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and types of construction

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European Technical Assessment

ETA-20/0060
of 18 September 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

Brillux WDVS PUR Organic

Product family
to which the construction product belongs

Product area code: 4

External Thermal Insulation Composite System with
rendering on rigid polyurethane foam intended for use on
building walls

Manufacturer

Brillux GmbH & Co. KG
Weseler Straße 401
48163 Münster
DEUTSCHLAND

Manufacturing plant

Brillux GmbH & Co. KG
Weseler Straße 401
48163 Münster
DEUTSCHLAND

This European Technical Assessment
contains

17 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

040083-00-0404

European Technical Assessment

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Page 2 of 17 | 18 September 2025

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Specific Part

1 Technical description of the product

This product is an ETICS (External Thermal Insulation Composite System) 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 polyurethane foam (PU) 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 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 "Brillux WDVS PUR Organic" 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 PU-insulation product - Apparent density EN 1602 [kg/m ³]	(see annex 2) Euroclass E according EN 13501-1 Value [kg/m ³]
Reaction to fire of PU foam adhesive	(see annex 2) Euroclass E according to EN 13501-1
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 Rendering system after 1 hour after 24 hours PU-insulation product after 24 hours	(see annex 3.1) Mean value [kg/m ²] Mean value [kg/m ²] Mean value [kg/m ²] Mean value [kg/m ²] Maximum value 0.3 [kg/m ²]
Water-tightness of the ETICS: Hygrothermal behaviour on the test wall	Pass without defects
Freeze/thaw behaviour of the ETICS	The water absorption of the rendering system with all finishing coats is less than 0.5 kg/m ² after 24 hours. The ETICS has been assessed as freeze/thaw resistant.
Impact resistance	(see annex 3.2) Category
Water vapour permeability - Rendering system - PU-insulation product	(see annex 3.3) s _d value [m] μ = 50 – 110 Thickness of the insulation product ≤ 300 mm

3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Bond strength between base coat and PU-insulation product between adhesive and substrate between adhesive and PU-insulation Foam adhesive	(see annex 4.1) - Minimum value/Mean value [kPa], rupture type: Initial state (28 d immersion) - Minimum value/Mean value [kPa], rupture type: after hygrothermal cycles (see annex 4.2) - Thickness [mm] of the used adhesives - Minimum value [kPa], rupture type: Initial state (dry conditions) - Minimum value/Mean value [kPa], rupture type: after 2 d immersion in water, 2 h drying - Minimum value/Mean value [kPa], rupture type: after 2 d immersion in water, 7 d drying (see annex 4.3) - Thickness [mm] of the used adhesives - Minimum value [kPa], rupture type: Initial state (dry conditions) - Minimum value/Mean value [kPa], rupture type: after 2 d immersion in water, 2 h drying - Minimum value/Mean value [kPa], rupture type: after 2 d immersion in water, 7 d drying (see annex 4.4) - Minimum value/Mean value [kPa]
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 4.6) - R_{panel} [kN/fixing], - R_{joint} [kN/fixing], - Plate diameter of anchor ≥ 60 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 PU-insulation	$\sigma_{\text{mt}} \geq 100$ kPa (bonded ETICS and mechanically fixed ETICS with anchors and supplementary adhesive)
shear strength of the ETICS	$50 \leq f_{\text{rk}} \leq 170$ [kPa]
shear modulus of the ETICS	$1.0 \leq G_{\text{m}} \leq 3.0$ [MPa]
Render strip tensile test	(see annex 4.7) crack width w_{rk} [mm]

Essential characteristic	Performance
shear strength of foam adhesive	- Minimum value: 81 [kPa] - Mean value: 87 [kPa]
shear modulus of foam adhesive	- Minimum value: 0,754 [MPa] - Mean value: 0,89 [MPa]
Post expansion behaviour of foam adhesive	max. 14 mm
Bond strength after ageing finishing coat tested on the rig	(see annex 4.8) Minimum value/ Mean value [kPa], rupture type
Tensile strength of the glass fibre mesh in the as-delivered state	(see annex 4.9) Mean value [N/mm]
Residual tensile strength of the glass fibre mesh after aging	(see annex 4.9) Mean value [N/mm]
Relative residual tensile strength of the glass fibre mesh after aging	(see annex 4.9) Mean value [%]
Elongation of the glass fibre mesh in the as-delivered state	(see annex 4.9) Mean value [%]
Elongation of the glass fibre mesh after aging	(see annex 4.9) Mean value [%]

