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Ermächtigt und notifiziert gemäß Artikel 10 der Richtlinie des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedsstaaten über Bauprodukte (89/106/EWG)

Mitglied der EOTA

European Technical Approval ETA-06/0027

(English language translation, the original version is in German language)

Handelsbezeichnung: *Trade name:*	**weber.therm clima (mit EPS)** **weber.therm comfort (mit EPS)**
Zulassungsinhaber: *Holder of approval:*	**Saint-Gobain Weber Terranova GmbH.** **Gleichentheilgasse 6** **A-1230 Wien**
Zulassungsgegenstand und Verwendungszweck: *Generic type and use of construction produt:*	**Außenseitiges Wärmedämm-Verbundsystem mit Putzschicht zur Wärmedämmung von Gebäuden** *External Thermal Insulation Composite System with rendering for the use as external insulation of building walls*
Geltungsdauer vom: *validity from:* bis: *to:*	**22. 12. 2006** **21. 12. 2011**
Herstellwerk: *Manufacturing plant:*	**Saint-Gobain Weber Terranova GmbH.** **Gleichentheilgasse 6** **A-1230 Wien**
Diese Europäische Technische Zulassung umfasst: *This European Technical Approval contains:*	**25** Seiten inklusive **1** Anhängen ***25** pages including **1** Annexes*

OIB-290-001/03-195

I LEGAL BASES AND GENERAL CONDITIONS

1 This European Technical Approval is issued by the Österreichisches Institut für Bautechnik in accordance with:

- Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products[1], modified by the Council Directive 93/68/EEC[2] and Regulation (EC) no. 1882/2003 of the European Parliament and of the Council[3];

- Wiener Bauprodukte- und Akkreditierungsgesetzes, LGBl. Für Wien Nr. 30/1996, in der Fassung der WBAG-Novelle2001, LGBl. für Wien Nr. 71/2001;

- Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex to Commission Decision 94/23/EC[4];

- Guideline for European Technical Approval of "External Thermal Insulation Composite Systems with rendering "ETAG no. 004, edition 2000.

2 The Österreichisches Institut für Bautechnik is authorised to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European Technical Approval and for their fitness for the intended use remains with the holder of the European Technical Approval.

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

4 This European Technical Approval may be withdrawn by the Österreichisches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.

5 Reproduction of this European Technical Approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of the Österreichisches Institut für Bautechnik. In this case, partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European Technical Approval.

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

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[1] Official Journal of the European Communities no. L 40, 11.2.1989, p. 12

[2] Official Journal of the European Communities no. L 220, 30.8.1993, p. 1

[3] Official Journal of the European Union no. L 284, 31.10.2003, p. 1.

[4] Official Journal of the European Communities no. L 17, 20.1.1994, p. 34.

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of products and intended use

The External Thermal Insulation Composite System, called ETICS in the following text, is designed and installed in accordance with the ETA-holder's design and installation instructions, deposited with the Österreichisches Institut für Bautechnik. 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 names "weber.therm clima (mit EPS)" if weber.therm clima KS is used as base coat resp. "weber.therm comfort (mit EPS)" if weber.therm comfort KS is used as base coat, with associated different trade names for some components. To simplify, only one trade name appears in the following text. The Annex 1 gives the correspondence between trade names.

1.1 Definition of the construction product (kit)

	Components (see § 2.5 for further description, characteristics and performances of the components)	**Coverage** (kg/m²)	**Thickness** (mm)
Insulation materials with associated methods of fixing	**Bonded ETICS** (partially or fully bonded. National application documents shall be taken into account)		
	➢ Insulation product: Standard expanded polystyrene panels	/	20 to 200 (see § 2.3.3 b)
	➢ Adhesives:		
	- **weber.therm clima KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,0 – 5,0 (powder)	/
	- **weber.therm comfort KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,0 – 5,0 (powder)	/
	- **weber.therm family KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,0 – 5,0 (powder)	/
	- **weber.therm prestige KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,5 – 5,5 (powder)	/
	- **weber.therm freestyle KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,5 – 5,5 (powder)	/
	- **weber.therm family KS grob:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,5 – 5,5 (powder)	/

