Deutsches Institut für Bautechnik

Public-law institution jointly founded by the federal states and the Federation

European Technical Assessment Body for construction products

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European Technical Assessment ETA-04/0005 of 19 November 2025

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General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	maxit Dämmsystem PS/ - PS Silence maxit Dämmsystem PS Speedy/ - PS Silence Speedy
Product family to which the construction product belongs	Product area code: 4 External Thermal Insulation Composite System with rendering on expanded polystyrene for use on building walls
Manufacturer	Franken Maxit Mauermörtel GmbH & Co. Azendorf 63 95359 Kasendorf DEUTSCHLAND
Manufacturing plant	Franken Maxit Mauermörtel GmbH & Co. Azendorf 63 95359 Kasendorf DEUTSCHLAND
This European Technical Assessment contains	21 pages including 5 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	ETA-04/0005 issued on 9 January 2019

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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 additional 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 "maxit Dämmsystem PS/ - PS Silence" and "maxit Dämmsystem PS Speedy/ - PS Silence Speedy" 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/m³]
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	
Release of dangerous substances	no performance assessed	
Water absorption 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/m²] Mean value [kg/m²] Mean value [kg/m²] Mean value [kg/m²] Maximum value 0.5 kg/m²	
Water-tightness of the ETICS: Hygrothermal behaviour on the test wall	Passed without defects	
Water-tightness of the ETICS: freeze/thaw behaviour	The water absorption of the base coats as well as the rendering systems is less than 0.50 kg/m² after 24 hours for all configurations of the ETICS. The ETICS is so assessed as free/thaw resistant.	
Impact resistance	(see annex 3.2) Category	
Water vapour permeability - Rendering system	(see annex 3.3) s_d value [m]	
- EPS insulation	μ = 20 - 70	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 EPS insulation	(see annex 4.1) - Minimum value/Mean value value [kPa], rupture type: Initial state (28 d immersion) - Minimum value/Mean value value [kPa], rupture type: after hygrothermal cycles
between adhesive and substrate	(see annex 4.2) - Thickness [mm] of the used adhesives - Minimum value/Mean value value [kPa], rupture type: Initial state (dry conditions) - Minimum value/Mean value value [kPa], rupture type: after 2 d immersion in water, 2 h drying - Minimum value/Mean value value [kPa], rupture type: after 2 d immersion in water, 7 d drying
between adhesive and EPS insulation	(see annex 4.3) - Thickness [mm] of the used adhesives - Minimum value [kPa], rupture type: Initial state (dry conditions) - Minimum value/Mean value value [kPa], rupture type: after 2 d immersion in water, 2 h drying - Minimum value/Mean value value [kPa], rupture type: 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], - R_{joint} [kN/fixing], - Plate diameter of anchor ≥ 60 mm, ≥ 90 mm - plate stiffness ≥ 0.3 kN/mm² - load resistance of the anchor plate ≥ 1.0 kN
dynamic wind uplift test	not applicable
Tensile strength perpendicular to the faces in dry conditions standard EPS elastified EPS	 $\sigma_{mt} \geq 80$ kPa (bonded ETICS) $\sigma_{mt} \geq 100$ kPa (bonded ETICS with anchors) $\sigma_{mt} \geq 150$ kPa (bonded ETICS with profiles) $\sigma_{mt} \geq 80$ kPa
Shear modulus of the ETCS standard EPS elastified EPS	 $1.0 \leq G_m \leq 3.8$ MPa $0.3 \leq G_m \leq 1.0$ MPa
Pull-through resistance of fixings from profiles	not applicable

Essential characteristic	Performance
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) Mean value [N/mm]
Residual tensile strength of the glass fibre mesh after aging	(see annex 4.6) Mean value [N/mm]
Relative residual tensile strength of the glass fibre mesh after aging	(see annex 4.6) Mean value [%]
Elongation of the glass fibre mesh in the as-delivered state	(see annex 4.6) Mean value [%]
Elongation of the glass fibre mesh after aging	(see annex 4.6) Mean value [%]

