itecons

Rua Pedro Hispano, s/n
3030-289 Coimbra

Tel: (+351) 239 79 89 49
itecons@itecons.uc.pt
www.itecons.uc.pt

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

Member of EOTA
www.eota.eu

European Technical Assessment

ETA 22/0327
of 03/06/2022

English version prepared by Itecons

General Part

Technical Assessment Body issuing the ETA: Itecons - Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade	
Trade name of the construction product	webertherm classic
Product family to which the construction product belongs	External Thermal Insulation Composite Systems Product area code:4
Manufacturer	Saint-Gobain Weber Portugal, S.A. Zona Industrial da Taboeira 3800-055 Aveiro Portugal
Manufacturing plant(s)	Saint-Gobain Weber Portugal, S.A. Zona Industrial da Taboeira 3800-055 Aveiro Portugal
This European Technical Assessment contains	17 pages
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 040083-00-0404, edition January 2019, *External Thermal Insulation Composite Systems (ETICS) with renderings*

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

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) 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.

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 product	weber.therm EPS 100 Expanded polystyrene (EPS 100) with CE marking.		---	40 - 150
Adhesive 1	webertherm pro Adhesive fibre mortar composed by cement, mineral fillers, resins and special additives, with CE marking.		8.0 to 10.0	---
Adhesive 2	webertherm uno Adhesive fibre mortar composed by cement, mineral fillers, resins and special additives, with CE marking.		8.0 to 10.0	---
Adhesive 3	webertherm flex P Adhesive mortar composed by white cement, mineral fillers, resins and special additives, with CE marking.		3.5 to 4.0	---
Base Coat 1	webertherm pro Adhesive fibre mortar composed by cement, mineral fillers, resins and special additives, with CE marking.	with standard glass fibre mesh	8.0 to 10.0	---
		with double glass fibre mesh		
Base Coat 2	webertherm uno Adhesive fibre mortar composed by cement, mineral fillers, resins and special additives, with CE marking.	with standard glass fibre mesh	8.0 to 10.0	---
		with double glass fibre mesh		
Key coat 1	weberprim regulador Mineral fillers, watery dispersion of acrylic copolymer and specific additives		0.2 to 0.3	---

Component	Description	Coverage (kg/m^2)	Thickness (mm)
Key coat 2	weberprim regulador plus Mineral fillers, watery dispersion of acrylic copolymer and specific additives	0.3 to 0.4	---
Finishing coat 1	weber.plast decor M/F Mineral fillers, resins in watery dispersions, pigments and specific additives	2.0 to 2.5 Medium texture (M) 1.8 to 2.2 Fine texture (F)	---
Finishing coat 2	weber.plast decor plus Mineral fillers, resins in watery dispersions, pigments and specific additives	1.8 to 2.2	---
Finishing coat 3	weberev naturkal + webertherm rede normal Air lime, hydraulic binder, mineral fillers, pigments and specific additives	1.5 (naturkal)	---
Glass fibre mesh	webertherm rede normal Standard mesh (glass fibre mesh with mesh size 3.3 mm x 3.7 mm)	---	---
	webertherm rede reforçada Reinforced mesh (glass fibre mesh with mesh size 5.7 mm x 5.5 mm)	---	---
Anchors (supplementary mechanical fixings)	webertherm bucha SPIT (According to ETA 04/0076)	---	---
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 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

3.1.2.1.1. Reaction to fire of ETICS

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 webertherm classic system meets the requirements of class B-s1, d0. This classification is valid for the different configurations of the webertherm classic 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.

3.1.2.1.2. Reaction to fire of thermal insulation material

The reaction to fire classification of thermal insulation product EPS is class E, according to EN 13501-1.

3.1.2.2. Facade fire performance

No performance assessed.

3.1.2.3. Propensity to undergo continuous smouldering of ETICS

No performance assessed.

