

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-08/0323
of 3 December 2024

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-Wärmedämm-Verbundsystem A 100 / A 200
and AM 400

Product family
to which the construction product belongs

Product area code: 4
External Thermal Insulation Composite System with
rendering on mineral wool intended for use on building
walls

Manufacturer

Saint-Gobain Weber GmbH
Schanzenstraße 84
40549 Düsseldorf
DEUTSCHLAND

Manufacturing plant

Saint-Gobain Weber GmbH
Wilhelmstraße 77
42489 Wülfrath
DEUTSCHLAND

This European Technical Assessment
contains

24 pages including 7 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

040083-00-0404

This version replaces

ETA-08/0323 issued on 11 October 2019

European Technical Assessment

ETA-08/0323

English translation prepared by DIBt

Page 2 of 7 | 3 December 2024

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.

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 the ETICS.

The ETICS kit comprises a prefabricated insulation product of mineral wool (MW) to be bonded and if 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 and finishing coat (site applied), the base coat contains reinforcement. The rendering system 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 is not addressed in this ETA, however the ETICS-manufacturer is responsible for adequate compatibility and performance within the ETICS when the components are delivered as a part of the kit.

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-Wärmedämm-Verbundsystem A 100/A 200 and AM 400" 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 normally 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) Euroclass according to EN 13501-1
Reaction to fire of the MW-insulation product <ul style="list-style-type: none"> - Cross heat of combustion for the MW-insulation product EN ISO 1716 - Apparent density EN 1602 	(see annex 2) Euroclass A1 according EN 13501-1 Value [MJ/kg] Value [kg/m ³]
Facade fire performance	no performance assessed
Propensity to undergo continuous smouldering of ETICS	no performance assessed

3.2 Hygiene, health and environment (BWR 3)

Essential characteristic	Performance
Release of dangerous substances	no performance assessed
Water absorption Base coat after 1 hour after 24 hours	(see annex 3.1) Average [kg/m ²] Average [kg/m ²]
Rendering system after 1 hour after 24 hours	 Average [kg/m ²] Average [kg/m ²]
MW insulation product after 24 hours	Maximum value 3.0 kg/m ²
Water-tightness of the ETICS: Hygrothermal behaviour on the test wall	Pass without defects
Water-tightness of the ETICS: Freeze/thaw behaviour of the ETICS	The water absorption of the base coat as well as the rendering systems is less than 0.5 kg/m ² for all configurations of the ETICS. The ETICS is so assessed as free/thaw resistant.
Impact resistance	no performance assessed
Water vapour permeability - Rendering system - MW insulation product	(see annex 3.2) s _d value [m] μ = 1 Thickness of the insulation product 400 mm

3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Bond strength between base coat and MW insulation product between adhesive and substrate between adhesive and MW insulation	(see annex 4.1) - Minimal value/ average [kPa]: Initial state (28 d immersion) - Minimal value/ average [kPa]: after hygrothermal cycles (see annex 4.2) - Thickness [mm] of the used adhesives - Minimal value/average [kPa]: Initial state (dry conditions) - Minimal value/ average [kPa]: after 2 d immersion in water, 2 h drying - Minimal value/ average [kPa]: after 2 d immersion in water, 7 d drying (see annex 4.3) - Thickness [mm] of the used adhesives - Minimal value/average [kPa]: Initial state (dry conditions) - Minimal value/ average [kPa]: after 2 d immersion in water, 2 h drying - Minimal value/ average [kPa]: after 2 d immersion in water, 7 d drying
Fixing strength (displacement test)	Test not required therefore no limitation of ETICS length required.
Wind load resistance of ETICS pull-through test of fixing static foam block test	(see annex 4.4) - R_{panel} [kN/fixing], see annex 4 - R_{joint} [kN/fixing], see annex 4 - Plate diameter of anchor ≥ 60 mm, ≥ 90 res. ≥ 140 mm - plate stiffness ≥ 0.3 kN/mm ² - load resistance of the anchor plate ≥ 1.0 kN
Tensile strength perpendicular to the faces in dry conditions MW panel MW panel MW lamella in wet conditions - series 2 - series 3	$\sigma_{\text{mt}} \geq 14$ kPa $\sigma_{\text{mt}} \geq 5$ kPa $\sigma_{\text{mt}} \geq 80$ kPa ≥ 33 % of average value in dry conditions ≥ 50 % of average value in dry conditions
Shear strength of the ETICS MW panel $\sigma_{\text{mt}} \geq 14$ kPa, MW lamella MW panel $\sigma_{\text{mt}} \geq 5$ kPa	≥ 20 kPa ≥ 6 kPa

