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European Technical Assessment Body  
for construction products



## European Technical Assessment

ETA-05/0250  
of 19 November 2025

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

weber.therm XPM1 / B 300 Wärmedämm-Verbundsystem

Product family  
to which the construction product belongs

Product Area Code: 4

External Thermal Insulation Composite Systems (ETICS)  
with renderings to be applied as external thermal  
insulation on the walls of buildings

Manufacturer

Saint-Gobain Weber GmbH  
Willstätterstraße 60  
40549 Düsseldorf

Manufacturing plant

Saint-Gobain Weber GmbH  
Niederlassung Wülfrath  
Meiersberger Straße  
42489 Wülfrath  
DEUTSCHLAND

This European Technical Assessment  
contains

21 pages including 6 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 040083-00-0404

This version replaces

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## Specific Part

### 1 Technical description of the product

This product is an External Thermal Insulation Composite System (ETICS) with rendering - a kit comprising components which are factory-produced by the manufacturer or component suppliers. It's made up on site from these. The ETICS manufacturer is ultimately responsible for all components of the ETICS specified in this ETA.

The ETICS kit comprises a prefabricated insulation product of expanded polystyrene (EPS) to be bonded and if it necessary additionally mechanically fixed onto a wall. The methods of fixing and the relevant components are specified in annex 1. The insulation product is faced with a rendering system consisting of one base coat and finishing coat (site applied), in which the base coat contains reinforcement. The rendering is applied directly to the insulating panels, without any air gap or disconnecting layer.

The ETICS may include special fittings (e.g. base profiles, corner profiles ...) for connection to adjacent building elements (apertures, corners, parapets ...). Assessment and performance of these components are not addressed in this ETA, however the ETICS manufacturer is responsible for adequate compatibility and performance within the ETICS when the components are delivered as a part of the kit.

### 2 Specification of the intended use in accordance with the applicable European assessment Document

The performances in Section 3 can only be assumed if the ETICS is used in accordance with the specifications and under the boundary conditions specified in Annexes 2 to 5.

The verifications and assessment methods on which this ETA is based lead to the assumption of a working life of the ETICS "weber.therm XPM1 / B 300 Wärmedämm-Verbundsystem" of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as a means for choosing the right products in relation to the assumed economically reasonable working life of the works.

For use, maintenance and repair, the finishing coat shall be maintained in order to fully preserve the ETICS performance. Maintenance includes at least:

- visual inspection of the ETICS,
- the repairing of localized damaged areas due to accidents,
- the aspect maintenance with products compatible with the ETICS (possibly after washing or ad hoc preparation).

Necessary repairs are to be carried out as soon as the need has been identified.

The information on use, maintenance and repair is given in the manufacturer's technical documentation.

It is the responsibility of the manufacturer to ensure that this information is made known to the concerned people.

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

#### 3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire of the ETICS	(see annex 2) Class according to EN 13501-1
Reaction to fire of the EPS-insulation product – Apparent density of the EPS-insulation product according to EN 1602	(see annex 2) Class E according EN 13501-1 value [kg/m <sup>3</sup> ]
Reaction to fire of the PU- foam adhesive	not applicable
Facade fire performance	no performance assessed
Propensity to undergo continuous smouldering of ETICS	not applicable

#### 3.2 Hygiene, health and environment (BWR 3)

Essential characteristic	Performance
<b>Release of dangerous substances</b>	no performance assessed
<b>Water absorption</b> Base coat after 1 hour after 24 hours  Rendering system after 1 hour after 24 hours  EPS insulation after 24 hours	(see annex 3.1)  Mean value [kg/m <sup>2</sup> ] Mean value [kg/m <sup>2</sup> ]  Mean value [kg/m <sup>2</sup> ] Mean value [kg/m <sup>2</sup> ]  Maximum value 0,5 kg/m <sup>2</sup>
<b>Water-tightness of the ETICS: Hygrothermal behaviour on the test wall</b>	Passed without defects
<b>Water-tightness of the ETICS: freeze/thaw behaviour</b>	The water absorption of the base coat as well as the rendering systems is less than 0.5 kg/m <sup>2</sup> after 24 hours for ETICS with base coats "weber.therm 305" und "weber.therm 305 AquaBalance" and appropriate finishing coat. The ETICS is so assessed as free/thaw resistant.  No performance was evaluated for ETICS with the "weber.therm M1" base coat.
<b>Impact resistance</b>	(see annex 3.2) Category
<b>Water vapour permeability</b> - Rendering system - EPS insulation	(see annex 3.3) s <sub>d</sub> value [m]  μ = 20 - 70 Thickness of the insulation product 400 [mm]