3.1.3. Hygiene, health and environment (BWR 3)

3.1.3.1. Content, emission and/or release of dangerous substances

No performance assessed.

3.1.3.2. Water absorption

3.1.3.2.1. Water absorption of the base coat and the rendering system

The results of the water absorption test of the base coat (system without finishing) and the rendering system, 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 (mean value) [kg/m²]	Water absorption after 24 h (mean value) [kg/m²]
EPS + base coat 1 + standard mesh	0.17	0.48
EPS + base coat 1 + standard mesh + key coat 1 + finishing coat 1	0.14	0.42
EPS + base coat 1 + standard mesh + key coat 2 + finishing coat 2	0.04	0.40
EPS + base coat 1 + standard mesh + finishing coat 3	0.02	0.20
EPS + base coat 2 + standard mesh	0.11	0.22
EPS + base coat 2 + standard mesh + key coat 1 + finishing coat 1	0.02	0.13
EPS + base coat 2 + standard mesh + key coat 2 + finishing coat 2	0.05	0.10

3.1.3.2.2. Water absorption of thermal insulation product

The maximum value of water absorption of thermal insulation product, determined by partial immersion according to EN 1609, method A, is 0.03 kg/m^2.

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 3.1.3.2.1).

3.1.3.5. Impact resistance

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

Table 3: Impact resistance to hard body impacts

System specimens	Hard body impact	Impact zone – diameter (maximum value) [mm]	Use categories[1]
Test specimens tested on the rig			
EPS + base coat 1 + standard mesh	10 J	50.21 Cracks without reaching the insulation product	II
	3J	24.57 Superficial damages without cracks formation	
EPS + base coat 1 + standard mesh + reinforced mesh	10 J	36.71 Cracks without reaching the insulation product	II
	3J	20.16 Superficial damages without cracks formation	
EPS + base coat 1 + standard mesh + key coat 1 + finishing coat 1	10 J	34.10 Cracks without reaching the insulation product	II
	3 J	23.71 Superficial damages without cracks formation	
	10 J	32.35 Cracks without reaching the insulation product	II

System specimens	Hard body impact	Impact zone – diameter (maximum value) [mm]	Use categories[1]
Test specimens tested on the rig			
EPS + base coat 1 + standard mesh + reinforced mesh + key coat 1 + finishing coat 1	3 J	20.00 Superficial damages without cracks formation	
EPS + base coat 1 + standard mesh + key coat 2 + finishing coat 2	10 J	40.20 Cracks without reaching the insulation product	II
	3 J	24.23 Superficial damages without cracks formation	
EPS + base coat 1 + standard mesh + reinforced mesh + key coat 2 + finishing coat 2	10 J	30.05 Cracks without reaching the insulation product	II
	3 J	20.64 Superficial damages without cracks formation	
EPS + base coat 2 + standard mesh	10 J	45.87 Cracks without reaching the insulation product	II
	3 J	30.38 Cracks without reaching the insulation product	
EPS + base coat 2 + standard mesh + reinforced mesh	10 J	42.24 Cracks without reaching the insulation product	II
	3 J	30.01 Cracks without reaching the insulation product	
EPS + base coat 2 + standard mesh + key coat 1 + finishing coat 1	10 J	32.22 Cracks without reaching the insulation product	II
	3 J	23.78 Superficial damages without cracks formation	
EPS + base coat 2 + standard mesh + reinforced mesh + key coat 1 + finishing coat 1	10 J	30.27 Cracks without reaching the insulation product	II
	3 J	26.73 Superficial damages without cracks formation	
EPS + base coat 2 + standard mesh + key coat 2 + finishing coat 2	10 J	46.87 Cracks without reaching the insulation product	II
	3 J	26.92 Cracks without reaching the insulation product	
EPS + base coat 2 + standard mesh + reinforced mesh + key coat 2 + finishing coat 2	10 J	40.63 Cracks without reaching the insulation product	II
	3 J	20.12 Superficial damages without cracks formation	
Test specimens tested out of the rig on small samples			
EPS + base coat 1 + standard mesh + finishing coat 3	10 J	32.03 Cracks without reaching the insulation product	II
	3 J	20.00 Superficial damages without cracks formation	
EPS + base coat 1 + standard mesh + reinforced mesh + finishing coat 3	10 J	30.12 Cracks without reaching the insulation product	II
	3 J	19.01 Superficial damages without cracks formation	