Essential characteristic	Performance
shear modulus of the ETICS MW panel $\sigma_{mt} \geq 14$ kPa, MW lamella MW panel $\sigma_{mt} \geq 5$ kPa	≥ 1.0 MPa ≥ 0.3 MPa
Pull-through resistance of profiles	≥ 0.5 kN
Render strip tensile test	(see annex 4.5) crack width w_{rk} [mm]
Bond strength after ageing	no performance assessed
Tensile strength of the glass fibre mesh in the as-delivered state	(see annex 4.6) Average [N/mm]
Residual tensile strength of the glass fibre mesh after aging	(see annex 4.6) Average [N/mm]
Relative residual tensile strength of the glass fibre mesh after aging	(see annex 4.6) Average [%]
Elongation of the glass fibre mesh in the as-delivered state	(see annex 4.6) Average [%]
Elongation of the glass fibre mesh after aging	(see annex 4.6) Average [%]

3.4 Protection against noise (BWR 5)

Essential characteristic	Performance
Airborne sound insulation of ETICS	no performance assessed
Dynamic stiffness of the MW-insulation product	no performance assessed
Air flow resistance of the MW-insulation product	no performance assessed

3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal resistance of ETICS	(s. annex 5) Calculated value or measurement value R ($m^2 \cdot K/W$)
Thermal transmittance of ETICS	(s. annex 5) Calculated value or measurement value U [$W/(m^2 \cdot K)$]

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-Wärmedämm-Verbundsystem A 100/A 200 and AM 400"	ETICS in external wall subject to fire regulations	A1 ⁽¹⁾ , A2 ⁽¹⁾ , B ⁽¹⁾ , C ⁽¹⁾	1
		A1 ⁽²⁾ , A2 ⁽²⁾ , B ⁽²⁾ , C ⁽²⁾ , D, E, (A1 to E) ⁽³⁾ , F	2+
	ETICS in external wall not subject to fire regulations	any	2+
<p>⁽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)</p> <p>⁽²⁾ Products/materials not covered by footnote (1)</p> <p>⁽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)</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 3 December 2024 by Deutsches Institut für Bautechnik

Anja Rogsch
Head of Section

beglaubigt:
Klette

Annex 1

Composition of the ETICS

	Components National application documents shall be taken into account	Coverage [kg/m ²]	Thickness [mm]
Insulation material with associated method of fixing	Bonded ETICS: <ul style="list-style-type: none"> • Insulation product factory-prefabricated mineral wool (MW) product* - MW lamella • Adhesives <ul style="list-style-type: none"> - weber.therm 300 (cement based powder requiring addition of 27 % of water) - weber.therm 301 (cement based powder requiring addition of 25 % of water) - weber.therm 370 (cement based powder requiring addition of 22 % of water) - weber.therm retec 700 (cement based powder requiring addition of 27 % of water) - weber.therm retec 740 (cement based powder requiring addition of 27 % of water) - weber.therm 302 (cement based powder requiring addition of 31 % of water) - maxit multi Kleber und Armierungsmörtel E (cement based powder requiring addition of 31 % of water) 	<p>–</p> <p>about 5.0 (powder)</p>	<p>40 - 400</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p> <p>–</p>
	Mechanically fixed ETICS with profiles and supplementary adhesive: <ul style="list-style-type: none"> • Insulation product factory-prefabricated mineral wool (MW) product* MW panel, $\sigma_{mt} \geq 14$ kPa • Supplementary adhesives (equal to bonded ETICS) • Profile <ul style="list-style-type: none"> - "Halteleiste Alu" and - "Verbindungsleiste Alu" Aluminium (Al) – Profiles • Anchors for profiles <ul style="list-style-type: none"> - WS 8 L - ejotherm SDK U - SDF-K plus - ejotherm NK U • Anchors for insulation product if necessary (equal to mechanically fixed ETICS with anchors and supplementary adhesive, see below) 	<p>–</p>	<p>60 - 200</p>

