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(English language translation prepared by ITC CNR; original version in Italian)

Trade name of the construction product	“weber.therm 2013” in the alternatives: “weber.therm prestige”, “weber.therm mix” “weber.therm family plus”, “weber.therm clima blue” “weber.therm comfort G3”
Product family to which the construction product belongs	External Thermal Insulation Composite System with renderings for the use as external insulation to the walls of building
Manufacturer	SAINT-GOBAIN PPC Italia S.p.A., via Ettore Romagnoli 6, 20146, Milano (MI) - Italy
Manufacturing plant	SAINT-GOBAIN PPC Italia S.p.A. Stabilimento di Aquino (FR), Contrada San Marco - 03031 Aquino (FR) - Italy
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SPECIFIC PARTS

1. TECHNICAL DESCRIPTION OF THE PRODUCT

The External Thermal Insulation Composite System (ETICS) “weber.therm 2013” called ETICS in the following text, is designed and installed in accordance with the ETA Holder’s design and installation instructions, deposited at ITC-CNR.

The ETICS “weber.therm 2013” comprises five alternatives: “weber.therm mix”, “weber.therm prestige”, “weber.therm family plus”, “weber.therm clima blue” and “weber.therm comfort G3”, differentiated as follows:

KIT	insulating board	adhesive	anchors	base coat	mesh	key coat	finishing coat
weber.therm mix	weber.therm M90	weber.therm AP50 system	weber.therm TA6 or TA7 or TA8 or TA START	weber.therm AP50 system	weber.therm RE160	weber.prim RA13	weber.cote riviera R
							weber.cote action R
weber.therm prestige	weber.therm RL30					weber.prim RA13	weber.cote riviera R
							weber.cote action R
weber.therm family plus	weber.therm F70/F100/F120 system					weber.prim RA13	weber.cote riviera R
							weber.cote riviera G
						weber.prim RC14	weber.cote action F
							weber.cote action R
weber.therm clima blue	weber.therm C70 system					weber.prim mineral	weber.cote mineral R
							weber.cote mineral G
weber.therm comfort G3	weber.therm L25	weber.prim RA13	weber.cote riviera R				
			weber.cote riviera G				
	weber.therm LV034	weber.prim RC14	weber.cote action F				
			weber.cote action R				
		weber.prim RC14	weber.cote action R				

Tab. 1: Alternatives of weber.therm 2013

1.1 Components of the ETICS “weber.therm 2013”

Components (see § 2.3 for further description, characteristics and performances of the components)		Coverage kg/m²	Thickness (mm)
Bonded ETICS with supplementary mechanical fixing. (According to ETA holder’s instructions bonded surface minimum 40-50%). National application documents shall be taken into account.			
Insulation material with associated method of fixing for the version “weber.therm mix”	Insulation product: • “weber.therm M90” ¹ : EPS 100 expanded polystyrene with graphite (type EPS T) panels	//	80 - 200
	Adhesive: • “weber.therm AP50 system” ² : one component pre-mixed grey powder cement based, requiring addition of 19% by weight of water. CEM II/A-L42,5R	2.0 ÷ 3.0	2÷4
	Anchors: • “weber.therm TA6” ³ : anchors made of nylon and polypropylene PP. See ETA 09/0171 • “weber.therm TA7” ⁴ anchors made of nylon/steel and polypropylene PP. See ETA 09/0394 • “weber.therm TA8” ⁵ anchors made of polyethylene/galvanized steel . See ETA 04/0023 • “weber.therm TA START” ⁶ anchors made polyethylene /polyamide. See ETA 14/0130	4-8/m ²	See § 3.3.2
Insulation material with associated method of fixing for the version “weber.therm prestige”	Insulation product: “weber.therm RL30” ⁷ : mineral wool panels with perpendicular fibres orientation	//	40-200
	Adhesive “weber.therm AP50 system” ⁸ one component pre-mixed grey powder cement based, requiring addition of 19% by weight of water. CEM II/A-L42,5R	2.0 ÷ 3.0	2÷4
	Anchors: • “weber.therm TA6” ³ : anchors made of nylon and polypropylene PP. See ETA 09/0171 • “weber.therm TA7” ⁴ anchors made of nylon/steel and polypropylene PP. See ETA 09/0394 • “weber.therm TA8” ⁵ anchors made of polyethylene/galvanized steel . See ETA 04/0023 • “weber.therm TA START” ⁶ anchors made polyethylene /polyamide. See ETA 14/0130	4-8/m ²	See § 3.3.2
Insulation material with associated method of fixing for the version “weber.therm family plus”	Insulation product: “weber.therm F70 system” ⁹ : EPS 70 expanded polystyrene panels	//	40 - 200
	Insulation product: “weber.therm F100 system” ⁹ : EPS 100 expanded polystyrene panels	//	40 - 200
	Insulation product: “weber.therm F120 system” ⁹ : EPS 120 expanded polystyrene panels	//	40 - 200

¹ Manufacturer: FORTLAN DI-BI S.p.A. - Bibbiano (RE) – Italy

² Manufacturer: SAINT-GOBAIN PPC Italia S.p.A. – Aquino (FR)

³ Manufacturer: Fischer-Germany by means of Italian associated firm Fischer Italia (PD)

⁴ Manufacturer: Fischer-Germany by means of Italian associated firm Fischer Italia (PD)

⁵ Manufacturer: EJOT Baubefestigungen GmbH, Germany

⁶ Manufacturer: EJOT Baubefestigungen GmbH, Germany

⁷ Manufacturer: SAINT-GOBAIN ISOVER CZ s.r.o.

⁸ Manufacturer: SAINT-GOBAIN PPC Italia S.p.A. – Aquino (FR)