3.4 Protection against noise (BWR 5)

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

3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal resistance of ETICS	(see annex 5) Calculated value or measurement value R [(m² ·K)/W]
thermal transmittance of ETICS	(see annex 5) Calculated value or measurement value U [W/(m² ·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
"maxit Dämmsystem PS/ - PS Silence", "maxit Dämmsystem PS Speedy/ - PS Silence Speedy"	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+

(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)

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

Deutsches Institut für Bautechnik DIBt

Annex 1
Composition of the ETICS

	Components National application documents shall be taken into account	**Coverage [kg/m²]**	**Thickness [mm]**
Insulation material with associated method of fixing	**Bonded ETICS:**		
	• **Insulation product** factory-prefabricated expanded polystyrene (EPS)		
	- standard EPS	–	≤ 300
	- elastified EPS	–	≤ 300
	• **Adhesives**		
	- **maxit multi Baukleber** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi 280** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi Kleber und Armierungsmörtel FM** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi 285** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi 290** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi Kleber und Armierungsmörtel E** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi 292** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi Kleber und Armierungsmörtel PS** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	- **maxit multi 290 E** (cement based powder requiring addition of about 25 % of water)	4.0 to 6.0	–
	Mechanically fixed ETICS with anchors and supplementary adhesive:		
	• **Insulation product** factory-prefabricated expanded polystyrene (EPS)		
	- standard EPS	–	60 to 300
	- elastified EPS	–	60 to 300
	• **Supplementary adhesive** (equal to bonded ETICS)		
	• **Anchors for insulation product** all anchors with ETA according to EAD 330196-01-0604[1]		

[1] EAD330196-01-0604 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]**
Base coat	**maxit multi Kleber und Armierungsmörtel FM**	about 8.0	about 6.0
	maxit multi 285	about 8.0	about 6.0
	maxit multi 290	about 8.0	about 6.0
	maxit multi Kleber und Armierungsmörtel E	about 8.0	about 6.0
	maxit multi 292	about 8.0	about 6.0
	maxit multi Kleber und Armierungsmörtel PS	about 8.0	about 6.0
	maxit multi 290 E	about 8.0	about 6.0
	Identical with the equally named adhesives given above.		
Glass fibre mesh	**maxit Armierungsgewebe PS** Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 165 g/m² and mesh size of about 4.0 mm x 4.0 mm	–	–
Key coat	Ready to use pigmented acrylic-resin dispersion liquids:		
	maxit Aufbrennsperre	0.12 to 0.13	–
	maxit prim 1050	0.12 to 0.13	–
	maxit Aufbrennsperre weiß	0.12 to 0.13	–
	maxit prim 1065	0.12 to 0.13	–
	maxit Edelputz Haftgrund	0.12 to 0.13	–
	maxit prim 1060	0.12 to 0.13	–
	For the compatibility with the finishing coats see below.		
Finishing coat	**To use with key coat "maxit Edelputz Haftgrund" if applicable or "maxit prim 1060":**[**] **Application without key coat:**		
	• Ready to use paste - acrylic binder:		
	maxit spectra Kunstharzputz K/R[*] (particle size 1.5 – 2.0 and 3.0 mm)	2.0 to 4.0	1.5 to 3.0
	maxit spectra A (particle size 1.5 – 2.0 and 3.0 mm)	2.0 to 4.0	1.5 to 3.0
	To use with key coat "maxit Aufbrennsperre", "maxit prim1050", "maxit Aufbrennsperre weiß" or "maxit prim 1065" if applicable:		
	• Ready to use paste – silicone resin emulsion:		
	maxit silco Siliconharzputz K/R[*] (particle size 1.5 – 2.0 and 3.0 mm)	2.0 to 4.0	1.5 to 3.0
	maxit silco A (particle size 1.5 – 2.0 and 3.0 mm)	2.0 to 4.0	1.5 to 3.0
	• Ready to use paste - silicate binder:		
	maxit sil Silikatputz K/R[*] (particle size 1.5 – 2.0 and 3.0 mm)	2.0 to 4.0	1.5 to 3.0
	maxit sil A (particle size 1.5 – 2.0 and 3.0 mm)	2.0 to 4.0	1.5 to 3.0