### 3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
<p><b>Bond strength</b> between base coat and EPS insulation</p> <p>between adhesive and substrate</p> <p>between adhesive and EPS insulation</p>	<p>(see annex 4.1)</p> <ul style="list-style-type: none"> <li>- Minimal value/Mean value value [kPa], rupture type: Initial state (28 d immersion)</li> <li>- Minimal value/Mean value value [kPa], rupture type: after hygrothermal cycles</li> </ul> <p>(see annex 4.2)</p> <ul style="list-style-type: none"> <li>- Thickness [mm] of the used adhesives</li> <li>- Minimal value/ Mean value value [kPa]: Initial state (dry conditions)</li> <li>- Minimal value/ Mean value value [kPa]: after 2 d immersion in water, 2 h drying</li> <li>- Minimal value/ Mean value value [kPa]: after 2 d immersion in water, 7 d drying</li> </ul> <p>(see annex 4.3)</p> <ul style="list-style-type: none"> <li>- Thickness [mm] of the used adhesives</li> <li>- Minimal value [kPa]: Initial state (dry conditions)</li> <li>- Minimal value/ Mean value value [kPa]: after 2 d immersion in water, 2 h drying</li> <li>- Minimal value/ Mean value value [kPa],: after 2 d immersion in water, 7 d drying</li> </ul>
<b>Fixing strength (displacement test)</b>	Test not required therefore no limitation of ETICS length required
<p><b>Wind load resistance of ETICS</b> pull-through test of fixing static foam block test</p> <p>dynamic wind uplift test</p>	<p>(see annex 4.4)</p> <ul style="list-style-type: none"> <li>- <math>R_{\text{panel}}</math> [kN/fixing],</li> <li>- <math>R_{\text{joint}}</math> [kN/fixing],</li> <li>- Plate diameter of anchor <math>\geq 60</math> mm, <math>\geq 90</math> mm</li> <li>- plate stiffness <math>\geq 0.3</math> kN/mm<sup>2</sup></li> <li>- load resistance of the anchor plate <math>\geq 1.0</math> kN</li> </ul> <p>not applicable</p>
<p><b>Tensile strength perpendicular to the faces</b> in dry conditions standard EPS</p> <p>elastified EPS</p>	<p><math>\sigma_{\text{mt}} \geq 80</math> kPa (bonded ETICS)</p> <p><math>\sigma_{\text{mt}} \geq 100</math> kPa (bonded ETICS with anchors)</p> <p><math>\sigma_{\text{mt}} \geq 150</math> kPa (bonded ETICS with profiles)</p> <p><math>\sigma_{\text{mt}} \geq 80</math> kPa</p>
<p><b>Shear modulus of the ETCS</b> standard EPS</p> <p>elastified EPS</p>	<p><math>1,0 \leq G_m \leq 3,8</math> [MPa]</p> <p><math>0,3 \leq G_m \leq 1,0</math> [MPa]</p>
<b>Pull-through resistance of fixings from profiles</b>	$\geq 500$ N
<b>Render strip tensile test</b>	(see annex 4.5) crack width $w_{\text{rk}}$ [mm]