⁹ Manufacturer: Isolconfort S.r.l- San Vito al Tagliamento (PN) – Italy

	Adhesive: “weber.therm AP50 system” ⁸ : one component pre-mixed grey powder cement based, requiring addition of 19% by weight of water. CEM II/A-L42,5R	2.0 ÷ 3.0	2÷4
	Anchors: <ul style="list-style-type: none"> • “weber.therm TA6”³: anchors made of nylon and polypropylene PP. See ETA 09/0171 • “weber.therm TA7”⁴ anchors made of nylon/steel and polypropylene PP. See ETA 09/0394 • “weber.therm TA8”⁵ anchors made of polyethylene/galvanized steel . See ETA 04/0023 • “weber.therm TA START”⁶ anchors made polyethylene /polyamide. See ETA 14/0130 	4-8/m ²	See § 3.3.2
Insulation material with associated method of fixing for the version “weber.therm clima blue”	Insulation product: “weber.therm C70 system” ¹⁰ : EPS perforated (non through) panels	//	50-200
	Adhesive “weber.therm AP50 system” ⁸ one component pre-mixed grey powder cement based, requiring addition of 19% by weight of water. CEM II/A-L42,5R	2.0 ÷ 3.0	2÷4
	Anchors: <ul style="list-style-type: none"> • “weber.therm TA6”³: anchors made of nylon and polypropylene PP. See ETA 09/0171 • “weber.therm TA7”⁴ anchors made of nylon/steel and polypropylene PP. See ETA 09/0394 • “weber.therm TA8”⁵ anchors made of polyethylene/galvanized steel . See ETA 04/0023 • “weber.therm TA START”⁶ anchors made polyethylene /polyamide. See ETA 14/0130 	4-8/m ²	See § 3.3.2
Mechanically fixed ETICS with supplementary adhesive. (According to ETA holder’s instructions bonded surface minimum 40-50%). National application documents shall be taken into account.			
Insulation material with associated method of fixing for the version “weber.therm comfort G3”	Insulation product: “weber.therm L25” ¹¹ glass wool panels	//	40-120
	Insulation product: “weber.therm LV034” ¹² : glass wool panels	//	60 - 200
	Adhesive “weber.therm AP50 system” ⁸ one component pre-mixed grey powder cement based, requiring addition of 19% by weight of water (CEM II/A-L42,5R)	2.0 ÷ 3.0	2÷4
	Anchors: <ul style="list-style-type: none"> • “weber.therm TA6”³: anchors made of nylon and polypropylene PP. See ETA 09/0171 • “weber.therm TA7”⁴ anchors made of nylon/steel and polypropylene PP. See ETA 09/0394 • “weber.therm TA8”⁵ anchors made of polyethylene/galvanized steel . See ETA 04/0023 • “weber.therm TA START”⁶ anchors made polyethylene /polyamide. See ETA 14/0130 	4-8/m ²	See § 3.3.2
Base coat	Base coat: <ul style="list-style-type: none"> • “weber.therm AP50 system”⁸: one component pre-mixed grey powder cement based requiring addition of 19% by weight of water. CEM II/A-L 42,5 R 	3.0 ÷ 4.0	2÷5
Reinforcement	Standard Glass fibre mesh “weber.therm RE160” ¹³ : mesh size: 3.5 x 3.8 mm	//	//

¹⁰ Manufacturer: Fragmat Tim d.d. - Laško - Slovenia

¹¹ Manufacturer: SAINT-GOBAIN PPC Italia - Vidalengo (BG) - Italy

¹² Manufacturer: SAINT-GOBAIN PPC Italia - Vidalengo (BG) - Italy

¹³ Manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.

Key coats	liquid to be diluted with water 1:5 "weber.prim RA13" ¹⁴ : watery solution of acrylic resin	0.04 (l/m ²)	//
	liquid solution ready to use "weber.prim RC14" ¹⁴ : watery solution of siloxanic resin	0.08 (l/m ²)	//
	liquid solution ready to use "weber.prim mineral" ¹⁴ : watery solution of acrylic resin	0.02 (l/m ²)	//
Finishing coats	"weber.cote action F" ¹⁴ : Max particle size up to 0.8 mm	1.7 – 1.8	1.2 - 1.5 each layer
	"weber.cote action R" ¹⁴ : Max particle size up to 1.2 mm	1.9 – 2.0	1.4 - 1.6 each layer
	"weber.cote riviera R" ¹⁴ : Max particle size up to 1.2 mm	2.0	1.4 - 1.6 each layer
	"weber.cote riviera G" ¹⁴ : Max particle size up to 1.8 mm	3.0 - 3.5	1.8 - 2.0 each layer
	"weber.cote mineral R" ¹⁴ : Max particle size up to 1.2 mm	2.0	1.4 - 1.6 each layer
	"weber.cote mineral G" ¹⁴ : Max particle size up to 1.8 mm	3.0 - 3.5	1.8 - 2.0 each layer
Ancillary materials	Descriptions in accordance with § 3.2.2.5 of the ETAG 004. Remain under the ETA-holder responsibilities		

Tab. 2 : Components of the ETICS

2. SPECIFICATION OF THE INTENDED USE IN ACCORDANCE WITH ETAG 004 USED AS EUROPEAN ASSESSMENT DOCUMENT

"weber.therm 2013" in its alternative is intended for use as external thermal insulation composite system of buildings' walls and in particular for new and existing buildings whose facades can be made of masonry (bricks, concrete, stones, ...), in concrete cast on site or in prefabricated panels, or can be rendered and coated or uncoated; the substrate may need preparation as described in § 7.2.1 of ETAG 004, used as EAD.

The kit can be used on vertical walls. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation. It is made of non load-bearing construction elements and the installed system 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 effects of weathering. The installed system is not intended to ensure the air tightness of the building structure.

The provisions made in this ETA are based on an assumed intended working life of at least 25 years, provided that the conditions laid down in section 2.2, 2.3, 2.4 of this ETA for the packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer or by the Assessment Body, but should only be regarded as a mean for choosing the appropriate products in relation to the expected economically reasonable working life of the works.

2.1 Manufacturing

The "weber.therm 2013" components shall correspond, as far as their composition and manufacturing process is concerned, to the products subject to the assessment tests. Manufacturing process scheme is deposited with ITC-CNR.

2.2 Installation

2.2.1. General

It is the responsibility of the ETA Holder to guarantee that the information about design and installation of the system "weber.therm 2013" are effectively communicated to the concerned people. These information can be given using reproductions of the respective parts of this European Technical Assessment. Besides, all the data concerning the

¹⁴ Manufacturer: SAINT-GOBAIN PPC Italia - Aquino (FR) - Italy
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execution shall be indicated clearly on the packaging and/or the enclosed instruction sheets using one or several illustrations. In any case, it is suitable to comply with national regulations and particularly concerning fire.

Only the components described in clause 1.1 with characteristics in accordance with clause 2 of this ETA can be used for the system “weber.therm 2013”. The requirements given in ETAG 004, used as EAD, chapter 7, have to be considered.

2.2.2. Design

To bond the system, the minimal bonded surface area and the method of bonding shall comply with characteristics of the system “weber.therm 2013” as well as the national regulations. In any case, the minimal bonded surface shall be at least 40%.

2.2.3. Execution

The recognition and preparation of the substrate as well as the generalities about the execution of the system “weber.therm 2013”, which are fully described in the current version of the ETA Holder Catalogue, shall be carried out in compliance with:

- chapter 7 of the ETAG 004, used as EAD;
- national regulations in effect, if any.