	Components National application documents shall be taken into account	Coverage [kg/m ²]	Thickness [mm]
Insulation material with associated method of fixing	Mechanically fixed ETICS with anchors and supplementary adhesive: <ul style="list-style-type: none"> Insulation product factory-prefabricated mineral wool (MW) product* <ul style="list-style-type: none"> - MW panel - MW lamella Supplementary adhesive (equal to bonded ETICS) Anchors for insulation product all anchors with ETA according to EAD 330196-01-0604¹ 	<p>–</p> <p>–</p>	<p>60 - 400</p> <p>60 - 200</p>
Base coat	weber.therm 300 weber.therm 301 weber.therm retec 700 weber.therm retec 740 weber.therm 302 maxit multi Kleber und Armierungsmörtel E Identical with the equally named adhesives given above	<p>} about 7.0 (powder)</p>	<p>5.0 - 7.0</p> <p>4.0 - 7.0</p> <p>5.0 - 7.0</p> <p>5.0 - 7.0</p> <p>5.0 - 7.0</p> <p>5.0 - 7.0</p>
Glass fibre Mesh	weber.therm 310 Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 200 g/m ² and mesh size of about 8.0 mm x 8.0 mm. weber.therm 311**** Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 160 g/m ² and mesh size of about 4.0 mm x 4.0 mm.	<p>–</p> <p>–</p>	<p>–</p> <p>–</p>
Key coat	weber.prim 403 Ready to use pigmented liquid with styrol-acrylat binder For the compatibility with the finishing coats see below.	about 0.3 l/m ²	
Finishing coat	To use without key coat: Thick layered cement based powder requiring addition of about 20 % of water (scraped render): weber.top 200, 203, 204, 206** weber.top 200 AquaBalance weber.top 203 AquaBalance weber.top 204 AquaBalance weber.top 206 AquaBalance	<p>10.0 - 24.0</p> <p>10.0 - 24.0</p> <p>10.0 - 24.0</p> <p>10.0 - 24.0</p> <p>10.0 - 24.0</p>	<p>5.0 - 12.0</p> <p>5.0 - 12.0</p> <p>5.0 - 12.0</p> <p>5.0 - 12.0</p> <p>5.0 - 12.0</p>
	To use with key coat if applicable:*** <ul style="list-style-type: none"> Thin layered cement based powder requiring addition of about (20 – 35) % of water: weber.star 220, 221, 222, 223** (particle size 1.5 – 2.0 – 3.0 – 4.0 and 5.0 mm) 	<p>2.5 - 5.0 (powder)</p>	<p>regulated by particle size</p>

¹ EAD 330196-01-0604 Plastic anchors for fixing of external thermal insulation composite systems with rendering

	Components National application documents shall be taken into account	Coverage [kg/m²]	Thickness [mm]
Finishing coat	weber.star 220 AquaBalance (particle size 1.5 – 2.0 – 3.0 – 4.0 and 5.0 mm)	2.5 - 5.0 (powder)	regulated by particle size
	weber.star 221 AquaBalance (particle size 1.5 – 2.0 – 3.0 – 4.0 and 5.0 mm)	2.5 - 5.0 (powder)	
	weber.star 223 AquaBalance (particle size 1.5 – 2.0 – 3.0 – 4.0 and 5.0 mm)	2.5 - 5.0 (powder)	
	weber.star 240, 241, 242, 244** (particle size 1.5 – 2.0 – 3.0 – 4.0 and 5.0 mm)	2.5 - 5.0 (powder)	
	weber.star 240 AquaBalance (particle size 1.5 – 2.0 – 3.0 – 4.0 and 5.0 mm)	2.5 - 5.0 (powder)	
	weber.star 260, 261**	3.0 - 5.0	
	weber.star 260 AquaBalance	3.0 - 5.0	3.0 - 5.0
	weber.star 261 AquaBalance	3.0 - 5.0	3.0 - 5.0
	weber.star 270	4.0 - 5.0	3.0 - 5.0
	weber.star 271	about 8.0	about 6.0
	weber.star 272, 280**	6.0 - 10.0 (powder)	5.0 - 10.0
	weber.star 280 AquaBalance	6.0 - 10.0 (powder)	5.0 - 10.0
	• Ready to use paste – styrol-acrylat binder: weber.pas 430, 431** (particle size 1.5 – 2.0 – 3.0 und 4.0 mm)	2.5 - 4.0	regulated by particle size
	weber.pas 430 AquaBalance (particle size 1.5 – 2.0 – 3.0 und 4.0 mm)	2.5 - 4.0	
	weber.pas 431 AquaBalance (particle size 1.5 – 2.0 – 3.0 und 4.0 mm)	2.5 - 4.0	
	• Ready to use paste – potassium silicate binder: weber.pas 460, 461** (particle size 1.0 – 1.5 – 2.0 – 3.0 and 4.0 mm)	2.5 - 4.0	
	weber.pas 460 AquaBalance (particle size 1.0 – 1.5 – 2.0 – 3.0 and 4.0 mm)	2.5 - 4.0	
	weber.pas 461 AquaBalance (particle size 1.0 – 1.5 – 2.0 – 3.0 and 4.0 mm)	2.5 - 4.0	
	• Ready to use paste – silicone resin binder: weber.pas 480, 481** (particle size 1.5 – 2.0 – 3.0 und 4.0 mm)	2.5 - 4.0	
	weber.pas 480 AquaBalance (particle size 1.5 – 2.0 – 3.0 und 4.0 mm)	2.5 - 4.0	
	weber.pas 481 AquaBalance (particle size 1.5 – 2.0 – 3.0 und 4.0 mm)	2.5 - 4.0	
Ancillary material	Remains the responsibility of the manufacturer.		

