing for the difference between the deformation of the ETICS in the test and the real deformation of the ETICS on a complete wall. This factor is used in other fields for very deformable skins. In the field of ETICS $C_a = 1$;

C_s = Statistical correction factor given in section 2.2.13.3 of EAD 040083-00-0404, $C_s = 1$;

Therefore, the admissible value of the characteristic resistance is: $R_k = 6.5 \times 1 \times 1 = 6.5$ kPa.

3.1.5 Protection against noise (BWR 5)

No performance determined.

3.1.6 Energy economy and heat retention (BWR 6)

3.1.6.1 Thermal resistance

The additional thermal resistance R_{ETICS} provided by the ETICS to the substrate wall is calculated in accordance with EN ISO 6946 from the nominal value of the insulation products thermal resistance R_D given accompanied to the CE marking and from the thermal resistance of the rendering system R_{render} which is about 0.02 (m^2.K)/W.

$$R_{ETICS} = R_D + R_{render}$$

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

$$U_C = U + \Delta U \ (W/(m^2.K))$$

U_C: corrected thermal transmittance (W/(m^2.K)) of the entire wall, including thermal bridges.

U: thermal transmittance of the entire wall, including ETICS, without thermal bridges (W/m^2):

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

R_i: thermal resistance of the insulation product;

R_{render}: thermal resistance of the render [about 0.02 (m^2.K)/W];

$R_{substrate}$: thermal resistance of the substrate of the building (concrete, brick...) [(m^2.K)/W];

R_{se}: external superficial thermal resistance [(m^2.K)/W];

R_{si}: internal superficial thermal resistance [(m^2.K)/W].

ΔU: correction term of the thermal transmittance for mechanical fixing devices

$$\Delta U = X_p * n$$

n: number of anchors (through insulation product) per m^2;

X_p: point thermal transmittance value of the anchor (0.002 W/K)[1].

[1]The thermal bridge effect of the anchor is smaller than 0.0005 W/K and can therefore be neglected in the calculation.

The value of thermal resistance of the render system (R_{render}) was considered as equal to 0.02 (m^2.K)/W according to clause 2.2.23 of the EAD 040083-00-0404.

Table 9 presents the values of thermal resistance calculation for NEUCETHERM EPS and NEUCETHERM CORK with thicknesses equal to 40 mm, 50 mm, 60 mm, 80 mm and 100 mm.

Table 9: Thermal resistance values for NEUCETHERM system

NEUCETHERM EPS		**NEUCETHERM CORK**	
Insulation thickness [mm]	**R_{ETICS} [(m^2.K)/W]**	**Insulation thickness [mm]**	**R_{ETICS} [(m^2.K)/W]**
40	1.07	40	1.02
50	1.37	50	1.27
60	1.67	60	1.52
80	2.22	80	2.02
100	2.77	100	2.52

3.1.7 Sustainable use of natural resources (BWR7)

Not relevant.

3.2 Characteristics of the components

3.2.1 Insulation product

3.2.1.1 Expanded polystyrene (EPS)

Factory-prefabricated uncoated panels made of expanded polystyrene (EPS) complying with the requirements of EN 13163.

Table 10: EPS characteristics

Component	Trade name	Characteristics	Declared values and classes
Insulation product	NEUCETHERM EPS 100	Reaction to Fire / EN 13501-1	E (Thickness: 20 to 150 mm; Density: 20kg/m³)
		Thermal conductivity (W/(m.K)) / EN 12667	0.036
		Thickness, d_N	T(2)
		Compressive stress at 10% deformation (kPa) / EN 826	100
		Bending strength (kPa) / EN 12089	150
		Tensile strength perpendicular to the faces	NPD
		Water vapour diffusion resistance factor	NPD
		Water absorption	NPD

3.2.1.1 Expanded cork (ICB)

Factory-prefabricated uncoated panels made of expanded cork (ICB) complying with the requirements of EN 13170.

Table 11: ICB characteristics

Component	Trade name	Characteristics	Declared values and classes
Insulation product	NEUCETHERM ICB	Reaction to Fire / EN 13501-1	E (Thickness: 20 to 250 mm; Density: 130kg/m³)
		Thermal conductivity (W/m.°C) / EN 12667	0.040
		Compressive stress at 10% deformation (k.Pa) / EN 826	100
		Thickness, d_L	T1 – T2 (d_L > 50 mm)
		Tensile strength perpendicular to the faces	TR50
		Water absorption	WS
		Water vapour diffusion resistance factor	20

3.2.2 Render

3.2.2.1 Render strip tensile test

No performance determined.

3.2.3 Glass fibre mesh

The characteristics of the glass fibre mesh are presented in Table 12.