	Components National application documents shall be taken into account	**Coverage [kg/m²]**	**Thickness [mm]**
Finishing coat	• Thin layered cement based powder requiring addition of about 27 % of water:		
	maxit ip color K/R* (particle size 1.0 – 2.0 – 3.0 and 4.0 mm)	2.0 to 6.0	1.0 to 4.0
	maxit ip color 42 R* (particle size 1.0 – 2.0 – 3.0 and 4.0 mm)	2.0 to 6.0	1.0 to 4.0
	maxit ip color 44 K* (particle size 1.0 – 2.0 – 3.0 and 4.0 mm)	2.0 to 6.0	1.0 to 4.0
	maxit ip color plus K/R* (particle size 2.0 – 3.0 and 4.0 mm)	2.0 to 6.0	2.0 to 4.0
	maxit ip color plus K* (particle size 2.0 – 3.0 and 4.0 mm)	2.0 to 6.0	2.0 to 4.0
	maxit ip color plus R* (particle size 2.0 – 3.0 and 4.0 mm)	2.0 to 6.0	2.0 to 4.0
	maxit ip Leichtoberputz K/R* (particle size 1.5 – 2.0 – 3.0 and 4.0 mm)	2.0 to 5.0	1.5 to 4.0
	• Thick layered cement based powder requiring addition of about 20 % of water:		
	maxit ip Edelkratzputz FM	10.0 to 24.0	5.0 to 12.0
	maxit ip 52	10.0 to 24.0	5.0 to 12.0
Ancillary material	Thick layered cement based powder requiring addition of about 20 % of water:		

* K/R indicates different structures of the finishing coats.

** The instruction to the installer concerning the use of a key coat 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	Euroclass according to EN 13501-1
Base coat	max. 2.6 %	no flame retardant	
EPS-insulation product	in quantity ensuring Euroclass E according to EN 13501-1	in quantity ensuring Euroclass E according to EN 13501-1	
anchors	-	-	
rendering system: Base coat with finishing coat indicated in clause 1.2:			
maxit spectra Kunstharzputz K/R maxit spectra A	max. 6.8 %	no flame retardant	B - s2,d0
maxit silco Siliconharzputz K/R maxit silco A			
maxit ip color K/R, maxit color 42 R, maxit color 44 K, maxit ip color plus K/R, maxit ip color plus K, maxit ip color plus R, maxit ip Leichtoberputz K/R, maxit ip Edelkratzputz FM maxit ip 52	max. 1.9 %		
maxit sil Silikatputz K/R maxit sil A particles size 1.5 mm	max. 4.9 %		B - s1,d0
maxit sil Silikatputz K/R maxit sil A particles size 2.0 and 3.0 mm			no performance assessed

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

$\rho_a \leq 30$ kg/m³

Annex 3

Hygiene, health and environment (BWR 3)

3.1 Water absorption

Base coat	Thickness [mm]	Mean value water absorption [kg/m²]	
		after 1 h	after 24 h
maxit multi Kleber und Armierungsmörtel FM	6	0.04	0.22
maxit multi 285	6	0.04	0.22
maxit multi 290	6	0.04	0.22
maxit multi Kleber und Armierungsmörtel E	6	0.09	0.26
maxit multi 292	6	0.09	0.26
maxit multi Kleber und Armierungsmörtel PS	6	0.07	0.29
maxit multi 290 E	6	0.07	0.29