	Components (see § 2.5 for further description, characteristics and performances of the components)	Coverage (kg/m²)	Thickness (mm)
Insulation materials with associated methods of fixing	**Mechanically fixed ETICS with anchors and supplementary adhesive** (see § 2.3.3 a) for possible associations EPS/anchors)		
	➢ Insulation product: Standard expanded polystyrene panels	/	20 to 200 (see § 2.3.3 b)
	➢ Supplementary adhesives:		
	- **weber.therm clima KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,0 – 5,0 (powder)	/
	- **weber.therm comfort KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,0 – 5,0 (powder)	/
	- **weber.therm family KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,0 – 5,0 (powder)	/
	- **weber.therm prestige KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,5 – 5,5 (powder)	/
	- **weber.therm freestyle KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,5 – 5,5 (powder)	/
	- **weber.therm family KS grob:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	4,5 – 5,5 (powder)	/
	➢ Anchors:		
	- EJOT Schraubdübel ejotherm ST U		/
	- fischer TERMOZ 8U, 8UZ		/
	- Hilti-Dämmstoff-Befestigungselement XI-FV		/
	- Hilti SX-FV		/
	- fischer Schlagdübel TERMOZ 8 N, 8NZ		/
	- EJOT EJOTHERM STR U		/
	- Hilti Dämmstoffdübel SD-FV 8		/
	- EJOT SDM-T plus und SDF-K plus		/
	- Thermoschlagdübel KEW TSD 8		/
	- EJOT ejotherm NT U und ejotherm NK U		/
	- Hilti WDVS-Schraubdübel D-FV und D-FV T		/
	- BRAVOL® PTH-KZ 60/8-L_a, PTH-KZL 60/8-L_a, PTH 60/8-L_a, PTH-L 60/8-L_a		/
	- Iso Fux NDT-8Z und NDT-8SZ		/
	- fischer Dämmstoffdübel TERMOZ KS 8		/

	Components (see § 2.5 for further description, characteristics and performances of the components)	**Coverage** (kg/m^2)	**Thickness** (mm)
Base coat	- **weber.therm clima KS**: powder adhesive/base coat based on sand, cement, dispersion powder and additives - **weber.therm comfort KS:** powder adhesive/base coat based on sand, cement, dispersion powder and additives	3,5 – 4,5 4,0 – 5,0	2,0 – 3,0 3,0 – 5,0
Glass fibre mesh	➢ Standard glass fibre mesh: - **weber.therm Textilglasgitter**: mesh size between 3 mm and 5 mm	/	/
Key coat	- **Putzgrundierung**: ready to use pigmented liquid primer	~ 0,16 (l/m^2)	/
Finishing coat	➢ Ready to use pastes – synthetic binder: - **weber Kunstharzputz**: particle size 1,5/2,0/2,5/3,0 mm ➢ Ready to use paste – silicate binder: - **weber Silikatputz**: particle size 1,5/2,0/2,5/3,0 mm ➢ Ready to use paste – silicate binder/silicone resin: - **weber extraClean**: particle size 1,5/2,0/2,5/3,0 mm - **weber decofino** particle size 1,0 mm - **weber modelfino** particle size 0,5 mm ➢ Ready to use paste – synth. binder/silicone resin: - **weber Silikonharzputz**: particle size 1,5/2,0/2,5/3,0 mm ➢ Powder render – lime/cement binder: - **weber.min freestyle RP**: particle size 1,5/2,0/3,0 mm - **weber.min freestyle RIP**: particle size 3,0 mm - **weber.min freestyle KP**: particle size 2,0/3,0 mm	2,5 to 5,0 2,5 to 5,0 2,5 to 5,0 1,8 1,5 2,5 to 5,0 2,5 to 5,5 9,0 19,0	Regulated by particle size
Ancillary materials	Descriptions in accordance with § 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 building 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 and a minimum density of 820 kg/m³ 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 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 § 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 sections 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 products 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 -edition March 2000 (called ETAG no. 004 in this ETA).

2.2 ETICS characteristics

2.2.1 Reaction to fire

Configuration according to § 1.1	Maximum declared organic content of the rendering system	Minimum declared flame retardant content of the rendering system	Euroclass according to EN 13501-1 : 2002
weber.therm clima (mit EPS) **weber.therm comfort (mit EPS)**	Base coat: 3,5 % Finishing coat: 10,0 %	Base coat: 0 % Finishing coat: 0 %	B – s2, d0

Mounting and fixing
(for all end use applications given in clause 1.2 of the ETA)

The assessment of reaction to fire class B – s2, d0 is based on tests with a maximum insulation layer thickness of SBI /200mm, EN ISO 11925-2 /50mm and a maximum insulation material (EPS) density of 18 kg/m^3 as well as a render system (binder type – synthetic resin) with maximum organic content (7 %) and thickness (6 mm).