[1] Use categories:

Category I – zones readily accessible at ground level to the public and vulnerable to hard impacts but not subjected to abnormally rough use;

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

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

3.1.3.6. Water vapour permeability

3.1.3.6.1. Water vapour permeability of rendering system

Table 4 presents de 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	Thickness of the rendering system (mean value) [mm]	Water vapour diffusion resistance factor (mean value) μ [-]	Equivalent air thickness (mean value) *Sd* [m]
Base coat 1 + standard mesh + key coat 1 + finishing coat 1	4.3	66.8	0.3
Base coat 1 + standard mesh + key coat 2 + finishing coat 2	6.4	27.2	0.2
Base coat 1 + standard mesh + finishing coat 3	6.8	16.9	0.1
Base coat 2 + standard mesh + key coat 1 + finishing coat 1	4.3	137.4	0.6
Base coat 2 + standard mesh + key coat 2 + finishing coat 2	4.5	149.3	0.7

3.1.3.6.2. Water vapour permeability of thermal insulation product

No performance assessed.

3.1.4. Safety and accessibility in use (BWR 4)

3.1.4.1. Bond strength

3.1.4.1.1. Bond strength between the base coat and the thermal insulation products

Tests were performed on the system webertherm classic, at initial state. The results are summarized in Table 5.

Table 5: Bond strength between base coat and insulation product at initial state

System	Bond strength (Initial state)	
	Minimum value [kPa] (Failure pattern)	Mean value [kPa]
EPS + base coat 1 + standard mesh	163 (cohesive failure, 100% rupture in the insulation product)	182
EPS + base coat 2 + standard mesh	133 (cohesive failure, 100% rupture in the insulation product)	141

Tests were also performed on the system webertherm classic, after hygrothermal cycles (Table 6) 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 (Table 7). The. The results are summarized in Table 6 and Table 7.

Table 6: Bond strength between base coat and insulation product after hygrothermal cycles

System	Bond strength (after ageing)	
	Minimum value [kPa] (Failure pattern)	Mean value [kPa]
EPS + base coat 1 + standard mesh	151 (cohesive failure, 100% rupture in the insulation product)	164
EPS + base coat 1 + standard mesh + reinforced mesh	118 (cohesive failure, 100% rupture in the insulation product)	155
EPS + base coat 1 + standard mesh + key coat 1 + finishing coat 1	142 (adhesive failure, rupture between the base coat and the insulation product)	172
EPS + base coat 1 + standard mesh + reinforced mesh + key coat 1 + finishing coat 1	165 (cohesive failure, 100% rupture in the insulation product)	193
EPS + base coat 1 + standard mesh + key coat 2 + finishing coat 2	174 (cohesive failure, 100% rupture in the insulation product)	188
EPS + base coat 1 + standard mesh + reinforced mesh + key coat 2 + finishing coat 2	164 (adhesive failure, rupture between the base coat and the insulation product)	188
EPS + base coat 2 + standard mesh	179 (cohesive failure, 100% rupture in the insulation product)	184
EPS + base coat 2 + standard mesh + reinforced mesh	188 (cohesive failure, 100% rupture in the insulation product)	197
EPS + base coat 2 + standard mesh + key coat 1 + finishing coat 1	171 (cohesive failure, 100% rupture in the insulation product)	191
EPS + base coat 2 + standard mesh + reinforced mesh + key coat 1 + finishing coat 1	166 (cohesive failure, 100% rupture in the insulation product)	192
EPS + base coat 2 + standard mesh + key coat 2 + finishing coat 2	150 (cohesive failure, 100% rupture in the insulation product)	159
EPS + base coat 2 + standard mesh + reinforced mesh + key coat 2 + finishing coat 2	167 (cohesive failure, 100% rupture in the insulation product)	184