* Factory-prefabricated panels and lamella made of mineral wool (MW) with the following designation code and the other properties shall be used, provided that the manufacturer and the trade name of the MW are deposited with the DIBt.
MW – EN 13162 – T5 – DS(T+) – WS – WL(P) – MU1

** The different numbers indicate different grain structures only.

*** The instruction to the installer concerning the use of a key coat remains the responsibility of the ETA-holder.

**** The glass fibre mesh "weber.therm 311" is to be used with the base coat "weber.therm 301", "weber.therm 302" and "maxit multi Kleber und Armierungsmörtel E"

Annex 2

Safety in case of fire (BWR 2)

2.1 Reaction to fire

Configurations	Organic content	Flame retardant content	Euroclass according to EN 13501-1
Base coat	max. 2.3 %	no flame retardant	A2 - s1,d0
Mineral wool	Euroclass A1 according to EN 13501-1	no flame retardant	
profiles	-	-	
anchors	-	-	
Rendering system Base coat with finishing coat and compatible key coat in annex 1:			
- weber.top 200, 203, 204, 206 - weber.top 200, 203, 204, 206 Aquabalance - weber.star 220, 221, 222, 223 - weber.star 220, 221, 223 Aquabalance - weber.star 240, 241, 242, 244 - weber.star 240 Aquabalance - weber.star 260, 261 - weber.star 260, 261 Aquabalance - weber.star 270 - weber.star 271 - weber.star 272, 280 - weber.star 280 Aquabalance	max. 2.6 %	no flame retardant	
- weber.pas 460, 461 - weber.pas 460 AquaBalance - weber.pas 461 AquaBalance	max. 6.9 %	no flame retardant	
- weber.pas 430, 431 - weber.pas 430 AquaBalance - weber.pas 431 AquaBalance - weber.pas 480, 481 - weber.pas 480 AquaBalance - weber.pas 481 AquaBalance	max. 8,5 %	no flame retardant	

2.2 Cross heat of combustion for the MW-insulation product EN ISO 1716

$PCS \leq 1.4$ [MJ/kg]

2.3 Apparent density EN 1602

Description and characteristics	MW panel	MW panel	MW lamella
Tensile strength perpendicular to the faces [kPa]; EN 1607 - in dry conditions*	$\sigma_{mt} \geq 14$	$\sigma_{mt} \geq 5$	$\sigma_{mt} \geq 80$
Apparent density [kg/m³]; EN 1602	$120 \leq \rho_a \leq 150$	$100 \leq \rho_a \leq 150$	$80 \leq \rho_a \leq 150$
* Minimal value of all single values			

Annex 3

Hygiene, health and environment (BWR 3)

3.1 Water absorption (capillarity test)

Base coat:

Base coat	Average water absorption [kg/m ²]	
	after 1 h	after 24 h
weber.therm 300	0.05	0.28
weber.therm 301	0.01	0.17
weber.therm retec 700	0.05	0.28
weber.therm retec 740	0.05	0.28
weber.therm 302	0.09	0.23
maxit multi Kleber und Armierungsmörtel E	0.09	0.23

Rendering System:

		Average water absorption	
		after 1 h [kg/m ²]	after 24 h [kg/m ²]
Base coat "weber.therm 300", "weber.therm retec 700" or "weber.therm retec 740" with finishing coat and compatible key coat as specified in Annex 1:	- weber.top 200, 203, 204, 205, 206 - weber.top 200, 203, 204, 206 Aquabalance	0.13	0.40
	- weber.star 220, 221, 222, 223 - weber.star 220, 221, 223 Aquabalance - weber.star 240, 241, 242, 244 - weber.star 240 Aquabalance - weber.star 260, 261 - weber.star 260, 261 Aquabalance - weber.star 270 - weber.star 271 - weber.star 272, 280 - weber.star 280 Aquabalance	0.10	0.41
	- weber.pas 430, 431 - weber.pas 430 AquaBalance - weber.pas 431 AquaBalance	0.05	0.46
	- weber.pas 460, 461 - weber.pas 460 AquaBalance - weber.pas 461 AquaBalance	0.03	0.23
	- weber.pas 480, 481 - weber.pas 480 AquaBalance - weber.pas 481 AquaBalance	0.05	0.13