Essential characteristic	Performance
<b>Bond strength after ageing</b>	(see annex 4.6) no performance assessed
<b>Tensile strength of the glass fibre mesh in the as-delivered state</b>	(see annex 4.7) Mean value value [N/mm <sup>2</sup> ]
<b>Residual tensile strength of the glass fibre mesh after aging</b>	(see annex 4.7) Mean value value [N/mm <sup>2</sup> ]
<b>Relative residual tensile strength of the glass fibre mesh after aging</b>	(see annex 4.7) Mean value value [%]
<b>Elongation of the glass fibre mesh in the as-delivered state</b>	(see annex 4.7) Mean value value [%]
<b>Elongation of the glass fibre mesh after aging</b>	(see annex 4.7) Mean value value [%]

#### 3.4 Protection against noise (BWR 5)

Essential characteristic	Performance
<b>Airborne sound insulation of ETICS</b>	no performance assessed
<b>Dynamic stiffness of the EPS insulation product</b>	no performance assessed
<b>Air flow resistance of the EPS insulation product</b>	no performance assessed

#### 3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
<b>Thermal resistance of ETICS</b>	(see annex 5) Calculated value or measurement value R [(m <sup>2</sup> · K)/W]
<b>thermal transmittance of ETICS</b>	(see annex 5) Calculated value or measurement value U [W/(m <sup>2</sup> · K)]

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

In accordance with EAD No. 040083-00-0404 the applicable European legal act is 97/556/EC changed by 2001/596/EC

The systems to be applied are:

Product	Intended use	Levels or classes (Reaction to fire)	Systems
"weber.therm XPM1 / B 300 Wärmedämm-Verbundsystem"	ETICS in external wall subject to fire regulations	A1 <sup>(1)</sup> , A2 <sup>(1)</sup> , B <sup>(1)</sup> , C <sup>(1)</sup>	1
		A1 <sup>(2)</sup> , A2 <sup>(2)</sup> , B <sup>(2)</sup> , C <sup>(2)</sup> , D, E, (A1 to E) <sup>(3)</sup> , F	2+
	ETICS in external wall not subject to fire regulations	any	2+
<p><sup>(1)</sup> 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)</p> <p><sup>(2)</sup> Products/materials not covered by footnote (1)</p> <p><sup>(3)</sup> 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)</p>			

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 19 November 2025 by Deutsches Institut für Bautechnik

Dirk Brandenburger  
Head of Department

*beglaubigt:*  
Klette

## Annex 1

### Composition of the ETICS

	Components National application documents shall be taken into account	Coverage [kg/m <sup>2</sup> ]	Thickness [mm]
Insulation material with associated method of fixing	<b>Bonded ETICS:</b>		
	• <b>Insulation product</b> factory-prefabricated expanded polystyrene (EPS)		
	- standard EPS	–	≤ 400
	- elastified EPS	–	≤ 300
	• <b>Adhesives</b>		
	- <b>weber.therm collage</b> (cement based powder requiring addition of about 20 % of water)	2.5 to 3.5	–
	- <b>weber.therm flex</b> (cement based powder requiring addition of about 20 % of water)	2.5 to 3.5	–
	- <b>weber.therm Klebemörtel</b> (cement based powder requiring addition of about 20 % of water)	4.0 to 6.0	–
	- <b>maxit multi Baukleber</b> (cement based powder requiring addition of about 20 % of water)	4.0 to 6.0	–
	- <b>weber.therm 300</b> (cement based powder requiring addition of about 27 % of water)	4.0 to 6.0	–
	- <b>weber.therm 301</b> (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- <b>maxit multi Kleber und Armierungsmörtel</b> (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- <b>weber.therm 302</b> (cement based powder requiring addition of about 33 % of water)	4.0 to 6.0	–
	- <b>maxit multi Kleber und Armierungsmörtel E</b> (cement based powder requiring addition of about 33 % of water)	4.0 to 6.0	–
- <b>weber.therm 303</b> (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–	
- <b>weber.therm 304</b> (cement based powder requiring addition of about 33 % of water)	4.0 to 6.0	–	
- <b>maxit multi Kleber und Armierungsmörtel PS</b> (cement based powder requiring addition of about 33 % of water)	4.0 to 6.0	–	
- <b>weber.therm 370</b> (cement based powder requiring addition of about 22 % of water)	3.0 to 5.0	–	