Rendering system Base coat "maxit multi Kleber und Armierungsmörtel E" and "maxit multi 292" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m²]	
		after 1 h	after 24 h
maxit spectra Kunstharzputz K/R	3	0.10	0.44
maxit spectra A	3	0.10	0.44
maxit silco Siliconharzputz K/R	3	0.06	0.43
maxit silco A	3	0.06	0.43
maxit sil Silikatputz K/R	3	0.07	0.45
maxit sil A	3	0.07	0.45
maxit ip color K/R	4	0.03	0.24
maxit ip color 42 R	4	0.03	0.24
maxit ip color 44 K	4	0.03	0.24
maxit ip color plus K/R	4	0.03	0.24
maxit ip color plus K	4	0.03	0.24
maxit ip color plus R	4	0.03	0.24
maxit ip Leichtoberputz K/R	4	0.03	0.24
maxit ip Edelkratzputz FM	12	0.17	0.46
maxit ip 52	12	0.17	0.46

Rendering system Base coat "maxit multi Kleber und Armierungsmörtel PS" and "maxit multi 290 E" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m²]	
		after 1 h	after 24 h
maxit spectra Kunstharzputz K/R	3	0.10	0.42
maxit spectra A	3	0.10	0.42
maxit silco Siliconharzputz K/R	3	0.07	0.38
maxit silco A	3	0.07	0.38
maxit sil Silikatputz K/R	3	0.09	0.44
maxit sil A	3	0.09	0.44
maxit ip color K/R	4	0.05	0.27
maxit ip color 42 R	4	0.05	0.27
maxit ip color 44 K	4	0.05	0.27
maxit ip color plus K/R	4	0.05	0.27
maxit ip color plus K	4	0.05	0.27
maxit ip color plus R	4	0.05	0.27
maxit ip Leichtoberputz K/R	4	0.05	0.27
maxit ip Edelkratzputz FM	12	0.13	0.43
maxit ip 52	12	0.13	0.43

Rendering system Base coat "maxit multi Kleber und Armierungsmörtel FM", "maxit multi 285" and "maxit multi 290" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m²]	
		after 1 h	after 24 h
maxit spectra Kunstharzputz K/R	3	0.04	0.39
maxit spectra A	3	0.04	0.39
maxit silco Siliconharzputz K/R	3	0.06	0.33
maxit silco A	3	0.06	0.33
maxit sil Silikatputz K/R	3	0.07	0.42
maxit sil A	3	0.07	0.42
maxit ip color K/R	4	0.08	0.47
maxit ip color 42 R	4	0.08	0.47
maxit ip color 44 K	4	0.08	0.47
maxit ip color plus K/R	4	0.08	0.47
maxit ip color plus K	4	0.08	0.47
maxit ip color plus R	4	0.08	0.47
maxit ip Leichtoberputz K/R	4	0.08	0.47
maxit ip Edelkratzputz FM	12	0.13	0.47
maxit ip 52	12	0.13	0.47

3.2 Impact resistance

Finishing coat \ Base coat	maxit multi Kleber und Armierungsmörtel FM, maxit multi 285, maxit multi 290	maxit multi Kleber und Armierungsmörtel E, maxit multi 292, maxit multi Kleber und Armierungsmörtel PS, maxit multi 290 E
maxit spectra Kunstharzputz K/R	Category I	
maxit spectra A	Category I	
maxit silco Siliconharzputz K/R	Category I	
maxit silco A	Category I	
maxit sil Silikatputz K/R	Category I	
maxit sil A	Category I	
maxit ip color K/R	Category II	Category III
maxit ip color 42 R	Category II	Category III
maxit ip color 44 K	Category II	Category III
maxit ip color plus K/R	Category II	Category III
maxit ip color plus K	Category II	Category III
maxit ip color plus R	Category II	Category III
maxit ip Leichtoberputz K/R	Category II	Category III
maxit ip Edelkratzputz FM	Category II	
maxit ip 52	Category II	