		Average water absorption	
		after 1 h [kg/m ²]	after 24 h [kg/m ²]
Base coat "weber.therm 301", with finishing coat and compatible key coat as specified in Annex 1:	- weber.top 200, 203, 204, 206 - weber.top 200, 203, 204, 206 Aquabalance	0.14	0.44
	- weber.star 220, 221, 222, 223 - weber.star 220, 221, 223 Aquabalance - weber.star 240, 241, 242, 244 - weber.star 240 Aquabalance - weber.star 260, 261 - weber.star 260, 261 Aquabalance - weber.star 270 - weber.star 271 - weber.star 272, 280 - weber.star 280 Aquabalance	0.06	0.45
	- weber.pas 430, 431 - weber.pas 430 AquaBalance - weber.pas 431 AquaBalance	0.04	0.39
	- weber.pas 460, 461 - weber.pas 460 AquaBalance - weber.pas 461 AquaBalance	0.04	0.14
	- weber.pas 480, 481 - weber.pas 480 AquaBalance - weber.pas 481 AquaBalance	0.06	0.33

		Average water absorption	
		after 1 h [kg/m ²]	after 24 h [kg/m ²]
Base coat "weber.therm 302" or "maxit multi Kleber und Armierungsmörtel E" with finishing coat and compatible key coat as specified in Annex 1	- weber.top 200, 203, 204, 206 - weber.top 200, 203, 204, 206 Aquabalance	0.17	0.46
	- weber.star 220, 221, 222, 223 - weber.star 220, 221, 223 Aquabalance - weber.star 240, 241, 242, 244 - weber.star 240 Aquabalance - weber.star 260, 261 - weber.star 260, 261 Aquabalance - weber.star 270 - weber.star 271 - weber.star 272, 280 - weber.star 280 Aquabalance	0.03	0.24
	- weber.pas 430, 431 - weber.pas 430 AquaBalance - weber.pas 431 AquaBalance	0.10	0.44
	- weber.pas 460, 461 - weber.pas 460 AquaBalance - weber.pas 461 AquaBalance	0.07	0.45
	- weber.pas 480, 481 - weber.pas 480 AquaBalance - weber.pas 481 AquaBalance	0.06	0.43

3.2 Water vapour permeability ETICS

Rendering system: Base coat "weber.therm 300", "weber.therm 301", "weber.therm rettec 700" and "weber.therm rettec 740" with finishing coat and compatible key coat as specified in Annex 1	Equivalent air thickness s_d
- weber.top 200, 203, 204, 206 - weber.top 200, 203, 204, 206 Aquabalance	≤ 1.0 m (Result determined with "weber.top 204", thickness 8 mm: 0.2 m)
- weber.star 220, 221, 222, 223 - weber.star 220, 221, 223 Aquabalance - weber.star 240, 241, 242, 244 - weber.star 240 Aquabalance - weber.star 260, 261 - weber.star 260, 261 Aquabalance - weber.star 270 - weber.star 271 - weber.star 272, 280 - weber.star 280 Aquabalance	≤ 1.0 m (Result determined with "weber.star 220", particle size 5 mm: 0.2 m)
- weber.pas 430, 431 - weber.pas 430 AquaBalance - weber.pas 431 AquaBalance	≤ 1.0 m (Result determined with "weber.pas 431", particle size 4 mm: 0.5 m)
- weber.pas 460, 461 - weber.pas 460 AquaBalance - weber.pas 461 AquaBalance	≤ 1.0 m (Result determined with "weber.pas 461", particle size 4 mm: 0.3 m)
- weber.pas 480, 481 - weber.pas 480 AquaBalance - weber.pas 481 AquaBalance	≤ 1.0 m (Result determined with "weber.pas 480", particle size 3 mm: 0.3 m)

Rendering System: Base coat "weber.therm 302" or "maxit multi Kleber und Armierungsmörtel E" with finishing coat and compatible key coat as specified in Annex 1	Equivalent air thickness s_d
- weber.top 200, 203, 204, 206 - weber.top 200, 203, 204, 206 Aquabalance	≤ 1.0 m (Result determined with "weber.top 204", thickness 12 mm: 0.16 m)
- weber.star 220, 221, 222, 223 - weber.star 220, 221, 223 Aquabalance - weber.star 240, 241, 242, 244 - weber.star 240 Aquabalance - weber.star 260, 261 - weber.star 260, 261 Aquabalance - weber.star 270 - weber.star 271 - weber.star 272, 280 - weber.star 280 Aquabalance	≤ 1.0 m (Result determined with "weber.star 220", thickness 5 mm: 0.11 m)
- weber.pas 430, 431 - weber.pas 430 AquaBalance - weber.pas 431 AquaBalance	≤ 1.0 m (Result determined with "weber.pas 431", thickness 3 mm: 0.20 m)
- weber.pas 460, 461 - weber.pas 460 AquaBalance - weber.pas 461 AquaBalance	≤ 1.0 m (Result determined with "weber.pas 461", thickness 3 mm: 0.12 m)
- weber.pas 480, 481 - weber.pas 480 AquaBalance - weber.pas 481 AquaBalance	≤ 1.0 m (Result determined with "weber.pas 480", thickness 3 mm: 0.16 m)