	<b>Components</b> National application documents shall be taken into account	<b>Coverage</b> [kg/m <sup>2</sup> ]	<b>Thickness</b> [mm]
<b>Insulation material with associated method of fixing</b>	<b>Mechanically fixed ETICS with profiles and supplementary adhesive:</b> <ul style="list-style-type: none"> <li>• <b>Insulation product</b> factory-prefabricated expanded polystyrene (EPS) <ul style="list-style-type: none"> <li>- standard EPS</li> </ul> </li> <li>• <b>Supplementary adhesive</b> (equal to bonded ETICS)</li> <li>• <b>Profiles</b> <ul style="list-style-type: none"> <li>- "PVC Halteleiste"</li> <li>- "PVC Verbindungsleiste"</li> </ul> Polyvinyl chloride (PVC) profiles </li> <li>• <b>Anchors for profiles</b> <ul style="list-style-type: none"> <li>- WS 8 L, WS 8 N</li> <li>- ejothem SDK U, ejothem NK U</li> <li>- SDF-K plus</li> </ul> </li> </ul>	–	60 to 200
	<b>Mechanically fixed ETICS with anchors and supplementary adhesive:</b> <ul style="list-style-type: none"> <li>• <b>Insulation product</b> (see annex 1 for product characteristics) factory-prefabricated expanded polystyrene (EPS) <ul style="list-style-type: none"> <li>- standard EPS</li> <li>- elastified EPS</li> </ul> </li> <li>• <b>Supplementary adhesive</b> (equal to bonded ETICS)</li> <li>• <b>Anchors for insulation product</b> all anchors with ETA according to EAD 330196-01-0604<sup>1</sup></li> </ul>	– –	60 to 400 60 to 300
<b>Base coat</b>	<b>weber.therm 305</b> (cement based powder requiring addition of about 27 % of water) For use with finishing coat weber.therm 305	about 8.0	5.0 to 7.0
	<b>weber.therm 305 AquaBalance</b> (cement based powder requiring addition of about 27 % of water) For use with finishing coat weber.therm 305 AquaBalance	about 8.0	5.0 to 7.0
	<b>weber.therm M1</b> (cement based powder requiring addition of about 23 % of water) For use with weber.therm M1 finishing coat	about 9.0	5.0 to 7.0
<b>Glass fibre mesh</b>	<b>weber.therm 310</b> (only to use with weber.therm 305 and weber.therm 305 AquaBalance) Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 200 g/m <sup>2</sup> and mesh size of about 8.0 mm x 8.0 mm.	–	–
	<b>weber.mesh standard</b> (only to use with weber.therm M1) Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 160 g/m <sup>2</sup> and mesh size of about 3.5 mm x 3.5 mm.	–	–

<sup>1</sup> EAD330196-01-0604

Plastic anchors for fixing of external thermal insulation composite systems with rendering

	<b>Components</b> National application documents shall be taken into account	<b>Coverage</b> [kg/m <sup>2</sup> ]	<b>Thickness</b> [mm]
<b>Finishing coat</b>	<ul style="list-style-type: none"> <li>Thin layered cement based powder requiring addition of about 27 % of water: <b>weber.therm 305</b> (particle size 1.5 – 2 – 3 – 4 and 5 mm)</li> </ul>	2.0 to 5.0	1.5 to 5.0
	<ul style="list-style-type: none"> <li><b>weber.therm 305 AquaBalance</b> (particle size 1.5 – 2 – 3 – 4 and 5 mm)</li> </ul>	2.0 to 5.0	1.5 to 5.0
	<ul style="list-style-type: none"> <li>Thick layered cement based powder requiring addition of about 27 % of water: <b>weber.therm 305</b> scraped render (particle size 1.5 – 2 – 3 – 4 and 5 mm)</li> </ul>	about 8.0	about 8.0
	<ul style="list-style-type: none"> <li><b>weber.therm 305 AquaBalance</b> scraped render (particle size 1.5 – 2 – 3 – 4 and 5 mm)</li> </ul>	about 8.0	about 8.0
	<ul style="list-style-type: none"> <li>Thin layered cement based powder requiring addition of about 23 % of water: <b>weber.therm M1</b> scraped render (particle size 1.5 – 2 – 3 – 4 and 5 mm)</li> </ul>	about 10.0	8.0 to 10.0
<b>Ancillary material</b>	Remains the responsibility of the manufacturer.		