For the SBI and the EN ISO 11925 test this ETICS is mounted directly to a calcium silicate substrate (A2-s1, d0) with a minimum density of 820 kg/m^2.

The installation of the ETICS was carried out by the approval holder 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.

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: 2002 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)

- Base coat:
  - Water absorption after 1 hour < 1 kg/m²
  - Water absorption after 24 hours < 0.5 kg/m²

- Rendering system:

		Water absorption after 24 hours	
		< 0.5 kg/m²	**≥ 0.5 kg/m²**
Rendering systems: Base coat + finishing coats indicated hereafter:	**weber Silikatputz**	**X**	
	weber Silikonharzputz	**X**	
	weber extraClean	**X**	
	weber decofino	**X**	
	weber modelfino	**X**	
	weber Kunstharzputz	**X**	
	weber.min freestyle RP	**X**	
	weber.min freestyle RIP	**X**	
	weber.min freestyle KP	**X**	

2.2.3 Hygrothermal behaviour

Hygrothermal cycles have been performed on a rig.

None of the following defects occur during the testing:
- blistering or peeling of any finishing,
- failure or cracking associated with joints between insulation product boards or profiles fitted with system,
- detachment of render,
- cracking allowing water penetration to the insulation layer

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

2.2.4 Freeze / thaw behaviour

The water absorption of both base coat and the rendering systems are less than 0.5 kg/m² after 24 hours and **so the ETICS is 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 categories:

		Single standard mesh	Double standard mesh
Rendering systems: Base coat + finishing coats indicated hereafter:	**weber Silikatputz**	**Category II**	**Category I**
	weber Silikonharzputz		**Category II**
	weber extraClean		
	weber decofino		
	weber modelfino		
	weber Kunstharzputz		**Category II**
	weber.min freestyle RP		
	weber.min freestyle RIP		
	weber.min freestyle KP		**Category I**

2.2.6 Water vapour permeability

		Equivalent air thickness (m)
Rendering systems: Base coat + finishing coats indicated hereafter:	**weber Silikatputz**	**≤ 1,0 m** (test result obtained with particle size 2,0 mm: 0,3 m)
	weber Silikonharzputz	**≤ 1,0 m** (test result obtained with particle size 2,0 mm: 0,5 m)
	weber extraClean	**≤ 1,0 m** (test result obtained with particle size 2,0 mm: 0,3 m)
	weber decofino	**≤ 1,0 m** (test result obtained with particle size 2,0 mm: 0,3 m)
	weber modelfino	**≤ 1,0 m** (test result obtained with particle size 2,0 mm: 0,3 m)
	weber Kunstharzputz	**≤ 1,0 m** (test result obtained with particle size 2,0 mm: 0,6 m)
	weber.min freestyle RP	**≤ 1,0 m** (test result obtained with particle size 3,0 mm: 0,2 m)
	weber.min freestyle RIP	**≤ 1,0 m** (test result obtained with particle size 3,0 mm: 0,3 m)
	weber.min freestyle KP	**≤ 1,0 m** (test result obtained with particle size 3,0 mm: 0,3 m)

2.2.7 Dangerous substances

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

2.3 Safety in use

2.3.1 Bond strength

- Base coats onto expanded polystyrene

Conditionings		
Initial state	**After the hygrothermal cycles (on the rig)**	**After the freeze/thaw cycles (on samples)**
≥ 0.08 MPa	≥ 0.08 MPa	Test not required because freeze/thaw cycles not necessary

- Adhesives onto substrate and expanded polystyrene (safety in use of the bonded ETICS)

		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**
weber.therm clima KS	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	Insulation product	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
weber.therm comfort KS	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	Insulation product	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
weber.therm family KS	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	Insulation product	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
weber.therm prestige KS	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	Insulation product	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
weber.therm freestyle KS	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	Insulation product	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
weber.therm family KS grob	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	Insulation product	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa

The ETICS shall be installed on the substrate with application of the adhesive on the following **minimal surfaces:**

	Tensile strength perpendicular to the face of the insulation product
	≥ 150 kPa
weber.therm clima KS	30 %
weber.therm comfort KS	30 %
weber.therm family KS	30 %
weber.therm prestige KS	30 %
weber.therm freestyle KS	30 %
weber.therm family KS grob	30 %