The particularities in execution linked to the method of bonding and the application of the rendering system shall be handled in accordance with ETA Holder prescriptions. In particular it is suitable to comply with the quantities of rendering applied, the thickness regularity and the drying period between 2 layers.

2.3 **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 and, in case, by ETA Holder specifications.

The components have to be protected against damage.

2.4 **Maintenance and repair of the works**

It is accepted that the finishing coat shall normally be maintained in order to fully preserve the system’s performances.

Maintenance, which is clearly described in the current version of the ETA Holder Catalogue, includes:

- the repairing of localised damaged areas due to accidents,
 - the application of various products or paints, possibly after washing or *ad hoc* preparation.
- Necessary repairs should be done rapidly.

It is important to be able to carry out maintenance as far as possible using readily available products and equipment, without spoiling appearance.

3. **PERFORMANCE OF THE PRODUCT AND REFERENCES TO THE METHODS USED FOR ITS ASSESSMENT**

The tests for the assessment of the performances of “weber.therm 2013” were carried out according to the tests mentioned in ETAG 004, used as EAD; the performances are valid only if the kit’s components are exactly the ones mentioned at § 1 of this ETA.

3.1 **Safety in case of fire**

3.1.1 Reaction to fire of “weber.therm 2013” in the alternative “weber.therm mix”

The reaction to fire has been determined according with § 5.1.2.1 of ETAG 004. The system, as defined under clause 1.1, reached the following classification:

Euroclass according to EN 13501-1:

	Organic content of the rendering system (%)	Flame retardant content of the rendering system (%)	Maximum thickness (mm)	Class
“weber.therm mix”	12%	0	200	B – s2, d0

Tab. 3: Reaction to fire

Mounting and fixing of “weber.therm mix”

(for all end use applications given in § 2 of this ETA)

The assessment of reaction to fire is based on tests with a maximum insulation layer thickness of SBI/200 mm, EN 11925-2/60 mm and a maximum insulation material (EPS) density of $20 \pm 5 \text{ kg/m}^3$, as well as a rendering system with a maximum organic content of 12% and a thickness of 4.2 mm. For the SBI test the system was mounted directly to a calcium silicate substrate (A2-s1, d0) with a minimum density of 815 kg/m^3 .

The mounting of the specimen was carried out at ITC-CNR Laboratory by the Manufacturer following the specifications given in his ETA Technical Dossier and in his Recommendations, using a single layer of the glass fibre mesh all over the specimen (without overlapping the mesh). The specimen didn't include any joints nor anchors (anchors have no influence on the test results); the panel edges were rendered, excluding the bottom edge and the top of the specimen.

Extended application

The test results cover arrangements with insulation materials (EPS) of any thickness lower thickness and density, as well as with rendering systems (binder types) with a lower organic content.

3.1.2 Reaction to fire of “weber.therm 2013” in the alternative “weber.therm prestige”

The reaction to fire has been determined according with § 5.1.2.1 of ETAG 004 Edition 2011. The system, as defined under clause 1.1, reached the following classification:

Euroclass according to EN 13501-1:

	Organic content of the rendering system (%)	Flame retardant content of the rendering system (%)	Maximum thickness (mm)	Class
“weber.therm prestige”	12%	0	200	B – s1, d0

Tab. 4: Reaction to fire

Mounting and fixing “weber.therm prestige”

(for all end use applications given in § 2 of this ETA)

The assessment of reaction to fire is based on tests with a maximum insulation layer thickness of SBI/200 mm, EN 11925-2/60 mm and a maximum insulation material (MW) density of $88 \pm 15 \text{ kg/m}^3$, as well as a rendering system with a maximum organic content of 12% and a thickness of 4,2 mm. For the SBI test the system was mounted directly to a calcium silicate substrate (A2-s1, d0) with a minimum density of 815 kg/m^3 .

The mounting of the specimen was carried out at ITC-CNR Laboratory by the Manufacturer following the specifications given in his ETA Technical Dossier and in his Recommendations, using a single layer of the glass fibre mesh all over the specimen (without overlapping the mesh). The specimen didn't include any joints nor anchors (anchors have no influence on the test results); the panel edges were rendered, excluding the bottom edge and the top of the specimen.

Extended application

The test results cover arrangements with insulation materials (MW) of any thickness lower thickness and density, as well as with rendering systems (binder types) with a lower organic content.

3.1.3 Reaction to fire of “weber.therm 2013” in the alternative “weber.therm family plus”

The reaction to fire has been determined according with § 5.1.2.1 of ETAG 004. The system, as defined under clause 1.1, reached the following classification:

Euroclass according to EN 13501-1:

	Organic content of the rendering system (%)	Flame retardant content of the rendering system (%)	Maximum thickness (mm)	Class
“weber.therm family plus”	13.03%	0	200	B – s1, d0

Tab. 5: Reaction to fire

Mounting and fixing “weber.therm family plus”

(for all end use applications given in § 2 of this ETA)

The assessment of reaction to fire is based on tests with maximum insulation layer thickness of SBI/200 mm, EN ISO 11 925-2/60 mm and insulation material density $20 \pm 1 \text{ kg/m}^3$ and a rendering system with maximum organic content of 13.03 % and thickness 4,2 mm. For the SBI this ETICS is mounted directly to a gypsum plasterboard substrate (reaction to fire A2) with a minimum density of 800 kg/m^2 . For EN ISO 11925 test the ETICS was prepared without substrate. The installation of the ETICS was carried out by the manufacturer (holder of approval) following the manufacturer’s specifications (instruction sheet) using a single layer of the glass fibre mesh all over the test specimen (no overlapping glass fibre mesh).

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

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

Extended application

The test results covers arrangements with insulation material (EPS) of a lower thickness and density as well as render systems with a lower organic content.

3.1.4 Reaction to fire of “weber.therm 2013” in the alternative “weber.therm clima blue”

The reaction to fire has been determined according with § 5.1.2.1 of ETAG 004. The system, as defined under clause 1.1, reached the following classification:

Euroclass according to EN 13501-1:

	Organic content of the rendering system (%)	Flame retardant content of the rendering system (%)	Maximum thickness (mm)	Class
“weber.therm clima blue”	13.03%	0	200	B – s1, d0

Tab. 6: Reaction to fire

Mounting and fixing “weber.therm clima blue”

(for all end use applications given in § 2 of this ETA)

The assessment of reaction to fire is based on tests with maximum insulation layer thickness of SBI/200 mm, EN ISO 11 925-2/60 mm and insulation material density (20 ± 1) kg/m^3 and a rendering system with maximum organic content of 13.03 % and thickness 4,2 mm. For the SBI this ETICS is mounted directly to a gypsum plasterboard substrate (reaction to fire A2) with a minimum density of 800 kg/m^2 . For EN ISO 11925 test the ETICS was prepared without substrate. The installation of the ETICS was carried out by the manufacturer (holder of approval) following the manufacturer’s specifications (instruction sheet) using a single layer of the glass fibre mesh all over the test specimen (no overlapping glass fibre mesh). The test specimens were prefabricated and did not include any joints. The panel edges were rendered except the upper and bottom edges.