Table 7: 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 ageing)	
	Minimum value [kPa] (Failure pattern)	Mean value [kPa]
EPS + base coat 1 + standard mesh + finishing coat 3	143 (cohesive failure, 100% rupture in the insulation product)	161
EPS + base coat 1 + standard mesh + reinforced mesh + finishing coat 3	131 (cohesive failure, 100% rupture in the insulation product)	156

3.1.4.1.2. Bond strength between the adhesive and the thermal insulation product

Tests were performed on samples of insulation products with base coat. The results are summarized in Table 8.

Table 8: 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 [kPa]	Tested adhesive thickness [mm]	Minimum value [kPa]	Mean value [kPa]	Tested adhesive thickness [mm]	Minimum value [kPa]	Mean value [kPa]
EPS + adhesive 1	2.13	68 (cohesive failure, 100% rupture in the insulation product)	1.91	67 (cohesive failure, 100% rupture in the insulation product)	83	1.79	67 (cohesive failure, 100% rupture in the insulation product)	121
EPS + adhesive 2	2.87	132 (cohesive failure, 100% rupture in the insulation product)	2.73	85 (cohesive failure, 100% rupture in the insulation product)	119	2.91	151 (cohesive failure, 100% rupture in the insulation product)	178
EPS + adhesive 3	2.20	112 (cohesive failure, 100% rupture in the insulation product)	1.66	90 (cohesive failure, 100% rupture in the insulation product)	102	1.63	110 (cohesive failure, 100% rupture in the insulation product)	126

3.1.4.1.3. Bond strength between the adhesive and the substrate

Tests were performance on samples of substrate (concrete) faced with adhesive product. The results are summarized in Table 9.

Table 9: Bond strength between adhesive and substrate

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 [kPa]	Tested adhesive thickness [mm]	Minimum value [kPa]	Mean value [kPa]	Tested adhesive thickness [mm]	Minimum value [kPa]	Mean value [kPa]
adhesive 1 + Substrate	4.81	858 (cohesive failure, 100% rupture in the adhesive)	3.82	311 (cohesive failure, 100% rupture in the adhesive)	339	1.48	787 (cohesive failure, 100% rupture in the adhesive)	1242
adhesive 2 + Substrate	3.05	533 (cohesive failure, 100% rupture in the adhesive)	2.69	87 (cohesive failure, 100% rupture in the adhesive)	113	2.99	1003 (cohesive failure, 100% rupture in the adhesive)	1093
adhesive 3 + Substrate	2.47	1175 (cohesive failure, 100% rupture in the adhesive)	2.55	496 (cohesive failure, 100% rupture in the adhesive)	554	1.76	1248 (cohesive failure, 100% rupture in the adhesive)	1962

3.1.4.2. Render strip tensile test

No performance assessed.

3.1.4.3. Mechanical and physical characteristics of the mesh

See Table 12.

3.1.5. Protection against noise (BWR 5)

3.1.5.1. Airborne sound insulation of ETICS

No perforance assessed.

3.1.6. Energy economy and heat retention (BWR 6)

3.1.6.1. Thermal resistance and thermal transmittance of ETICS

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}.

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

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.

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

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

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

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

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

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.

Table 10 presents the values of thermal resistance calculation for webertherm classic with EPS thickness equal to 40 mm, 50 mm, 60 mm, 80 mm, 100 mm, 120 mm and 150 mm.