2.3.2 Fixing strength (displacement test)

Test not required because the ETICS fulfils the following criteria:

E.d < 50 000 N/mm

where:
E: modulus of elasticity of the base coat without glass fibre mesh
d: mean dried thickness of the base coat

2.3.3 Wind load resistance

a) Safety in use of mechanically fixed ETICS **using anchors**

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

Anchors for which the following failure loads apply	Trade name		**EJOT Schraubdübel ejotherm ST U** **Hilti-Dämmstoff-Befestigungselement XI-FV** **Hilti SX-FV** **Hilti Dämmstoffdübel SD-FV 8** **EJOT SDM-T plus und SDF-K plus** **ejotherm NT U und ejotherm NK U** **Hilti WDVS-Schraubdübel D-FV und D-FV T**
	Plate diameter (mm)		≥ 60
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)		≥ 60
	Tensile strength perpendicular to the face (kPa)		≥ 100
Failure loads (N)	Anchors not placed at the panel joints	R_{panel}	Minimal: **0,51** Average: **0,52**
	Anchors placed at the panel joints	R_{joint}	Minimal: **0,40** Average: **0,43**

Anchors for which the following failure loads apply	Trade name		**EJOT EJOTHERM STR U**
	Plate diameter (mm)		≥ 60
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)		≥ 80
	Tensile strength perpendicular to the face (kPa)		≥ 100
Failure loads (N)	Anchors not placed at the panel joints	R_{panel}	Minimal: **0,58** Average: **0,58**
	Anchors placed at the panel joints	R_{joint}	Minimal: **0,48** Average: **0,50**

Anchors for which the following failure loads apply	Trade name		**fischer TERMOZ 8 U, 8 UZ** **fischer Schlagdübel TERMOZ 8 N, 8 NZ** **fischer Dämmstoffdübel TERMOZ KS 8**
	Plate diameter (mm)		≥ 60
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)		≥ 50
	Tensile strength perpendicular to the face (kPa)		≥ 150
Failure loads (N)	Anchors not placed at the panel joints	R_{panel}	Minimal: **0,44** Average: **0,46**
	Anchors placed at the panel joints	R_{joint}	Minimal: **0,40** Average: **0,41**

Anchors for which the following failure loads apply	Trade name		**Thermoschlagdübel KEW TSD 8**
	Plate diameter (mm)		≥ 60
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)		≥ 50
	Tensile strength perpendicular to the face (kPa)		≥ 150
Failure loads (N)	Anchors not placed at the panel joints	R_{panel}	Minimal: **0,48** Average: **0,50**

Anchors for which the following failure loads apply	Trade name		**BRAVOL® PTH-KZ 60/8-L_a, PTH-KZL 60/8-L_a, PTH 60/8-L_a, PTH-L 60/8-L_a**
	Plate diameter (mm)		≥ 60
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)		≥ 50
	Tensile strength perpendicular to the face (kPa)		≥ 90
Failure loads (N)	Anchors not placed at the panel joints	R_{panel}	Minimal: **0,40** Average: **0,41**

Anchors for which the following failure loads apply	Trade name		**Iso Fux NDT-8Z und NDT-8SZ**
	Plate diameter (mm)		≥ 60
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)		≥ 60
	Tensile strength perpendicular to the face (kPa)		≥ 150
Failure loads (N)	Anchors not placed at the panel joints	R_{panel}	Minimal: **0,61** Average: **0,64**

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

$$\mathbf{R_d = (R_{panel} \times n_{panel} + R_{joint} \times n_{joint}) / \gamma}$$

where:

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

2.3.4 Thermal resistance

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

$$\mathbf{U_c = U + \Delta U}$$

$$\mathbf{\Delta U = \chi_p \cdot n}$$

where:

$\chi_p \cdot n$: Has only to be taken into account if it is greater than 0.04 (W/(m².K))
U_c: Global thermal transmittance of the covered wall (W/ (m².K))
n: Number of anchors (through insulation product) per m²
χ_p: Local influence of thermal bridge caused by an anchor. The values listed below can be taken into account if not specified in the anchor's ETA:
- = 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 (χ_p.n negligible for n < 20)
- = 0.004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material (χ_p.n negligible for n < 10)
- = negligible for anchors with plastic nails (reinforced or not with glass fibres …)

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

$$U_c = 1 / (R_i + R_{render} + R_{substrate} + R_{se} + R_{si})$$

where:
R_i: Thermal resistance of the insulation product in (m².K)/W.
R_{render}: Thermal resistance of the render (about 0.02 (m².K)/W)
$R_{substrate}$: Thermal resistance of the substrate of the building (concrete, brick …) in (m².K)/W))
R_{se}: External superficial thermal resistance in (m².K)/W. Rsi: Internal superficial thermal resistance in (m².K)/W.