Annex 4

Safety and accessibility in use (BWR 4)

4.1 Bond strength between base coat and MW lamella

		Conditioning		
		Initial state [kPa]	After hygrothermal cycles [kPa]	After freeze/thaw test
weber.therm 300	Average	130	no performance assessed	Testing not required as freeze/thaw cycles not required
weber.therm retect 700	Minimal	100		
weber.therm retect 740	value			
weber.therm 301	Average	90		
	Minimal	40		
	value			
weber.therm 302 maxit multi Kleber und Armierungsmörtel E	Average	no performance assessed		
	Minimal			
	value			

4.2 Bond strength between adhesive and substrate

Substrate: concrete		Conditioning		
		Initial state [kPa]	48 hrs. immersion in water and 2 hrs. drying [kPa]	48 hrs. immersion in water and 7 days drying [kPa]
weber.therm 300 weber.therm retect 700	Average	620	no performance assessed	no performance assessed
	Minimal value	480		
weber.therm 301	Average	1070		
	Minimal value	760		
weber.therm 370	Average	1300		
	Minimal value	1200		
weber.therm 302	Average	686	255	478
	Minimal value	641	179	327
maxit multi Kleber und Armierungsmörtel E	Average	752	470	698
	Minimal value	628	396	621

4.3 Bond strength between adhesive and mineralwool lamella

		Conditioning				
		Initial state [kPa]	2 days immersion in water and 2 hrs. drying [kPa]	2 days immersion in water and 7 days drying [kPa]		
weber.therm 300 weber.therm retec 700 weber.therm retec 740	Average	130	no performance assessed	no performance assessed		
	Minimal value	100				
weber.therm 301	Average	90	50	80		
	Minimal value	40	50	70		
weber.therm 370	Average	110	no performance assessed	no performance assessed		
	Minimal value	100				
weber.therm 302 maxit multi Kleber und Armierungsmörtel E	Average	no performance assessed				
	Minimal value					

Minimal bonded area S for bonded ETICS:

$$S [\%] = 0.03 \text{ N/mm}^2 \times 100 / 0.063 \text{ N/mm}^2$$

$$S = 47 \%$$

The minimum bonding area S of the bonded ETICS is 50 % (system-specific) $\geq 47 \%$

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

Failure loads – table 1

Characteristics of the MW panels	Dimensions	625 mm x 800 mm
	Thickness	≥ 60 mm
	Tensile strength perpendicular to the faces	≥ 14 kPa
Failure load [kN/panel] (Static Foam Block Test)	Horizontal profiles with a vertical distance of 625 mm, fixed every 30 cm and vertical connection profiles No additional anchors in MW panel	Minimal: 1.20 Average: 1.25

Failure loads – table 2

Characteristics of the MW panels	Dimensions	625 mm x 800 mm
	Thickness	≥ 60 mm
	Tensile strength perpendicular to the faces	≥ 14 kPa
Failure load [kN/panel] (Static Foam Block Test)	Horizontal profiles with a vertical distance of 625 mm, fixed every 30 cm and vertical connection profiles Two additional anchors per MW panel, plate diameter ≥ 60 mm, mounted on the MW panel surface	Minimal: 2.20 Average: 2.40

4.4.2 Safety in use of mechanically fixed ETICS using anchors

Failure loads – table 1

Apply to all anchors listed in annex 1 mounted on the insulation panels surface				
Characteristics of the MW panels	Thickness		≥ 60 mm	
	Tensile strength perpendicular to the faces		≥ 14 kPa	
Plate diameter of anchor			≥ Ø 60 mm	
Failure load [kN]	Anchors not placed at the panel joints (Static Foam Block Test)	R _{panel}	Minimal:	0.65
			Average:	0.74
	Anchors placed at the panel joints (Static Foam Block Test)	R _{joint}	Minimal:	0.59
			Average:	0.61
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	R _{panel}	Minimal:	0.64
			Average:	0.69
	Anchors not placed at the panel joints (Pull-through test, wet conditions)	R _{panel}		
	- series 2*		Minimal:	0.36
			Average:	0.39
	- series 3*		Minimal:	0.41
			Average:	0.45