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

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

Extended application

The test results covers arrangements with insulation material (EPS) of a lower thickness and density as well as render systems with a lower organic content.

3.1.5 Reaction to fire of “weber.therm 2013” in the alternative “weber.therm comfort G3”

The reaction to fire has been determined according with § 5.1.2.1 of ETAG 004. The system, as defined under clause 1.1, reached the following classification:
Euroclass according to EN 13501-1:

	Organic content of the rendering system (%)	Flame retardant content of the rendering system (%)	Maximum thickness (mm)	Class
“weber.therm comfort G3”	13.03%	0	120	B – s1, d0

Tab. 7: Reaction to fire

Mounting and fixing “weber.therm comfort G3”

(for all end use applications given in § 2 of this ETA)

The assessment of reaction to fire is based on tests with maximal insulation layer thickness of SBI/120 mm, EN ISO 11 925-2/60 mm, EN ISO 1716 and insulation material density ($75 \text{ kg/m}^3 \pm 8\%$) and a rendering system with maximum organic content of 13.03 % and thickness 4,2 mm. For the SBI this ETICS is mounted directly to a gypsum plasterboard substrate (reaction to fire A2) with a minimum density of 800 kg/m^2 .

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

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

Anchors were not included in the tested ETICS as they have no influence on the test result. Further the edges of the ETICS always have to be protected against fire.

Extended application

The test results covers arrangements with insulation material (MW) of a lower thickness and density as well as render systems with a lower organic content.

3.2 **Hygiene, health and the environment**

3.2.1 Water absorption (capillarity test)

The water absorption has been determined in accordance with § 5.1.3.1 of ETAG 004.

Base coat “weber.therm AP50 system” on insulations:

- after 1 hour < 1.0 kg/m^2
- after 24 hours < 0.5 kg/m^2

Water absorption of the alternatives	Rendering systems	after 24 hours	
		< 0.5 kg/m^2	$\geq 0.5 \text{ kg/m}^2$
“weber.therm mix”	weber.cote action R	x	
	weber.cote riviera R	x	
“weber.therm prestige”	weber.cote action R	x	
	weber.cote riviera R	x	
“weber.therm family plus” with all envisaged insulation EPS panels	weber.cote riviera R	x	
	weber.cote riviera G	x	
	weber.cote action F	x	
	weber.cote action R	x	
	weber.cote mineral R	x	
	weber.cote mineral G	x	

"weber.therm clima blue"	weber.cote riviera R	x	
	weber.cote riviera G	x	
	weber.cote action F	x	
	weber.cote action R	x	
"weber.therm comfort G3"	weber.cote action R	x	

Tab.8: Water absorption

3.2.2 Hygrothermal behaviour (heat-rain and heat-cold cycles)

In accordance with the method envisaged in 5.1.3.2.1 ETAG 004, the hygrothermal behaviour of the ETICS has been assessed.

None of the following defects occurred:

- blistering or peeling of any paint finishing,
- failure or cracking associated with joints between insulation products boards or profiles fitted with the system,
- detachment of the render,
- cracking allowing water penetration to the insulation layer.

Assessment: the system "weber.therm 2013" and all its alternatives are resistant to hygrothermal cycles.

3.2.3 Freeze thaw behaviour

As shown in Table 4 of this ETA, the water absorption of the base coat and of rendering systems of all the alternatives of "weber.therm 2013" is less than 0.5 kg/m² after 24 hours and so the system can be assessed as freeze/thaw resistant without any further testing.

3.2.4 Impact resistance

The tests have been performed in accordance with § 5.1.3.3 of ETAG 004.

All the alternatives were made with one single standard mesh. The resistance of the systems to hard body impacts (3 Joules and 10 Joules) and to perforation (Perfotest) leads to the following use category:

Impact resistance of the alternatives	Rendering systems	Categoria
"weber.therm mix"	weber.cote action R	Use Category II
	weber.cote riviera R	Use Category II
"weber.therm prestige"	weber.cote action R	Use Category II
	weber.cote riviera R	Use Category II
"weber.therm family plus"	weber.cote riviera R	Use Category III
	weber.cote riviera G	Use Category III
	weber.cote action F	Use Category III
	weber.cote action R	Use Category III
	weber.cote mineral R	Use Category III
	weber.cote mineral G	Use Category III
"weber.therm clima blue"	weber.cote riviera R	Use Category III
	weber.cote riviera G	Use Category II
	weber.cote action F	Use Category III
	weber.cote action R	Use Category III
"weber.therm comfort G3"	weber.cote action R	Use Category II

Tab. 9: Categories of impact resistance

3.2.5 Water vapour permeability (Resistance to water vapour diffusion)

The water vapour permeability has been determined in accordance with § 5.1.3.4 of ETAG 004.

Water vapour permeability of rendering systems made of:	Equivalent air thickness (m)	ETAG 004 maximum value (m)		Pass
		MW	EPS	
- base coat "Weber.therm AP50 system" - key coat "weber.prim RA13" - finishing coat "weber.cote action R"	0.48	≤ 1.0	≤ 2.0	x
- base coat "Weber.therm AP50 system" - key coat "weber.prim RA13" - finishing coat "weber.cote riviera R"	0.59	≤ 1.0	≤ 2.0	x
- base coat "Weber.therm AP50 system" - key coat "weber.prim RC14" - finishing coat "weber.cote action F"	0.61	//	≤ 2.0	x
- base coat "Weber.therm AP50 system" - key coat "weber.prim RC14" - finishing coat "weber.cote action R"	0.35	≤ 1.0	≤ 2.0	x
- base coat "Weber.therm AP50 system" - key coat "weber.prim mineral" - finishing coat "weber.cote mineral R"	0.54	//	≤ 2.0	x
- base coat "Weber.therm AP50 system" - key coat "weber.prim mineral" - finishing coat "weber.cote mineral G"	0.54	//	≤ 2.0	x
- base coat "Weber.therm AP50 system" - key coat "weber.prim RA13" - finishing coat "weber.cote riviera G"	0.53	//	≤ 2.0	x

Tab. 10: Water vapour permeability of the rendering systems

3.2.6 Release of dangerous substances

(in accordance with § 5.1.3.5 of ETAG 004, and with EOTA TR 034)

The external thermal insulation composite system neither contains nor releases the dangerous substances specified in EOTA TR 034 (March 2012).