The influence of the PVC profiles is negligible.

2.4 Aspect of durability and serviceability

2.4.1 Bond strength after ageing

		after hygrothermal cycles (on the rig) or after 7 days immersion in water + 7 days 23°C/50% RH	**After freeze/thaw cycles**
Rendering systems: Base coat + finishing coats indicated hereafter:	**weber Silikatputz**	≥ 0,08 MPa	Test not required because freeze/thaw cycles not necessary
	weber Silikonharzputz		
	weber extraClean		
	weber decofino		
	weber modelfino		
	weber Kunstharzputz		
	weber.min freestyle RP		
	weber.min freestyle RIP		
	weber.min freestyle KP		

2.5 Components' characteristics

2.5.1 Insulation product

Descriptions and characteristics		EPS panels	
		for bonded ETICS	for mechanically fixed ETICS with anchors
Reaction to fire / EN 13501-1		Euroclass E - Thickness: 20 mm to 200 mm - density: 15,0 kg/m^3 to 21,0 kg/m^3	
Thermal resistance ((m².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 – L1	
Width (mm) / EN 822		EPS-EN 13163 – W2	
Squareness (mm) / EN 824		EPS-EN 13163 – S2	
Flatness (mm) / EN 825		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,-)1	
	laboratory condition / EN 1603	EPS-EN 13163 – DS(N)2	
Water absorption (partial immersion) / EN 1609		≤ 0,5 kg/m^2	
Water vapour diffusion resistance factor (μ) / EN 12086		≤ 60	
Tensile strength perpendicular to the faces in dry conditions (kPa) / EN 1607		≥ 150 (EPS-EN-13163 – TR 150)	
Shear strength (N/mm²) / EN 12090		≥ 0.02	-
Shear modulus (N/mm²) / EN 12090		≥ 1.0	-

2.5.2 Anchors

- Anchors for insulation products:

Trade name	Plate diameter (mm)	characteristic resistances in the substrate
EJOT Schraubdübel ejotherm ST U	≥ 60	see ETA-02/0018
fischer TERMOZ 8U, 8UZ	≥ 60	see ETA-02/0019
Hilti-Dämmstoff-Befestigungselement XI-FV	≥ 60	see ETA-03/0004
Hilti SX-FV	≥ 60	see ETA-03/0005
fischer Schlagdübel TERMOZ 8 N, 8 NZ	≥ 60	see ETA-03/0019
EJOT EJOTHERM STR U	≥ 60	see ETA-04/0023
Hilti Dämmstoffdübel SD-FV 8	≥ 60	see ETA-03/0028
EJOT SDM-T plus und SDF-K plus	≥ 60	see ETA-04/0064
Thermoschlagdübel KEW TSD 8	≥ 60	see ETA-04/0030
EJOT ejotherm NT U und ejotherm NK U	≥ 60	see ETA-05/0009
Hilti WDVS-Schraubdübel D-FV und D-FV T	≥ 60	see ETA-05/0039
BRAVOL® PTH-KZ 60/8-L_a, PTH-KZL 60/8-L_a, PTH 60/8-L_a, PTH-L 60/8-L_a	≥ 60	see ETA-05/0055
Iso Fux NDT-8Z und NDT-8SZ	≥ 60	see ETA-04/0032
fischer Dämmstoffdübel TERMOZ KS 8	≥ 60	see ETA-04/0114

2.5.3 Render

The average value of the crack width of the base coat with the glass fibre mesh, measured at a render strain value of 0,8 % is about 0,1 mm.

2.5.5 Glass fibres meshes

	Alkali resistance			
	Residual resistance after ageing (N/mm)		Relative residual resistance: % (after ageing) of the strength in the as delivered state	
	Warp	Weft	Warp	Weft
weber.therm Textilglasgitter Glass fibre mesh with mesh size between 3 mm and 5 mm	≥ ***20***	≥ ***20***	≥ ***50***	≥ ***50***

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.