* according to EAD 040083-00-0404 clause 2.2.14.2

Failure loads – table 2

Apply to all anchors listed in annex 1 mounted on the insulation panels surface						
Characteristics of the MW panels		Thickness		≥ 80 mm		
		Tensile strength perpendicular to the faces		≥ 5.0 kPa		
Plate diameter of anchor			≥ Ø 90 mm		≥ Ø 140 mm	
Failure load [kN]	Anchors not placed at the panel joints (Static Foam Block Test)	R _{panel}	Minimal: 0.48 Average: 0.49	Minimal: 0.56 Average: 0.69		
	Anchors placed at the panel joints (Static Foam Block Test)	R _{joint}	Minimal: 0.38 Average: 0.39	Minimal: 0.44 Average: 0.54		
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	R _{panel}	Minimal: 0.54 Average: 0.61	no performance assessed		
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2*	R _{panel}	Minimal: 0.40 Average: 0.46	no performance assessed		
* according to EAD 040083-00-0404 clause 2.2.14.2						

Failure loads – table 3

Apply to all anchors listed in annex 1 mounted on the insulation panels surface			
Characteristics of the MW lamella		Thickness	≥ 60 mm
		Tensile strength perpendicular to the faces	≥ 80 kPa
Plate diameter of anchor			≥ Ø 140 mm
Failure load [kN]	Anchors placed at the panel joints (Pull-through test, dry condition)	R _{joint}	Minimal: 0.62 Average: 0.66
	Anchors placed at the panel joints (Pull-through test, wet condition)	R _{joint}	Minimal: 0.51 Average: 0.57
	Anchors placed at the panel joints (Static Foam Block Test)	R _{joint}	Minimal: 0.71

The above mentioned failure loads of Table 2 of Clause 4.4.1 and Table 1 of Clause 4.4.2 apply for an anchor plate diameter of 60 mm for the following anchors even with countersunk installation only under the mentioned installation conditions:

Anchor	Thickness of the MW panel [t]	Conditions of installation *
ejothrm STR U, ejothrm STR U 2G (ETA-04/0023)	$t \geq 80 \text{ mm}$	– Maximum installation depth of the anchor plate: 15 mm (\triangleq thickness of insulation cover) – Incision depth: 20 mm
	$t \geq 100 \text{ mm}$	– Maximum installation depth of the anchor plate: 15 mm (\triangleq thickness of insulation cover) – Incision depth: 35 mm
TERMOZ 8 SV (ETA-06/0180)	$t \geq 80 \text{ mm}$	– Maximum installation depth of the anchor plate: 15 mm (\triangleq thickness of insulation cover)
* according to the appropriate ETA of anchor		

4.5 Render strip tensile test

The mean value of the crack width of the reinforced base plaster is at 1 % elongation:

Base coat	Glass fibre Mesh	Mean value of crack width $w_{m(1\%)}$
weber.therm 300	weber.therm 310	0.10 mm
weber.therm 301	weber.therm 310	0.07 mm
weber.therm 301	weber.therm 311	0.13 mm
weber.therm retect 700	weber.therm 310	0.10 mm
weber.therm retect 740	weber.therm 310	0.10 mm
maxit multi Kleber und Armierungsmörtel E	weber.therm 310	0.10 mm
weber.therm 302	weber.therm 310	0.10 mm

4.6 Reinforcement (glass fibre mesh)

Characteristics (alkali resistance): approved

weber.therm 310	Average warp	Average weft
Tensile strength in as-delivered state	≥ 25 N/mm	≥ 30 N/mm
Residual tensile strength after aging	≥ 15 N/mm	≥ 15 N/mm
Relative residual tensile strength after aging	≥ 60 %	≥ 50 %
Elongation in as-delivered state	4.0 %	3.7 %
Elongation after aging	2.9 %	2.4 %

weber.therm 311	Average warp	Average weft
Tensile strength in as-delivered state	≥ 20 N/mm	≥ 20 N/mm
Residual tensile strength after aging	≥ 10 N/mm	≥ 10 N/mm
Relative residual tensile strength after aging	≥ 50 %	≥ 50 %
Elongation in as-delivered state	3.9 %	4.0 %
Elongation after aging	2.7 %	2.4 %

Annex 5

Energy economy and heat retention (BWR 6)

5.1 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 6946:2007 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 $0.02 \text{ (m}^2 \cdot \text{K)/W}$.