A written declaration in this respect was made by the manufacturer. In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products regulation 305/2011, these requirements need also to be complied with, when and where they apply.

3.2.7 Safety in use

3.2.7.1 Bond strength

The bond strength has been determined in accordance with § 5.1.4.1.1 and with § 5.1.4.1.3. of ETAG 004.

- Base coat "weber.therm AP50 system" and expanded polystyrene weber.therm M90

Conditioning		
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

Tab. 11: Bond strength between base coat and EPS (M90)

- Base coat “weber.therm AP50 system” and expanded polystyrene “weber.therm C70 system”

Conditioning		
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

Tab. 12: Bond strength between base coat and EPS (“weber.therm C70 system”)

- Base coat “weber.therm AP50 system” and expanded polystyrene “weber.therm F100/120”

Conditioning		
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

Tab. 13: Bond strength between base coat and EPS (“weber.therm F100/120”)

- Base coat “weber.therm AP50 system” and MW board weber.therm RL

Conditioning		
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

Tab. 14: Bond strength between base coat and MW (“weber.therm RL30”)

- Base coat “weber.therm AP50 system” and MW board weber.therm L25 and weber.therm LV034

Conditioning		
Initial state	After the hygrothermal cycles (on the rig)	After the freeze-thaw cycles (on samples)
< 0.08 MPa (but failure into insulation product)	< 0.08 MPa (but failure into insulation product)	Test not required because freeze-thaw cycles not necessary

Tab. 15: Bond strength between base coat and MW (“weber.therm L25” and weber.therm LV034)

- Base coat “weber.therm AP50 system” and expanded polystyrene “weber.therm F70 system”

Conditioning		
Initial state	After the hygrothermal cycles (on the rig)	After the freeze-thaw cycles (on samples)
< 0.08 MPa (but failure into insulation product)	< 0.08 MPa (but failure into insulation product)	Test not required because freeze-thaw cycles not necessary

Tab. 16: Bond strength between base coat and EPS (“weber.therm F70”)

- Adhesive “weber.therm AP50 system” onto the substrate in concrete and in clay bricks and between adhesive and EPS insulation and MW insulation

	Conditioning		
	Initial state	48 hours of water immersion + 2 hours 23°C / 50% RH	48 hours of water immersion + 7 days 23°C / 50% RH
Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
Clay bricks	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa

“weber.therm M90”	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
“weber.therm RL30”	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
“weber.therm F70 system”	< 0.08 MPa but cohesive failure in the insulation product.	≥ 0.03 MPa	< 0.08 MPa but cohesive failure in the insulation product.
“weber.therm F100 system”	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
“weber.therm F120 system”	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
“weber.therm C70 system”	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
“weber.therm L25”	< 0.08 MPa but cohesive failure in the insulation product.	< 0.03 MPa but cohesive failure in the insulation product.	< 0.08 MPa but cohesive failure in the insulation product.
“weber.therm LV034”	< 0.08 MPa but cohesive failure in the insulation product.	< 0.03 MPa but cohesive failure in the insulation product.	< 0.08 MPa but cohesive failure in the insulation product.

Tab. 17: Bond strength between adhesive and the substrates and the insulation products

The minimal bonded surface S shall be calculated as follows:

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

- B: minimum mean failure resistance of the adhesive to the insulation product in dry conditions expressed in MPa
- 0,03 MPa corresponds to the minimum requirements.

The ETICS shall be installed on the substrate with application of the adhesive with the minimal surface areas (% of total) given in the following table:

		Tensile strength perpendicular to the face of the insulation product	
“weber.therm AP50 system”	“weber.therm M90”	≥ 150 kPa	20%
	“weber.therm RL30”	≥ 80 kPa	20%
	“weber.therm F70 system”	≥ 100 kPa	50%
	“weber.therm F100 system”	≥ 100 kPa	40%
	“weber.therm F120 system”	≥ 200 kPa	40%
	“weber.therm C70 system”	≥ 150 kPa	20%
	“weber.therm L25”	≥ 10 kPa	mechanically fixed (6.1.4.1.3 of ETAG 004)
	“weber.therm LV034”	6.3 kPa	mechanically fixed (6.1.4.1.3 of ETAG 004)

Tab. 18: Minimal bonded surface

The ETA Holder requires minimum 40%.

3.2.7.2 Fixing strength : Displacement test

Test not required because the ETICS fulfils the following criteria:

- $E \times d = 3\,664 \text{ N/mm} < 50\,000 \text{ N/mm}$, where E is modulus of elasticity of base coat weber.therm AP50 without glass fibre mesh and d is mean dried thickness of the base coat.

3.2.7.3 Fixing strength: Wind load resistance

Safety in use of mechanically fixed ETICS using anchors:

- weber.therm TA6 (ETA 09.0171)
- weber.therm TA7 (ETA 09.0394)
- weber.therm TA8 (ETA 04.0023)
- weber.therm TA start (ETA 14.0130)

The following failure loads only apply to the listed combination (panel's characteristics)/(anchor plate's characteristics) and the characteristics of the insulation product given in clause from 3.3.1.1 to 3.3.1.8.

Anchors for which the following failure loads apply		Trade name		weber.therm TA6/TA7/TA8/TA start	
		Plate diameter (mm)		≥ 60	
Characteristic of the insulation product panels for which the following failure loads apply		Thickness (mm)		≥ 40	
		Tensile strength perpendicular to the face (kPa)		≥ 100	
Failure loads (N)	Anchors not placed at the panel joint (pull – through test)	R_{panel}	Minimum:	360	
			Average:	367	
	Anchors placed at the panel joint (static foam block test)	R_{joint}	Minimum:	332	
			Average:	337	

Tab. 19: Failure loads (N) with EPS panels

Anchors for which the following failure loads apply		Trade name		weber.therm TA6/TA7/TA8/TA start	
		Plate diameter (mm)		≥ 60	
Characteristic of the insulation product panels for which the following failure loads apply		Thickness (mm)		≥ 120	
		Tensile strength perpendicular to the face (kPa)		≥ 6.3	
Failure loads (N)	Anchors not placed at the panel joint (pull – through test)	R_{panel}	Minimum:	230	
			Average:	250	

Tab. 20: Failure loads (N) with MW panels

The failure loads specified above only apply to the anchors with deep mounting under the conditions of installation given in the related ETAs.

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

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

where:

n_{panel} : number (per m²) of anchors not placed at the panel joint

n_{joint} : number (per m²) of anchors placed at the panel joint

γ : national safety factor.