## Annex 2

### Safety in case of fire (BWR 2)

#### 2.1 Reaction to fire

Configurations	Organic content	Flame retardant content	Class according to EN 13501-1
Base coat weber.therm 305 und weber.therm 305 AquaBalance	max. 2,6 %	no flame retardant	
EPS-insulation product	Class E according to EN 13501-1	Class E according to EN 13501-1	
Profile	–	–	
Anchor	–	–	
<b>Rendering system:</b> Base coats with finishing coat indicated hereafter:			
weber.therm 305 and weber.therm 305 AquaBalance with adhesive weber.therm -Klebemörtel, -300,-301,-302,-303,-304,-370; with maxit multi Baukleber, with adhesive maxit multi Kleber und Armierungsmörtel, -E, -PS	max. 2,6 %	no flame retardant	B - s1,d0
weber.therm 305 and weber.therm 305 AquaBalance with adhesive weber.therm collage or weber.therm flex	max. 2,6 %	no flame retardant	B - s2,d0

Configurations	Organic content	Flame retardant content	Class according to EN 13501-1
Base coat weber.therm M1	max. 3,7 %	no flame retardant	
EPS-insulation product	Class E according to EN 13501-1	Class E according to EN 13501-1	
Profile	–	–	
Anchor	–	–	
<b>Rendering system:</b> Base coats with finishing coat indicated hereafter:			
weber.therm M1 with adhesive weber.therm -Klebmörtel, -300,-301,-302,-303,-304,-370; with maxit multi Baukleber, with adhesive maxit multi Kleber und Armierungsmörtel, -E, -PS	max. 3,7 %	no flame retardant	B - s1,d0
weber.therm M1 with adhesive weber.therm collage or weber.therm flex	max. 3,7 %	no flame retardant	B - s2,d0

**2.2 Apparent density of the EPS-insulation product according to EN 1602**

$$\rho_a \leq 30 \text{ kg/m}^3$$

### Annex 3

#### Hygiene, health and environment (BWR 3)

##### 3.1 Water absorption

Base coat	Thickness [mm]	Mean value water absorption [kg/m <sup>2</sup> ]	
		after 1h	after 1h
weber.therm 305 / weber.therm 305 AquaBalance	6	0.07	0.33
weber.therm M1	no performance assessed		

Rendering system Base coats "weber.therm 305" / "weber.therm 305 AquaBalance" and "weber.therm M1" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m <sup>2</sup> ]	
		after 1h	after 1h
weber.therm 305 / weber.therm 305 AquaBalance	7	0.08	0.36
weber.therm M1	no performance assessed		

##### 3.2 Impact resistance

Rendering system Base coats "weber.therm 305" / "weber.therm 305 AquaBalance" and "weber.therm M1" with finishing coat indicated hereafter	Single standard mesh "weber.mesh standard"	Single standard mesh "weber.therm 310"
weber.therm 305 / weber.therm 305 AquaBalance	no performance assessed	no performance assessed
weber.therm M1	Category I	no performance assessed

##### 3.3 Water vapour permeability

Rendering system Base coats "weber.therm 305" / "weber.therm 305 AquaBalance" and "weber.therm M1" with finishing coat indicated hereafter	Equivalent air thickness $s_d$
weber.therm 305 / weber.therm 305 AquaBalance	≤ 1.0 m (Test result obtained with particle size 8 mm: 0.08 m)
weber.therm M1	≤ 1.0 m (Test result obtained with a layer thickness 14 mm: 0.33 m)