3.4 Protection against noise (BWR 5)

Essential characteristic	Performance
Airborne sound insulation of ETICS	no performance assessed
Dynamic stiffness of the PU-insulation product	no performance assessed
Air flow resistance of the PU-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 [$(\text{m}^2 \cdot \text{K})/\text{W}$]
Thermal transmittance of ETICS	(see annex 5) Calculated value or measurement value U [$\text{W}/(\text{m}^2 \cdot \text{K})$]

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
"Brillux WDVS PUR Organic"	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 18 September 2025 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/m²]	Thickness [mm]
Insulation material with associated method of fixing	Bonded ETICS: <ul style="list-style-type: none"> • Insulation product Rigid polyurethane foam (PU) <ul style="list-style-type: none"> - purenotherm s • Adhesives <ul style="list-style-type: none"> - WDVS Pulverkleber (cement based powder requiring addition of about 24 % of water) • Foam adhesive <ul style="list-style-type: none"> - WDVS Qju Klebeschaum - (foam adhesive on polyurethane, ready to use, in bottles supplied) 	 – 5.0 to 8.0 0.20 l/m²	 ≤ 300 – – –
	Mechanically fixed ETICS with anchors and supplementary adhesive: <ul style="list-style-type: none"> • Insulation product Rigid polyurethane foam (PU) <ul style="list-style-type: none"> - purenotherm s • supplementary adhesive and foam adhesive (equal to bonded ETICS) • Anchors for insulation product All anchors with ETA according to EAD 330196-01-0604¹ 	 –	 60 to 300
Base coat	Qjusion Organic Styrol-Acrylat-Copolymer Dispersion	3.0 to 6.5	1.5 to 4.5
	Qjusion Organic SK Styrol-Acrylat-Copolymer Dispersion	3.0 to 6.5	1.5 to 4.5
Glass fibre mesh	WDVS Glasseidengewebe Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 160 g/m² and mesh size of about 4.0 mm x 4.0 mm.	–	–
	WDVS Panzergewebe (implemented in addition to the standard mesh to improve the impact resistance) Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 530 g/m².	–	–
Key coat	Putzgrundierung Ready to use pigmented liquid – vinylic binder	about 0.175 l/m²	–
	Silicon-Putzgrundierung Ready to use pigmented liquid – vinylic-siloxane binder For the compatibility with the finishing coats see below.	about 0.175 l/m²	–

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/m ²]	Thickness [mm]
Finishing coat	To use with Putzgrundierung:** <ul style="list-style-type: none">• Ready to use paste – vinylic binder: Rausan KR/R* (particle size 1 – 2 – 3 – 4 and 5 mm)• Ready to use paste – acrylic binder together with prefabricated strips Flachverblender with Klebemörtel S	2.3 to 6.0	regulated by particle size
	To use with Silicon-Putzgrundierung:** <ul style="list-style-type: none">• Ready to use paste – vinylic-siloxane binder: Silicon-Putz KR/R* (particle size 1 – 2 – 3 – 4 and 5 mm) Silcosil KR/R* (particle size 1 – 2 – 3 – 4 and 5 mm)	4.0 to 5.0	ca. 6.0
		3.0 to 4.0	1.0 to 4.0
		2.3 to 6.0	} regulated by particle size
2.3 to 6.0			
Ancillary material	Remains the responsibility of the manufacturer.		

* K/ R/MP indicates different structures of the finishing coat.