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

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 6946:2007

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

Where: U_c : corrected thermal transmittance [$\text{W}/(\text{m}^2 \cdot \text{K})$]

n : number of anchors per m^2

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:

$\chi_p = 0.004 \text{ W/K}$ 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

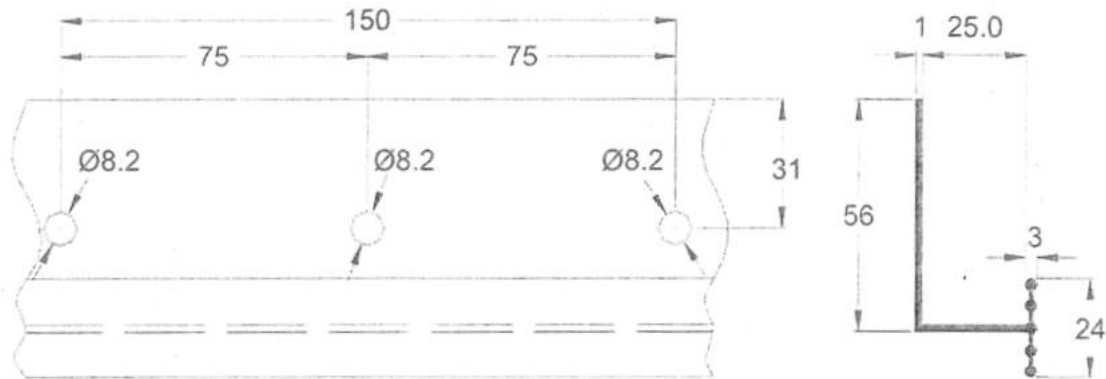
The thermal bridges caused by profiles are negligible.

Annex 6 Profiles

In ETICS mechanically fixed with profiles, aluminum (Al) profiles, EN AW 6060 T66 according to EN 755-02:2008 must be used.

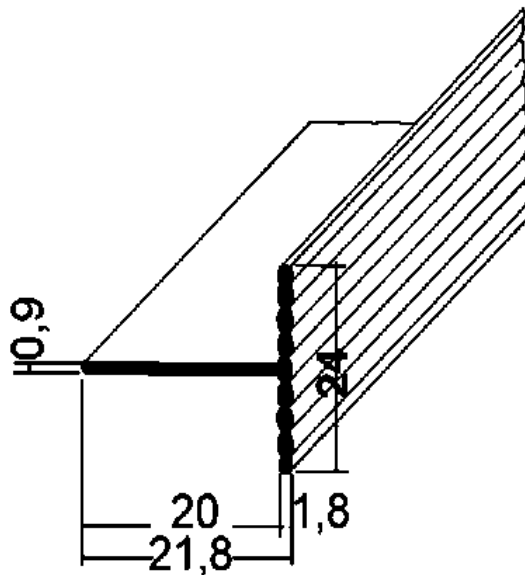
The pull-through resistance of the profile fastenings is ≥ 500 N.

Horizontal profil – "Halteleiste Alu" (Dimensions in mm)



Length: 2000 mm

Vertical connection profil „Verbindungsleiste Alu“ (Dimensions in mm)



Length: 590 mm

Annex 7

Trade names of the components

Component	Trade names according to clause 1.2	Other trade names
Adhesive	weber.therm 300	-
	weber.therm 301	weber.therm family KS grob weber.therm freestyle KS weber.therm prestige KS maxit multi Kleber und Armierungsmörtel
	weber.therm 302	-
	maxit multi Kleber und Armierungsmörtel E	-
	weber.therm 370	-
	weber.therm retec 700	-
	weber.therm retec 740	-
Base coat	weber.therm 300	-
	weber.therm 301	weber.therm family KS grob weber.therm freestyle KS weber.therm prestige KS maxit multi Kleber und Armierungsmörtel
	weber.therm 302	-
	maxit multi Kleber und Armierungsmörtel E	-
	weber.therm retec 700	-
	weber.therm retec 740	-
Reinforcement	weber.therm 310	weber.therm Textilglasgittergewebe grob maxit Armierungsgewebe MW
	weber.therm 311	weber.therm Textilglasgittergewebe maxit Armierungsgewebe PS
Key coat	weber.prim 403	weber.prim Putzgrund
Finishing coat	weber.top 200, 203, 204, 206	maxit ip Edelkratzputz
	weber.star 220, 221, 222	-
	weber.star 223	weber.min freestyle RP
	weber.star 221, 222, 223 AquaBalance	-
	weber.star 240, 241, 242, 244	-
	weber.star 240 AquaBalance	-
	weber.star 260, 261	-
	weber.star 260, 261 AquaBalance	-
	weber.star 270	-
	weber.star 271	-
	weber.star 272, 280	-
	weber.star 280 AquaBalance	-
	weber.pas 430, 431	-
	weber.pas 230, 231 AquaBalance	-
	weber.pas 460	weber.pas Silikatputz weber.pas extraClean weber.pas decofino weber.pas modelfino
	weber.pas 461	weber.pas decofino weber.pas modelfino
	weber.pas 260, 261 AquaBalance	-
	weber.pas 480, 481	-
	weber.pas 480, 481 AquaBalance	-