## Annex 4

### Safety and accessibility in use (BWR 4)

#### 4.1 Bond strength between base coat and insulation product (EPS)

		Rupture type	Conditioning		
			Initial state [kPa]	After hygro-thermal cycles [kPa]	After freeze/thaw test
weber.therm 305 / weber.therm 305 AquaBalance	Mean value	insulation product	no performance assessed	80	Test not required because freeze/thaw cycles not necessary
	Minimal value			50 <sup>a)</sup>	
weber.therm M1	Mean value	insulation product	90	150	
	Minimal value		60 <sup>b)</sup>	140	
<p>a) Requirement of <math>\geq 80</math> kPa not fulfilled</p> <p>b) Requirement of <math>\geq 80</math> kPa not fulfilled but failure in insulation product</p>					

#### 4.2 Bond strength between adhesive and substrate

Substrate: Concrete		Conditioning		
		Initial state [kPa]	2 d immersion in water and 2 h drying [kPa]	7 d immersion in water and 7 d drying [kPa]
weber.therm collage	Mean value	no performance assessed		
	Minimal value			
weber.therm flex	Mean value	no performance assessed		
	Minimal value			
weber.therm Klebemörtel	Mean value	no performance assessed		
	Minimal value			
maxit multi Baukleber	Mean value	no performance assessed		
	Minimal value			
weber.therm 300	Mean value	620	360	no performance assessed
	Minimal value	570	270	
weber.therm 301	Mean value	1070	580	no performance assessed
	Minimal value	760	480	
maxit multi Kleber und Armierungsmörtel	Mean value	1070	580	no performance assessed
	Minimal value	760	480	
weber.therm 302	Mean value	686	255	478
	Minimal value	641	179	327
maxit multi Kleber und Armierungsmörtel E	Mean value	686	255	478
	Minimal value	641	179	327
weber.therm 303	Mean value	1080	550	no performance assessed
	Minimal value	890	490	
weber.therm 304	Mean value	752	470	698
	Minimal value	628	396	621
maxit multi Kleber und Armierungsmörtel PS	Mean value	752	470	698
	Minimal value	628	396	621
weber.therm 370	Mean value	1300	550	no performance assessed
	Minimal value	1200	400	

#### 4.3 Bond strength between adhesive and insulation (EPS)

Substrate: Concrete		Conditioning		
		Initial state [kPa]	2 d immersion in water and 2 h drying [kPa]	2 d immersion in water and 7 d drying [kPa]
weber.therm collage	Mean value	no performance assessed		
	Minimal value			
weber.therm flex	Mean value	no performance assessed		
	Minimal value			
weber.therm Klebemörtel	Mean value	no performance assessed		
	Minimal value			
maxit multi Baukleber	Mean value	no performance assessed		
	Minimal value			
weber.therm 300	Mean value	100	no performance assessed	
	Minimal value	90		
weber.therm 301	Mean value	120	no performance assessed	
	Minimal value	100		
maxit multi Kleber und Armierungs-mörtel	Mean value	120	no performance assessed	
	Minimal value	100		
weber.therm 302	Mean value	100	no performance assessed	
	Minimal value	80		
maxit multi Kleber und Armierungs-mörtel E	Mean value	100	no performance assessed	
	Minimal value	80		
weber.therm 303	Mean value	122	no performance assessed	
	Minimal value	114		
weber.therm 304	Mean value	110	70	110
	Minimal value	100	60	100
maxit multi Kleber und Armierungs-mörtel PS	Mean value	110	70	110
	Minimal value	100	60	100
weber.therm 370	Mean value	108	no performance assessed	
	Minimal value	90		

#### Bonded surface

$$S [\%] = 0.03 \text{ N/mm}^2 \times 100 / 0.08 \text{ N/mm}^2$$

$$S = 37.5 \%$$

For bonded ETICS the calculated minimal bonded surface area is 40 %.

#### 4.4 Wind load resistance

The following failure loads only apply to the listed combination of component characteristics and the characteristics of the insulation product.