3.2.8 Thermal resistance

The additional thermal resistance provided by the ETICS (R_{ETICS}) to the substrate wall is calculated from the thermal resistance of the insulation product (R_D), determined in accordance with 5.2.6.1, and from the tabulated R_{render} value of the render system (R_{render} is about 0,02 m²K/W),

$$R_{ETICS} = R_D + R_{render} [(m^2 \times K)/W]$$

as described in:

- EN ISO 6946: Building components and building elements - Thermal resistance and thermal transmittance - Calculation method.

- EN ISO 10456: Building materials and products - Hygrothermal properties – Tabulated design values and procedures for determining declared and design thermal values.

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

EN 1934: "Thermal insulation - Determination of steady state thermal transmission properties - Calibrated and guarded hot box".

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

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

With:

U_c corrected thermal transmittance of the entire wall, including thermal bridges
 U thermal transmittance of the entire wall, including ETICS, without thermal bridges

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

$R_{substrate}$ thermal resistance of the substrate wall [(m²×K)/W]

R_{se} external surface thermal resistance [(m²×K)/W]

R_{si} internal surface thermal resistance [(m²×K)/W]

ΔU correction term of the thermal transmittance for mechanical fixing devices

$$= \chi_p * n \text{ (for anchors)} + \sum \psi_i * \ell_i \text{ (for profiles)}$$

χ_p point thermal transmittance value of the anchor [W/K]. See Technical Report n°25. If not specified in the anchors ETA, the following values apply:
 = 0.002 W/K for anchors with a stainless steel screw with the head covered by plastic material, and for anchors with an air gap at the head of the screw.
 = 0.004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material
 = 0.008 W/K for all other anchors (worst case)

n number of anchors per m²

ψ_i linear thermal transmittance value of the profile [W/(m×K)]

ℓ_i length of the profile per m²

The influence of thermal bridges can also be calculated as described in: EN ISO 10211: Thermal bridges in building construction - Heat flows and surface temperatures - Detailed calculations. It shall be calculated according to this standard if there are more than 16 anchors per m² foreseen. The cp-values given by the manufacturer do not apply in this case.

3.2.9 Aspects of durability: Bond strength after ageing

The bond strength of the system after ageing has been determined following the method envisaged in § 5.1.7.1.1 or in § 5.1.7.1.2 of ETAG 004.

Bond strength of system after ageing with specific rendering systems		After hygrothermal cycles (on the rig) or after 7 days immersion in water + 7 days 23°C / 50% RH (on samples)
"weber.therm mix"	weber.cote action R	≥ 0.08 MPa
	weber.cote riviera R	≥ 0.08 MPa
"weber.therm prestige"	weber.cote action R	< 0,08 MPa but 100 % cohesive rupture in insulation
	weber.cote riviera R	< 0,08 MPa but 100 % cohesive rupture in insulation
"weber.therm family plus" with all envisaged insulation EPS panels	weber.cote riviera R	≥ 0.08 MPa
	weber.cote riviera G	≥ 0.08 MPa
	weber.cote action F	≥ 0.08 MPa
	weber.cote action R	≥ 0.08 MPa
	weber.cote mineral R	≥ 0.08 MPa
	weber.cote mineral G	≥ 0.08 MPa

"weber.therm clima blue"	weber.cote riviera R	≥ 0.08 MPa
	weber.cote riviera G	≥ 0.08 MPa
	weber.cote action F	≥ 0.08 MPa
	weber.cote action R	≥ 0.08 MPa
"weber.therm comfort G3"	weber.cote action R	< 0,08 MPa but 100 % cohesive rupture in insulation

Tab. 21: Bond strength of system after ageing

3.3 Component's characteristics and parameters

The tests on components have been carried out in accordance with § 5.2 and with Annex C of ETAG 004 in order to verify the declared values or with the acceptance values of ETAG 004, where present. The results were positive.

3.3.1 Insulation products

3.3.1.1 Insulation product in EPS "weber.therm M90"

Expanded polystyrene with graphite panels with right edges, type 100, grey colour, one side coated with thin layer in expanded sintered white polystyrene. Their characteristics are given in the following table.

Descriptions and characteristic		EPS Panels for bonded ETICS with supplementary fixing
Reaction to fire (EN 13501-1)		Euroclass E thickness: 80- 200 mm -density: $20 \pm 5\% \text{ kg/m}^3$
Thermal resistance		Defined in CE marking in reference to EN 13163 "Thermal insulation products for buildings" – Factory made products of expanded polystyrene
Thickness (EN 823)		T2 (EN 13163)
Length (EN 822)		L2 (EN 13163)
Width (EN 822)		W2 (EN 13163)
Squareness (EN 824)		S2 (EN 13163)
Flatness (EN 825)		P4 (EN 13163)
Surface condition		Cut surface (homogeneous and without "skin")
Dimensional stability	23° C 50% RH (EN 1603)	EPS-EN 13163 DS(N)2
	$23^\circ \pm 2^\circ \text{ C}$ 90% ± 5 RH for 48 hours) (EN 1604)	≤ 2%
Water absorption by partial immersion (EN 1609) – (EN 12087)		EPS-EN 13163 WL(T)2 ≤ 1kg/m^2
Water vapour permeability (μ) (EN 12086- EN 13163)		30÷70
Tensile strength (kPa) (EN 1607)		≥ 150 - EPS-EN 13163 -TR150
Shear strength (N/mm^2) (EN 12090)		≥ 0.02
Shear modulus of elasticity (N/mm^2) (EN 12090)		≥ 1.0
Conductivity λ (W/mK) (EN 12667)		≤ 0.030

Tab. 22: Insulation characteristics (weber.therm M90)

3.3.1.2 Insulation product in MW "weber.therm RL30"

Factory-prefabricated, uncoated boards with right edges, made of mineral wool (MW) according to EN 13162, having the description and characteristics defined in the table below.