3.3 Water vapour permeability

Rendering system All base coats with finishing coat indicated hereafter	**Equivalent air thickness s_d** (Result determined with a layer thickness of 6 mm for the base coat)
maxit spectra Kunstharzputz K/R	≤ 1.0 m (Test result obtained with a layer thickness 3 mm: 0.2 m)
maxit spectra A	≤ 1.0 m (Test result obtained with a layer thickness 3 mm: 0.2 m)
maxit silco Siliconharzputz K/R	≤ 1.0 m (Test result obtained with a layer thickness 3 mm: 0.2 m)
maxit silco A	≤ 1.0 m (Test result obtained with a layer thickness 3 mm: 0.2 m)
maxit sil Silikatputz K/R	≤ 1.0 m (Test result obtained with a layer thickness 3 mm: 0.1 m)
maxit sil A	≤ 1.0 m (Test result obtained with a layer thickness 3 mm: 0.1 m)
maxit ip color K/R	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip color 42 R	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip color 44 K	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip color plus K/R	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip color plus K	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip color plus R	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip Leichtoberputz K/R	≤ 1.0 m (Test result obtained with a layer thickness 5 mm: 0.1 m)
maxit ip Edelkratzputz FM	≤ 1.0 m (Test result obtained with a layer thickness 12 mm: 0.2 m)
maxit ip 52	≤ 1.0 m (Test result obtained with a layer thickness 12 mm: 0.2 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
maxit multi Kleber und Armierungs-mörtel FM	Mean value	insulation product	120	no performance assessed	Test not required because freeze/thaw cycles not necessary
	Minimum value		100		
maxit multi 285	Mean value	insulation product	120	no performance assessed	
	Minimum value		100		
maxit multi 290	Mean value	insulation product	120	no performance assessed	
	Minimum value		100		
maxit multi Kleber und Armierungs-mörtel E	Mean value	insulation product	124	122	
	Minimum value		113	106	
maxit multi 292	Mean value	insulation product	124	122	
	Minimum value		113	106	
maxit multi Kleber und Armierungs-mörtel PS	Mean value	insulation product	124	122	
	Minimum value		113	106	
maxit multi 290 E	Mean value	insulation product	124	122	
	Minimum value		113	106	

4.2 Bond strength between adhesive and substrate

Substrate: Concrete		Rupture type	Conditioning		
			Initial state [kPa]	2 d immersion in water and 2 h drying [kPa]	2 d immersion in water and 7 d drying [kPa]
maxit multi Baukleber	Mean value	adhesive	no performance assessed		
	Minimum value				
maxit multi 280	Mean value	adhesive	no performance assessed		
	Minimum value				
maxit multi Kleber und Armierungsmörtel FM	Mean value	adhesive	1070	no performance assessed	
	Minimum value		760		
maxit multi 285	Mean value	adhesive	1070	no performance assessed	
	Minimum value		760		
maxit multi 290	Mean value	adhesive	1070	no performance assessed	
	Minimum value		760		
maxit multi Kleber und Armierungsmörtel E	Mean value	adhesive	686	255	478
	Minimum value		641	179	327
maxit multi 292	Mean value	adhesive	686	255	478
	Minimum value		641	179	327
maxit multi Kleber und Armierungsmörtel PS	Mean value	adhesive	752	470	698
	Minimum value		628	396	621
maxit multi 290 E	Mean value	adhesive	752	470	698
	Minimum value		628	396	621