##### 4.4.1 Safety in use of mechanically fixed ETICS using profiles

Characteristics of the EPS (standard EPS)	Dimensions	500 mm x 500 mm
	Thickness	≥ 60 mm
	<b>Tensile strength perpendicular to the faces</b>	<b>≥ 150 kPa</b>
	Shear modulus	≥ 1.0 N/mm <sup>2</sup>
Failure load [N / panel] (Static Foam Block Test)	Horizontal profiles fixed every 30 cm and 49.4 cm long vertical connection profiles	Minimal: 950 Mean value: 1010

##### 4.4.2 Safety in use of mechanically fixed ETICS using anchors

Apply to all anchors listed in annex 1 mounted on the insulation panels surface				
Characteristics of the EPS (standard EPS)	Thickness	≥ 60 mm		
	<b>Tensile strength perpendicular to the faces</b>	<b>≥ 100 kPa</b>		
	Shear modulus	≥ 1.0 N/mm <sup>2</sup>		
Plate diameter of anchor		∅ 60 mm	∅ 90 mm	
plate stiffness		≥ 0.3 kN/mm		
load resistance of the anchor plate		≥ 1.0 kN		
Failure load [N]	Anchors not placed at the panel joints (Static Foam Block Test)	R <sub>panel</sub>	Minimal: 510 Mean value: 520	Minimal: 720 Mean value: 730
	Anchors placed at the panel joints (Pull-through test)	R <sub>joint</sub>	Minimal: 400 Mean value: 430	Minimal: 430 Mean value: 470

Apply to all anchors listed in annex 1 mounted on the insulation panels surface				
Characteristics of the EPS (elastified EPS)	Thickness	≥ 60 mm		
	<b>Tensile strength perpendicular to the faces</b>	<b>≥ 80 kPa</b>		
	Shear modulus	≥ 0.3 N/mm <sup>2</sup>		
Plate diameter of anchor		∅ 60 mm		
plate stiffness		≥ 0.3 kN/mm		
load resistance of the anchor plate		≥ 1.0 kN		
Failure load [N]	Anchors not placed at the panel joints (Static Foam Block Test)	R <sub>panel</sub>	Minimal: 350 Mean value: 360	
	Anchors placed at the panel joints (Pull-through test)	R <sub>joint</sub>	Minimal: 300 Mean value: 310	

The failure loads specified above for a plate diameter of anchor of 60 mm apply to the following anchors with deep mounting but only on the following conditions of installation:

Anchor	Thickness of the EPS	Conditions of installation*
ejotherm STR U, ejotherm STR U 2G (ETA-04/0023)	≥ 80 mm (for standard and elastified EPS)	– Maximum installation depth of the anchor plate: 15 mm ( $\triangle$ thickness of insulation cover) – Incision depth: 20 mm
	≥ 100 mm (for standard and elastified EPS)	– Maximum installation depth of the anchor plate: 15 mm ( $\triangle$ thickness of insulation cover) – Incision depth: 35 mm
TERMOZ 8 SV (ETA-06/0180)	≥ 80 mm (for standard EPS only)	– Maximum installation depth of the anchor plate: 15 mm ( $\triangle$ thickness of insulation cover)
IsoFux NDT8LZ (ETA-05/0080)	≥ 80 mm (for standard EPS only)	– Maximum depth of counterstrink: 20 mm
* according to the appropriate ETA of anchor		

#### 4.5 Render strip tensile test

The Mean value value of crack width of the base coat reinforced with the different glass fibre meshes measured at a render strain value of 1 % is:

Base coat	Glass fibre mesh	Mean value value of crack width $w_{m(1\%)}$
weber.therm 305 / weber.therm 305 AquaBalance	weber.therm 310	0.06 mm
weber.therm M1	weber.mesh standard	0.08 mm

For all other combinations no performance determined for the width of cracks.