Descriptions and characteristic		MW slabs for bonded ETICS with supplementary fixing
Reaction to fire (EN 13501-1)		Euroclass A1 with density max: 101 kg/m ³
Thermal resistance		Defined in CE marking in reference to EN 13162 "Thermal insulation products for buildings" – Factory made products of mineral wool products"
Thickness (EN 823)		T5 (EN 13162)
Length (EN 822)		± 2 (EN 13162)
Width (EN 822)		± 1.5 (EN 13162)
Squareness (EN 824)		≤ 5 (EN 13162)
Flatness (EN 825)		≤ 6 (EN 13162)
Surface condition		Cut surface (homogeneous and without "skin"
Dimensional stability under	23° C 50% RH (EN 1603)	DS(T+) MW -EN 13162 ≤ 1%
	48h 70±2°C and 90±5 %RH (EN 1604)	DS(TH) MW -EN 13162 ≤ 1%
Water absorption by partial immersion (EN 1609) – (EN 12087)		WS, WL(P) MW -EN 13162 ≤ 1kg/m ²
Water vapour permeability (μ) (EN 12086- EN 13162)		≤ 1
Tensile strength (kPa) (EN 1607)		≥ 80 MW-EN 13162 –TR80
Shear strength (kPa) (EN 12090)		≥ 0.02
Shear modulus of elasticity (kPa) (EN 12090)		≥ 1.0
Compression resistance (kPa) (EN 826)		≥ CS(10/Y) 30 EN 13162
Conductivity λ (W/mK) (EN 12667)		≤ 0.041

Tab. 23: : Insulation characteristics (weber.therm RL30)

3.3.1.3 Insulation product in EPS "weber.therm F70 system"

Expanded polystyrene panels for bonded ETICS or mechanically fixed ETICS with anchors
Factory-prefabricated, uncoated boards with right edges, made of expanded polystyrene (EPS) according to EN 13163 and having the description and characteristics defined in the tables below.

Description and characteristics		EPS panels "weber.therm F70 system"
		For bonded or mechanically fixed ETICS with anchors
Reaction to fire/EN 13501-1		E
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 -L2
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	specified temperature and humidity/EN 1604	EPS-EN 13163 -DS (70,-)1
	laboratory condition/EN 1603	EPS-EN 13163 -DS(N)2
Compression strength/EN 826		EPS-EN 13163 -CS(10)70
Water absorption (partial immersion)/EN 1609		< 1 kg/m ²

Water vapour diffusion resistance factor (μ)/EN 12086-EN 13163	30-70
Tensile strength perpendicular to the faces in dry conditions (kPa)/EN 1607	(EPS-EN-13163, TR100) ≥ 100
Shear strength (N/mm ²)/EN 12090	≥ 0.02
Shear modulus (N/mm ²)/EN 12090	≥ 1.0
Conductivity λ (W/mK) (EN 12667)	≤ 0.040

Tab. 24: Insulation characteristics (weber.therm F70 system)

3.3.1.4 Insulation product in EPS “weber.therm F100 system”

Expanded polystyrene panels for bonded ETICS or mechanically fixed ETICS with anchors
Factory-prefabricated, uncoated boards with right edges, made of expanded polystyrene (EPS) according to EN 13163 and having the description and characteristics defined in the tables below.

Description and characteristics		EPS panels “weber.therm F100 system”
		For bonded or mechanically fixed ETICS with anchors
Reaction to fire/EN 13501-1		E
Thermal resistance ((m ² .K/W))		Defined in the CE marking in reference to EN 13163 “Thermal insulation products for buildings”-Factory made products of expanded polystyrene
Thickness (mm)/EN 823		EPS-EN 13163 - T2
Length (mm)/EN 822		EPS-EN 13163 -L2
Width (mm)/EN 822		EPS-EN 13163 -W2
Squariness (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	specified temperature and humidity/EN 1604	EPS-EN 13163 -DS (70,-)1
	laboratory condition/EN 1603	EPS-EN 13163 -DS(N)2
Compression strength/EN 826		EPS-EN 13163 -CS(10)100
Water absorption (partial immersion)/EN 1609		$< 1 \text{ kg/m}^2$
Water vapour diffusion resistance factor (μ)/EN 12086-EN 13163		30-70
Tensile strength perpendicular to the faces in dry conditions (kPa)/EN 1607		(EPS-EN-13163, TR150) ≥ 150
Shear strength (N/mm ²)/EN 12090		≥ 0.02
Shear modulus (N/mm ²)/EN 12090		≥ 1.0
Conductivity λ (W/mK) (EN 12667)		≤ 0.037

Tab. 25: Insulation characteristics (weber.therm F100 system)

3.3.1.5 Insulation product in EPS “weber.therm F120 system”

Expanded polystyrene panels for bonded ETICS or mechanically fixed ETICS with anchors
Factory-prefabricated, uncoated boards with right edges, made of expanded polystyrene (EPS) according to EN 13163 and having the description and characteristics defined in the tables below.

Description and characteristics		EPS panels “weber.therm F120 system”
		For bonded or mechanically fixed ETICS with anchors
Reaction to fire/EN 13501-1		E

Thermal resistance ((m ² .K/W))	Defined in the CE marking in reference to EN 13163 "Thermal insulation products for buildings"- Factory made products of expanded polystyrene	
Thickness (mm)/EN 823	EPS-EN 13163 - T2	
Length (mm)/EN 822	EPS-EN 13163 -L2	
Width (mm)/EN 822	EPS-EN 13163 -W2	
Squariness (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	specified temperature and humidity/EN 1604	EPS-EN 13163 -DS (70,-)1
	laboratory condition/EN 1603	EPS-EN 13163 -DS(N)2
Compression strength/EN 826	EPS-EN 13163 -CS(10)120	
Water absorption (partial immersion)/EN 1609	< 1 kg/m ²	
Water vapour diffusion resistance factor (μ) /EN 12086-EN 13163	30-70	
Tensile strength perpendicular to the faces in dry conditions (kPa)/EN 1607	(EPS-EN-13163, TR200) ≥ 200	
Shear strength (N/mm ²)/EN 12090	≥ 0.02	
Shear modulus (N/mm ²)/EN 12090	≥ 1.0	
Conductivity λ (W/mK) (EN 12667)	≤ 0.035	

Tab. 26: Insulation characteristics (weber.therm F120 system)

3.3.1.6 Insulation product in EPS "weber.therm C70 system"

Expanded polystyrene panels for bonded ETICS or mechanically fixed ETICS with anchors
Factory-prefabricated, uncoated boards with right edges, made of expanded polystyrene (EPS 70) according to EN 13163 and having the description and characteristics defined in the tables below.

Description and characteristics	EPS panels "weber.therm C70 system" For bonded or mechanically fixed ETICS with anchors	
Reaction to fire/EN 13501-1	E	
Thermal resistance ((m ² .K/W))	Defined in the CE marking in reference to EN 13163 "Thermal insulation products for buildings"-Factory made products of expanded polystyrene	
Thickness (mm)/EN 823	EPS-EN 13163 -T2	
Length (mm)/EN 822	EPS-EN 13163 -L2	
Width (mm)/EN 822	EPS-EN 13163 -W2	
Squariness (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	specified temperature and humidity/EN 1604	EPS-EN 13163 -DS (70,-)1
	laboratory condition/EN 1603	EPS-EN 13163 -DS(N)2
Compression strength/EN 826	EPS-EN 13163 -CS(10)70	
Water absorption (partial immersion)/EN 1609	< 1 kg/m ²	
Water vapour diffusion resistance factor (μ) /EN 12086-EN 13163	10	
Tensile strength perpendicular to the faces in dry conditions (kPa)/EN 1607	(EPS-EN-13163, TR150) ≥ 150	
Shear strength (N/mm ²)/EN 12090	≥ 0.02	

Shear modulus (N/mm ²)/EN 12090	≥ 1.0
Conductivity λ (W/mK) (EN 12667)	≤ 0.036

Tab. 27: Insulation characteristics (weber.therm C70 system)

3.3.1.7 Insulation product in MW “weber.therm L25”

Glass wool boards for mechanically fixed ETICS with anchors.