Considering the Euroclasses B for the reaction to fire, 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 for the manufacturer:
   1) Initial type-testing of the ETICS and the components
   2) Factory Production Control
   3) Testing of samples taken at the factory in accordance with a control plan

b) Tasks for the Notified Body:
   3) Certification of factory production control on the basis of:
      - Initial inspection of factory and of factory production control
      - Continuous surveillance, assessment and approval of factory production control

Considering the Euroclass B for reaction to fire, 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 the conformity of the ETICS by a Notified certification Body on the basis of:

c) Tasks for the manufacturer:
   1) Factory Production Control
   2) Further testing of samples taken at the factory by the manufacturer in accordance with a control plan

d) Tasks for the Notified Body:
   3) Initial type-testing of the ETICS and the components
   4) Initial inspection of factory and of factory production control
   5) Continuous surveillance, assessment and approval of factory production control

3.2 Responsibilities

3.2.1 Tasks of the manufacturer

3.2.1.1 Factory production control

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

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

For the components of the ETICS which the ETA-holder does not manufacture by himself, he shall make sure that factory production control carried out by the other manufacturers 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[5)] 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 the Österreichisches Institut für Bautechnik.

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 the basis of a contract, involve a body (bodies) which is (are) notified for the tasks referred to in section 3.1 in the field of ETICS in order to undertake the actions laid down in section 3.3. For this purpose, the control plan referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the notified body 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 the Österreichisches Institut für Bautechnik and the Notified Bodies involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of this European Technical Approval

The initial type-testing mentioned above could be taken over by the manufacturer for this declaration.

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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 conformity.

3.2.2 Tasks of Notified Bodies

The Notified Body shall perform the:

- initial type-testing of the product (for 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 the Österreichisches Institut für Bautechnik 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 once a year for surveillance of this manufacturer having a 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 the results obtained and conclusions drawn in written report.

- In the case of Attestation of Conformity system 1:
  The Notified Body 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 involved by the manufacturer shall issue an EC certificate of conformity of the factory production control 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 Certification Body shall withdraw the certificate of conformity and inform the Österreichisches Institut für Bautechnik 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 identifying 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 for 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 the Österreichisches Institut für Bautechnik, 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 the Österreichisches Institut für Bautechnik before the changes are introduced. The Österreichisches Institut für Bautechnik 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.

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. These 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 fires and wind load resistance.

Only the components described in clause 1.1 and the components from appendix 1 with characteristics according to clause 2 of this ETA can be used for the ETICS.

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

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 § 2.1.8.1 of this ETA) as well as the national regulations. In any case, the minimal bonded surface shall be at least be as stated in § 2.3.1.

- To mechanically fix the ETICS, the choice and the rate of the fixings shall be determined considering:

  - 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 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 no. 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 localised 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 the responsibility of the manufacturer(s) to ensure that these provisions are easily accessible to the concerned people.

On behalf of Österreichisches Institut für Bautechnik

Dipl. – Ing. Dr. Rainer Mikulits
Managing Director

The original document is signed by Rainer Mikulits

Components	Trade names in accordance with § 1.1 table	Further trade names
Adhesive	weber.therm clima KS	weber.therm clima
	weber.therm comfort KS	weber.therm 700
	weber.therm family KS	weber.therm klasik weber.therm 303
	weber.therm prestige KS	weber.therm min weber.therm 301
	weber.therm freestyle KS	
	weber.therm family KS grob	
Base coat	weber.therm clima KS	weber.therm clima
	weber.therm comfort KS	
Glass fibre mesh	weber.therm Textilglasgittergewebe	weber.therm 117 weber.therm 131 weber.therm 311
Key coat	weber Putzgrund	weber.pas UNI weber.prim 403
Finishing coat	weber Silikatputz	weber.pas silikát weber.pas 460, 461
	weber extraClean weber decofino weber modelfino	weber.pas sisi weber.pas 461
	weber Silikonharzputz	weber.pas silikon weber.pas 480, 481
	weber Kunstharzputz	weber.pas akrylát weber.pas 430, 431, 432
	weber.min freestyle RP	weber.min weber.star 223
	weber.min freestyle RIP	
	weber.min freestyle KP	weber.pral E

ETICS "weber.therm clima"/"weber.therm comfort"	**Annex 1** Of the European Technical Approval **ETA 06/0027**
Trade names of components	