** 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
Foam adhesive	max. 100 %	min. 3.7 %	C - s2,d0*
Base coat	max. 8.9 %	min. 13.6 %	
PU-insulation product	Euroclass E according to EN 13501-1	Euroclass E according to EN 13501-1	
anchors	-	-	
Rendering system: base coats with finishing coat and compatible key coat indicated in annex 1			
Rausan KR/R	max. 9.8 %	min 13.6 %	
Silicon-Putz KR/R	max. 9.9 %	min 13.4%	
Silcosil KR/R	max. 9.7 %	min 13.6 %	
Flachverblender with Klebemörtel S	max. 9.9 %	-	E
* with following rendering layer thickness: base coat 2 to 4 mm, finishing coat 2 to 5 mm with different rendering layer thickness -class E			

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

$$30 \leq \rho_a \leq 37 \text{ kg/m}^3$$

Annex 3

Hygiene, health and environment (BWR 3)

3.1 Water absorption (capillarity test)

Base coat:

base coat	Thickness [mm]	Mean value water absorption [kg/m ²]	
		after 1 h	after 24 h
Qjusion Organic	1.5	0.091	0.193
Qjusion Organic SK	3	0.082	0.285

Rendering system:

Rendering system: base coat "Qjusion Organic" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m ²]	
		after 1 h	after 24 h
Rausan R	3	0.048	0.252
Rausan KR	3	0.091	0.339
Silicon-Putz R	3	0.031	0.172
Silicon-Putz KR	3	0.062	0.262
Silcosil R	3	0.042	0.227
Silcosil KR	3	0.073	0.311
Flachverblender with Klebemörtel S	4.5	0.018	0.170

Rendering system: base coat "Qjusion Organic SK" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m ²]	
		after 1 h	after 24 h
Rausan R	3	0.063	0.283
Rausan KR	3	0.116	0.377
Silicon-Putz R	3	0.028	0.184
Silicon-Putz KR	3	0.053	0.288
Silcosil R	3	0.038	0.228
Silcosil KR	3	0.069	0.318
Flachverblender with Klebemörtel S	4.5	0.018	0.170

3.2 Impact resistance (tested on small samples)

Rendering system: Base coat "Qjusion Organic" or "Qjusion Organic SK" with finishing coat and compatible key coat indicated hereafter:	"WDVS Glasseidengewebe"
Putzgrundierung with Rausan KR/R	Category I
Silicon Putzgrundierung with Silicon-Putz KR/R	
Silicon Putzgrundierung with Silcosil KR/R	
Flachverblender with Klebemörtel S	

3.3 Water vapour permeability

Rendering system: Base coat "Qjusion Organic" or "Qjusion Organic SK" with finishing coat indicated hereafter:	Equivalent air thickness s_d [m]
Putzgrundierung with Rausan KR/R	≤ 1.0 m (Test result obtained with structure KR particles size 3 mm: 0.4 m)
Silicon Putzgrundierung with Silicon-Putz KR/R	≤ 1.0 m (Test result obtained with structure KR particles size 3 mm: 0.4 m)
Silicon Putzgrundierung with Silcosil KR/R	≤ 1.0 m (Test result obtained with structure KR particles size 3 mm: 0.3 m)
Flachverblender with Klebemörtel S	≤ 1.0 m (Test result: 0.4 m)

Annex 4

Safety and accessibility in use (BWR 4)

4.1 Bond strength between base coat and insulation product (PU)

		Rupture type	Conditioning		
			Initial state [kPa]	After hygrothermal cycles [kPa]	After freeze/thaw test
Qjusion Organic	Mean value	in the insulation product	157	137	Test not required because freeze/thaw cycles not necessary
	Minimum value		114	98	
Qjusion Organic SK	Mean value	in the insulation product	157	137	
	Minimum value		114	98	

4.2 Bond strength between adhesive and substrate

Substrate: concrete		Rupture type	Conditioning		
			Initial state [kPa]	2 d immersion in water and 2 hrs. drying [kPa]	2 d immersion in water and 7 d drying [kPa]
WDVS Pulverkleber (3 – 5 mm)	Mean value	in the adhesive	880	540	1270
	Minimum value		440	310	630

4.3 Bond strength between adhesive and insulation product (PU)

		Rupture type	Conditioning		
			Initial state [kPa]	2 d immersion in water and 2 hrs. drying [kPa]	2 d immersion in water and 7 d drying [kPa]
WDVS Pulverkleber (3 – 5 mm)	Mean value	in the insulation product	132	116	104
	Minimum value		114	89	86