Breathable and water repellent boards, having right-angled edges (MW) according to EN 13162 and having the description and characteristics defined in the table below.

Description and characteristics	MW glass wool boards “weber.therm L25”		
	For mechanically fixed ETICS with supplementary adhesive		
Reaction to fire/EN 13501-1	A2 – s1, d0	Density	75 kg/m ³ ± 8%
		Thickness	from 40 mm to 120 mm
Thermal resistance (m ² .K/W)	Defined in the CE marking in reference to EN 13162 “Thermal insulation products for buildings. Factory made mineral wool (MW) products. Specification”		
Thickness (mm)/EN 823	MW -EN 13162 – T5		
Compression strength/EN 826	MW -EN 13162 -CS(10)25		
Water absorption (partial immersion) /EN 1609	< 1 kg/m ²		
Water vapour diffusion resistance factor (μ) /EN 12086-EN 13162	1.1		
Tensile strength perpendicular to the faces in dry conditions (kPa)/EN 1607	(MW -EN 13162 - TR10)	≥ 10	
Conductivity λ (W/mK) (EN 12667)	≤ 0.036		

Tab. 28: Insulation characteristics (weber.therm L25)

3.3.1.8 Insulation product in MW “weber.therm LV034”

Glass wool boards for mechanically fixed ETICS with anchors.

Breathable and water repellent boards, having right-angled edges (MW) according to EN 13162 and having the description and characteristics defined in the table below.

Description and characteristics	MW glass wool boards “weber.therm LV034”		
	For mechanically fixed ETICS with supplementary adhesive		
Reaction to fire/EN 13501-1	A2 – s1, d0	Density	55 kg/m ³ ± 10 %
		Thickness	from 60 mm to 200 mm
Thermal resistance (m ² .K/W)	Defined in the CE marking in reference to EN 13162 “Thermal insulation products for buildings. Factory made mineral wool (MW) products. Specification”		
Thickness (mm)/EN 823	MW -EN 13162 – T5		
Compression strength/EN 826	MW -EN 13162 -CS(10)25		
Water absorption (partial immersion) /EN 1609	< 1 kg/m ²		
Water vapour diffusion resistance factor (μ) /EN 12086-EN 13162	1.4		
Tensile strength perpendicular to the faces in dry conditions (kPa)/EN 1607	(MW -EN 13162 – TR7,5)	≥ 7,5	
Shear strength (N/mm ²) (EN 12090)	≥ 0.016		
Shear modulus of elasticity (N/mm ²) (EN 12090)	≥ 0.5		
Conductivity λ (W/mK) (EN 12667)	≤ 0.034		

Tab. 29: Insulation characteristics (weber.therm LV034)

3.3.2 Anchors

Polypropylene anchor sleeve with plate and an accompanying:

- polyamide specific expansion pin (weber.therm TA6)
- steel/nylon pin (weber.therm TA7)
- polyethylene/galvanized steel (weber.therm TA8)
- polyethylene /polyamide (weber.therm TA START).

Trade name	Plate diameter (mm)	Characteristic resistance in the substrate
"weber.therm TA6"	60	see ETA 09/0171
"weber.therm TA7"	60	see ETA 09/0394
"weber.therm TA8"	60	see ETA 040023
"weber.therm TASTART"	60	see ETA 14/0130

Tab. 30: Anchors characteristic

3.3.3 Render

3.3.3.1 Rendering system (base coat + reinforcement) strip tensile test

The test has been carried out in accordance with § 5.5.4.1 of ETAG 004

Rendering system strain value	mean value of cracks in warp direction (mm)	mean value of cracks in weft direction (mm)
0.3 %	$0.04 < w \leq 0.06$	$0.02 < w \leq 0.04$
0.5 %	$0.05 < w \leq 0.07$	$0.05 < w \leq 0.07$
0.8 %	$0.08 < w \leq 0.08$	$0.08 < w \leq 0.08$
1.0 %	$0.09 < w \leq 0.12$	$0.07 < w \leq 0.10$
1.5 %	$0.10 < w \leq 0.14$	$0.08 < w \leq 0.10$
	rupture	//
2.0 %	//	$0.04 < w \leq 0.10$
		rupture
n° of cracks	14 (mean value)	13 (mean value)

Tab. 31: Rendering system strip tensile test results (w = crack's width)

3.3.4 Reinforcement (glass fibre mesh)

The reinforcement is a glass fibre mesh and its characteristics have been verified through the Identification methods envisaged in Annex C of ETAG 004.

3.3.4.1 Residual strength of reinforcement after ageing

Glass fibre mesh	Alkali resistance			
	Residual strength after ageing (N/mm)		Relative residual resistance (% after ageing) of strength in the as delivered state	
	warp	weft	warp	weft
"weber.therm RE160"	≥ 20	≥ 20	≥ 50	≥ 50

Tab. 32: Residual strength after ageing

4. Assessment and Verification of Constancy of Performance (hereinafter AVCP) system applied, with reference to its legal base

According to Decision 97/556/EC¹⁵ of the European Commission amended by the Decision 001/596/EC, the AVCP (see Annex V to Regulation (EU) 305/2011) given in the following table applies.

¹⁵ Official Journal of the European Communities L 254 of 8.10.1996

Product	Intended use	Level or class (reaction to fire)	System
External thermal insulation composite systems/kits (ETICS) with rendering	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+

Tab. 33: AVCP system

⁽¹⁾ Products/materials for which a 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 require to be tested for reaction to fire (e.g. Products/materials of Classes A1 according to Commission Decision 96/603/EC).

Considering the Euroclass B for the reaction to fire and that no stage in production process has been identified that corresponds to an improvement of the reaction to fire classification, the system of Attestation of Conformity is System 2+ (see Annex V to Regulation (EU) 305/2011 for tasks and responsibilities).

6. Technical details necessary for the implementation of the AVCP system, as provided for in ETAG 004 used EAD

Technical details necessary for the implementation of the AVCP system are laid down in the Control Plan which is deposited at ITC CNR.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between ITC CNR and the Notified Body.

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