#### 4.6 Bond strength after ageing

Rendering system Base coats "weber.therm 305" / "weber.therm 305 AquaBalance" and "weber.therm M1" with finishing coat indicated hereafter		Rupture type	Conditioning	
			after hygro- thermal cycles  [kPa]	7 d immersion in water and 7 d drying  [kPa]
weber.therm 305 / weber.therm 305 AquaBalance	Mean value	in adhesive	78	no performance assessed
	Minimal value		50	
weber.therm M1	Mean value	insulation material	150	
	Minimal value		140	

#### 4.7 Reinforcement (glass fibre mesh)

"weber.therm 310"	Mean value warp	Mean value weft
Tensile strength in as-delivered state	≥ 44 N/mm	≥ 66 N/mm
Residual tensile strength after aging	≥ 23 N/mm	≥ 34 N/mm
Relative residual tensile strength after aging	≥ 50%	≥ 50%
Elongation in as-delivered state	3.8 %	4.2 %
Elongation after aging	1.7 %	1.7 %

"weber.mesh standard"	Mean value warp	Mean value weft
Tensile strength in as-delivered state	≥ 38 N/mm	≥ 38 N/mm
Residual tensile strength after aging	≥ 24 N/mm	≥ 24 N/mm
Relative residual tensile strength after aging	≥ 50%	≥ 50%
Elongation in as-delivered state	3.8 %	3.8 %
Elongation after aging	3.5 %	3.5 %

## Annex 5

### Energy economy and heat retention (BWR 6))

#### Thermal resistance

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

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

The thermal bridges caused by mechanical fixing (anchors, profiles) increases the thermal transmittance  $U$ . This influence had to take into account according to EN ISO 6946

$$U_c = U + \chi_p \cdot n$$

Where:	$U_c$ :	corrected thermal transmittance [ $\text{W}/(\text{m}^2 \cdot \text{K})$ ]
	$n$ :	number of anchors per $\text{m}^2$
	$\chi_p$ :	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:
	$\chi_p = 0.004 \text{ W/K}$	for anchors with a galvanized steel screw with the head covered by a plastic material
	$\chi_p = 0.002 \text{ W/K}$	for anchors with a stainless steel screw covered by plastic anchors and for anchors with an air gap at the head of the screw

The thermal bridges caused by profiles are negligible.

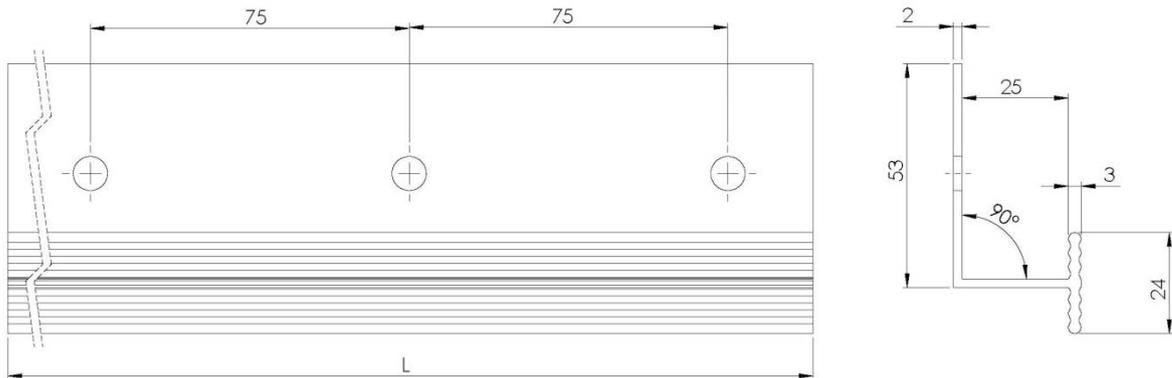
## Annex 6

### Profiles

Polyvinyl chloride (PVC) profiles, PVC-U, EGL, 082-05-T33 to EN ISO 1163-1 are to be used in the mechanically fixed ETICS with profiles.

The Pull-through resistance of fixings from profiles is  $\geq 500$  N.

#### Horizontal profile – "Halteleiste PVC" (dimensions in millimetre)



#### Vertical connection profile – "Verbindungsleiste PVC" (dimensions in millimetre)