4.4 Bond strength of foam adhesive

foam adhesive		Standard application conditions [kPa]	Modification			
			foam thickness [kPa]	open time (5 min) [kPa]	temperature (low) [kPa]	temperature (high) [kPa]
foam thickness [mm]		8	15	8	8	8
Temperature [°C]		23	23	23	5	35
rel. Humidity [%]		50	50	50	-	30
processing time [min]		3	8	3	3	3
WDVS Qju Klebe- schaum	Mean value	129	90	104	95	137
	Minimum value	98	86	88	85	109

4.5 Minimum value bonded surface area

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

$$S = 37.5 \%$$

The Minimum value bonded surface S of bonded ETICS is 40 %

4.6 Wind load resistance ETICS mechanically fixed with anchors

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

Apply to all anchors listed in annex 1 mounted on the insulation panels surface			
Plate diameter of anchor		Ø 60 mm	
Characteristics of the PU	Tensile strength perpendicular to the faces		≥ 100 kPa
	Shear modulus		≥ 1.0 N/mm ²
	Thickness [mm]		60 ≤ d < 100
Failure load [N]	Anchors not placed at the panel joints (Static Foam Block Test)	R _{panel}	Minimum value: 350 Mean value: 415
	Anchors placed at the panel joints (Pull-through test)	R _{joint}	Minimum value: 470 Mean value: 550

Apply to all anchors listed in annex 1 mounted on the insulation panels surface and under the above-mentioned installation conditions for deep mounting with a remaining minimum thickness of ≥ 100 mm			
Plate diameter of anchor		Ø 60 mm	
Characteristics of the PU	Tensile strength perpendicular to the faces		≥ 100 kPa
	Shear modulus		≥ 1.0 N/mm ²
	Thickness		d ≥ 100 [mm]
Failure load [N]	Anchors placed at the panel joints (Pull-through test)	R _{panel}	Minimum value: 510 Mean value: 560
	Anchors not placed at the panel joints (Static Foam Block Test)	R _{joint}	Minimum value: 680 Mean value: 710

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 PU [t]	Conditions of installation*
ejothem STR U, ejothem STR U 2G (ETA-04/0023)	t ≥ 80 mm	– Maximum installation depth of the anchor plate: 20 mm (△ thickness of insulation cover) deep mounting with EJOT Tool S
	t ≥ 100 mm	– Maximum installation depth of the anchor plate: 35 mm (△ thickness of insulation cover) deep mounting with EJOT Tool L
* according to the appropriate ETA of anchor		

4.7 Render strip tensile test

The "Qjusion Organic" and "Qjusion Organic SK" base coats reinforced with "WDVS Glasseidengewebe" glass fibre mesh did not crack during render strip tensile test at 1 % elongation.

4.8 Bond strength after aging

Rendering system: Base coat "Qjusion Organic" or "Qjusion Organic SK" with finishing coat and compatible key coat indicated hereafter		Rupture type	After hygrothermal cycles [kPa]
Putzgrundierung with Rausan KR/R	Mean value	in the insulation product	146
	Minimum value		125
Silicon Putzgrundierung with Silicon-Putz KR/R	Mean value	in the insulation product	133
	Minimum value		86
Silicon Putzgrundierung with Silcosil KR/R	Mean value	in the insulation product	141
	Minimum value		111
Flachverblender with Klebemörtel S	Mean value	in the insulation product	158
	Minimum value		132

4.9 Reinforcement (glass fibre mesh)

WDVS Glasseidengewebe	Mean value warp	Mean value weft
Tensile strength in as-delivered state [N/mm]	41	43
Residual tensile strength after aging [N/mm]	20	20
Relative residual tensile strength after aging [%]	≥ 50	≥ 50
Elongation in as-delivered state [%]	3.8	3.9
Elongation after aging [%]	2.3	2.5

WDVS Panzergewebe	Mean value warp	Mean value weft
Tensile strength in as-delivered state [N/mm]	100	170
Residual tensile strength after aging [N/mm]	50	85
Relative residual tensile strength after aging [%]	≥ 50	≥ 50
Elongation in as-delivered state [%]	3.2	3.5
Elongation after aging [%]	2.6	2.8

Annex 5

Energy economy and heat retention (BWR6)

5 Thermal resistance und thermal transmittance

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) 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