4.3 Bond strength between adhesive and insulation (EPS)

		Rupture type	Conditioning		
			Initial state [kPa]	2 d immersion in water and 2 h drying [kPa]	2 d immersion in water and 7 d drying [kPa]
maxit multi Baukleber	Mean value	insulation product	no performance assessed		
	Minimum value				
maxit multi 280	Mean value	insulation product	no performance assessed		
	Minimum value				
maxit multi Kleber und Armierungsmörtel FM	Mean value	insulation product	120	no performance assessed	
	Minimum value		100		
maxit multi 285	Mean value	insulation product	120	no performance assessed	
	Minimum value		100		
maxit multi 290	Mean value	insulation product	120	no performance assessed	
	Minimum value		100		
maxit multi Kleber und Armierungsmörtel E	Mean value	insulation product	100	no performance assessed	
	Minimum value		80		
maxit multi 292	Mean value	insulation product	100	no performance assessed	
	Minimum value		80		
maxit multi Kleber und Armierungsmörtel PS	Mean value	insulation product	110	70	110
	Minimum value		100	60	100
maxit multi 290 E	Mean value	insulation product	110	70	110
	Minimum value		100	60	100

Bonded surface

S [%] = 0.03 N/mm² x 100 / 0.08 N/mm²

S = 37.5 %

For bonded ETICS the calculated Minimum 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 anchors

Apply to all anchors listed in annex 1 mounted on the insulation panels surface				
Characteristics of the EPS **(standard EPS)**	Thickness		≥ 60 mm	
	Tensile strength perpendicular to the faces		**≥ 100 kPa**	
	Shear modulus		≥ 1.0 N/mm²	
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 [kN/fixing]	Anchors not placed at the panel joints (Static Foam Block Test)	R_{panel}	Minimum: 0.51 Mean: 0.52	Minimum: 0.72 Mean: 0.73
	Anchors placed at the panel joints (Pull-through test)	R_{joint}	Minimum: 0.40 Mean: 0.43	Minimum: 0.43 Mean: 0.47

Apply to all anchors listed in annex 1 mounted on the insulation panels surface			
Characteristics of the EPS **(elastified EPS)**	Thickness		≥ 60 mm
	Tensile strength perpendicular to the faces		**≥ 80 kPa**
	Shear modulus		≥ 0.3 N/mm²
Plate diameter of anchor			∅ 60 mm
plate stiffness			≥ 0.3 kN/mm
load resistance of the anchor plate			≥ 1.0 kN
Failure load [kN/fixing]	Anchors not placed at the panel joints (Static Foam Block Test)	R_{panel}	Minimum: 0.35 Mean value: 0.36
	Anchors placed at the panel joints (Pull-through test)	R_{joint}	Minimum: 0.30 Mean value: 0.31

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 (≙ thickness of insulation cover) – Incision depth: 20 mm
	≥ 100 mm (for standard- and elastified EPS)	– Maximum installation depth of the anchor plate: 15 mm (≙ 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 (≙ thickness of insulation cover)
* 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	**Mean value value of crack width $w_{m(1\%)}$**
maxit multi Kleber und Armierungsmörtel FM	0.08 mm
maxit multi 285	0.08 mm
maxit multi 290	0.08 mm
maxit multi Kleber und Armierungsmörtel E	0.10 mm
maxit multi 292	0.10 mm
maxit multi Kleber und Armierungsmörtel PS	0.10 mm
maxit multi 290 E	0.10 mm

4.7 Reinforcement (glass fibre mesh)

"maxit Armierungsgewebe PS"	**Mean value warp**	**Mean value weft**
Tensile strength in as-delivered state	≥ 45 N/mm	≥ 46 N/mm
Residual tensile strength after aging	≥ 20 N/mm	≥ 20 N/mm
Relative residual tensile strength after aging	≥ 50 %	≥ 50 %
Elongation in as-delivered state	3.9 %	4.0 %
Elongation after aging	2.9 %	3.0 %

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 (m² ·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 [W/(m² ·K)]
	n:	number of anchors per m²
	χ_p:	local influence of thermal bridge caused by an anchor. The values listed below can be taken into account if not specified in the anchor's ETA:
	χ_p = 0.004 W/K	for anchors with a galvanized steel screw with the head covered by a plastic material
	χ_p = 0.002 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

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