Table 10: Thermal resistance values for webertherm classic system

EPS thickness [mm]	R_D [(m^2.K)/W]	R_{ETICS} [(m^2.K)/W]
40	1.05	1.07
S50	1.35	1.37
60	1.65	1.67

EPS thickness [mm]	R_D [(m².K)/W]	R_{ETICS} [(m².K)/W]
80	2.20	2.22
100	2.75	2.77
120	3.30	3.32
150	4.15	4.17

3.1.7. Sustainable use of natural resources (BWR 7)

No performance assessed.

3.2. Characteristics of the components

3.2.1. Insulation product

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

Table 11: EPS characteristics

Component	Trade name	Characteristics	Declared values and classes
Insulation product	weber.therm EPS 100	Reaction to Fire / EN 13501-1	E (Thickness: 20 to 150 mm; Density: 20kg/m³)
		Thermal conductivity (W/m.°C) / EN 12667	0.036
		Compressive stress at 10% deformation (k.Pa) / EN 826	100
		Bending strength (k.Pa) / EN 12089	150
		Thickness (mm) / EN 823	Class T(2)
		Water absorption by partial immersion (kg/m²) / EN 1609	$W_{p\ (max.\ value)}$ = 0.03
		Shear strength (kPa) / EN 12090	$\tau_{(min.\ value)}$ = 120 $\tau_{(mean\ value)}$ = 130 ± 02
		Shear modulus (kPa) / EN 12090	$G_{(min.\ value)}$ = 2600
		Water vapour diffusion resistance factor (-) / EN 13163	μ = 30 – 70

3.2.2. Glass fibre meshes

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	webertherm rede normal	Mass per unit area (g/m²)		160 ± 10%	
		Organic content (%)		20 ± 4	
		Ash content at 625 °C (%)		82.8	
		Loss on ignition at 625 °C (%)		17.8	
		Tensile strength and elongation		Warp direction	Weft direction
		In the as-delivered state	Tensile strength (N/mm)	48	50
			Elongation ε (%)	3.9	4.0
		After alkalis conditioning	Tensile strength (N/mm)	33	38
			Elongation ε (%)	2.9	3.0
		The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50% of the strength in the as-delivered state (residual strength): passed: ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered state			
		Mesh size (mm)		4.0 x 4.6	
		Mesh opening (mm)		3.3 x 3.7	
Reinforced mesh	webertherm rede reforçada	Mass per unit area (g/m²)		330 ± 10%	
		Organic content (%)		20 ± 4	
		Ash content at 625 °C (%)		83.9	
		Loss on ignition at 625 °C (%)		17.0	
		Tensile strength and elongation		Warp direction	Weft direction
		In the as-delivered state	Tensile strength (N/mm)	90	105
			Elongation ε (%)	4.5	4.5
		After alkalis conditioning	Tensile strength (N/mm)	56	75
			Elongation ε (%)	2.8	2.9
		The average value of the tensile strength after alkalis conditioning shall be at least 20 N/mm and at least 50% of the strength in the as-delivered state (residual strength): passed: ≥ 20 N/mm after alkalis conditioning and residual strength ≥ 50 % of the strength in the as-delivered state			
		Residual strength after ageing (N/mm)		≥ 20	
		Relative residual strength after ageing (%)[1]	Warp	≥ 50	
			Weft	≥ 50	
		Mesh size (mm)		10.0 x 8.0	
		Mesh opening (mm)		5.7 x 5.5	

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

3.2.3. Anchors

Anchors for insulation product act as a supplementary fixing if required. The characteristic resistances of anchors were evaluated according EAD 330196-00-0604. 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
webertherm bucha SPIT	50 in case of thickness insulation ≤ 80 mm 60 in case of thickness insulation ≥ 95 mm	See ETA-04/0076

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 inspections 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.

Issued in Coimbra on 03.06.2022

By

Technical Assessment Unit of

Itecons – Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade

Andreia Gil
Senior Official

(*Technical Assessment Unit Coordinator*)

Validated document

(Administration