Table 12: Glass fibre mesh characteristics

Component	Trade Name	Characteristics		Results
Standard mesh	NEUCETHERM rede normal	Mass per unit area (g/m^2)		156 ± 10%
		Ash content at 625 °C (%)		80.8 ± 1
		Residual strength after ageing (N/mm)	Warp	≥ 20
			Weft	≥ 20
		Relative residual strength after ageing (%)[1]	Warp	≥ 50
			Weft	≥ 50
		Mesh size (mm)		5.0 x 4.0
		Mesh opening (mm)		4.8 x 4.0 ±10 %
Reinforced mesh	NEUCETHERM rede reforçada	Mass per unit area (g/m^2)		330 ± 10%
		Ash content at 625 °C (%)		82.3 ± 1
		Relative residual strength after ageing (N/mm)	Warp	≥ 20
			Weft	≥ 20
		Relative residual strength after ageing (%)[1]	Warp	≥ 40
			Weft	≥ 40
		Mesh size (mm)		6.0 x 6.0
		Mesh opening (mm)		5.6 x 5.1 ±10 %

[1] Percentage of the strength in the as-delivered state

3.2.4 Anchors

Anchors for insulation product act as a supplementary fixing if required. The characteristic resistances of anchors were evaluated according ETAG 014, clause 5.4.2. The test results are presented in Table 13.

Table 13: Anchors description of individual product characteristics contained in the ETA

Trade name	Plate diameter (mm)	Characteristic resistances in the substrate
NEUCETHERM BUCHA	60 mm	See ETA-16/0509

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

According to the Decision 97/556/EC of European Commission as amended by the European Commission Decision 2001/596/EC, the AVCP systems (further described in Annex V Regulation (EU) No 305/2011) 1 and 2+ apply.

Table 14: AVCP Systems

Product(s)	Intended use(s)	Levels(s) or class(es) (Reaction to fire)	System(s)
External thermal insulation composite systems/kits with rendering (ETICS)	In external wall subject to fire regulations	A1 [(1)], A2 [(1)], B [(1)], C [(1)]	1
		A1 [(2)], A2 [(2)], B [(2)], C [(2)], D, E, (A1 to E) [(3)], F	2+
	In external wall not subject to fire regulations	any	2+

(1) 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).

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

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

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

The ETA is issued on the basis of agreed data/information, deposited at Itecons, which identifies the product that has been assessed and judged. It is the manufacturer's responsibility to make sure that all those who use the kit are appropriately informed of specific conditions laid down in this ETA.

Changes to the ETICS or the components or their production process should be notified to the Itecons before the changes are introduced. Itecons will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

5.1 Tasks of the manufacturer

5.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production of concerned product. 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 ensure that the product is in conformity with this ETA.

The manufacturer may only use components stated in the technical documentation of this ETA including Control Plan. The incoming raw materials are subjected to verifications by the manufacturer before acceptance.

For the components of the ETICS which the manufacturer does not manufacture by himself, he shall make sure that factory production control carried out by the other manufacturers gives the guarantee of the component's compliance with the ETA.

The factory production control shall be in accordance with the Control Plan which is a part of technical documentation of this European Technical Assessment. The control plan has been agreed between the manufacturer and Itecons and is laid down in context of the factory production control system operated by the manufacturer and deposited within Itecons. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

5.1.2 Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve a body which is notified for the tasks referred to in section 4 in the field of ETICS in order to undertake the actions laid down in this clause.

For this purpose, the control plan shall be handed over by the manufacturer to the notified bodies involved.

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 testing has to be agreed with Itecons.

The manufacturer shall make a declaration of performance, stating that the ETICS is in conformity with the provisions of this ETA.

Changes to the ETICS or the components or their production process should be notified to Itecons before the changes are introduced. Itecons will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

5.2 Tasks for the Notified Body (bodies)

5.2.1 Initial inspection of factory and of factory production control

The Notified Body 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 this ETA.

5.2.2 Continuous surveillance, assessment and evaluation of factory production control

Within the scope of continuous surveillance, assessment and evaluation of factory production control, the Notified Body (bodies) shall visit the factory at least once a year for surveillance. It has to be verified that the factory production control is maintained in suitable conditions.

These tasks shall be performed in accordance with the provisions laid down in the control plan.

The Notified Body (bodies) shall retain the essential points of its (their) actions referred to above and state the results obtained and conclusions drawn in a written report. The Notified Body involved by the manufacturer shall issue a certificate of conformity of the factory production control stating the conformity with the provisions of this ETA.

In cases where the provisions of the ETA and its control plan are no longer fulfilled, the Notified Body shall withdraw the certificate of conformity and inform Itecons without delay.

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By

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Validated document

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