





European Technical Assessment

ETA-16/0242 of 01.12.2018

General part

Technical Assessment Body issuing the European Technical Assessment

Trade name of the construction product

Product family to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment contains

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

This European Technical Assessment replaces

Österreichisches Institut für Bautechnik (OIB) Austrian Institute of Construction Engineering

Baumit StarSystem Nature Baumit Wärmedämmverbundsystem Nature Baumit WDVS Nature

External Thermal Insulation Composite Systems with rendering on wood fibre (WF) for the use as external insulation to walls of buildings

Baumit Beteiligungen GmbH Wopfing 156 2754 Waldegg Austria

Plants of Baumit Beteiligungen GmbH Wopfing 156 2754 Waldegg Austria

12 pages

ETAG 004, edition 2013, used as European Assessment Document (EAD)

European Technical Assessment ETA-16/0242, issued on 04.05.2016



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Specific part

1. Technical description of the product

1.1 General

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. 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 wood fibre (WF) to be bonded or mechanically fixed onto a wall. The methods of fixing and the relevant components are specified in the table below. The insulation product is faced with a rendering system consisting of one or more layers (site applied), one of which 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,...) to treat details of ETICS (connections, apertures, corners, parapets, sills,...). 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.



1.2 Composition of the kit

1.2.1 Composition of the ETICS

	Components	Coverage (kg/m²)	Thickness (mm)
	Bonded ETICS with and without		
	supplementary mechanical fixing		
	> Insulation product		10 1 000
	factory-prefabricated wood fibre (WF)	/	40 to 300
	> Adhesives:		
	- Baumit StarContact Forte/	4,0 to 6,0	1
Insulation	Baumit DickschichtKlebespachtel	(powder)	
materials	Mineral powder, cement base with sand,	, ,	
	dispersion powder, additives		
with	- Baumit StarContact Light/	3,5 to 6,0	/
associated	Baumit KlebeSpachtel Light	(powder)	
methods of	Mineral powder, cement base with sand,		
fixing	dispersion powder, additives		
	- Baumit PowerContact	3,5 to 4,5	/
	Mineral powder, cement base with sand,	(powder)	
	dispersion powder, additives		
	- Baumit StarContact/Baumit KlebeSpachtel	4,5 to 5,5	/
	Mineral powder, cement base with sand,	(powder)	
	dispersion powder, additives		
	Mechanically fixed ETICS with anchors		
	and supplementary adhesive		
	Insulation product	,	40 to 300
	factory-prefabricated wood fibre (WF)		40 10 000
	Adhesives:		
	- Baumit StarContact Forte/	4,0 to 6,0	/
	Baumit DickschichtKlebespachtel	(powder)	
Insulation	Mineral powder, cement base with sand,		
materials	dispersion powder, additives		
with	- Baumit StarContact Light/	3,5 to 6,0	/
associated	Baumit KlebeSpachtel Light	(powder)	
methods of	Mineral powder, cement base with sand,		
fixing	dispersion powder, additives		
	- Baumit PowerContact	3,5 to 4,5	/
	Mineral powder, cement base with sand,	(powder)	
	dispersion powder, additives		
	- Baumit StarContact/Baumit KlebeSpachtel	3,5 to 4,5	/
	Mineral powder, cement base with sand,	(powder)	
	dispersion powder, additives		ļ
	> Anchors with valid ETA	11	/
	- Baumit StarContact Forte/		
	Baumit DickschichtKlebespachtel	5,0 to 8,0	4,0 to 8,0
	Mineral powder, cement base with sand,	(powder)	/= 12 3,0
Base coat	dispersion powder, additives		
Jour	- Baumit StarContact Light/		
	Baumit KlebeSpachtel Light	3,0 to 8,0	3,0 to 8,0
	Mineral powder, cement base with sand,	(powder)	,= =3 =,0
	dispersion powder, additives		



	Components	Coverage (kg/m²)	Thickness (mm)
			T
Base coat	 Baumit PowerContact Mineral powder, cement base with sand, dispersion powder, additives 	2,5 to 7,5 (powder)	3,0 to 8,0
base coat	 Baumit StarContact/Baumit KlebeSpachtel Mineral powder, cement base with sand, dispersion powder, additives 	6,0 to 7,5 (powder)	4,0 to 5,0
Glass fibre	- Baumit TextilglasGitter Standard fibre mesh mesh size 3,0 mm x 5,0 mm	1	/
mesh	- Baumit StarTex Standard fibre mesh mesh size 3,0 mm x 5,0 mm	/	1
Manage 1	- Baumit UniPrimer: Ready to use pigmented liquid	0,20 to 0,25 (I/m²)	1
Key coat	- Baumit PremiumPrimer: Ready to use pigmented liquid	0,20 to 0,25 (I/m²)	/
	 Ready to use pastes –synthetic binder: Baumit GranoporTop: particle size 1,5/2,0/3,0 mm 	2,5 to 4,2	
	- Baumit StellaporTop: particle size 1,5/2,0 mm	2,3 to 2,9	
	- Baumit SilikonTop: particle size 1,5/2,0/3,0 mm	2,5 to 4,2	
	- Baumit StarTop: particle size 1,5/2,0/3,0 mm	2,5 to 4,2	
Finishing coat for the use of	- Baumit CreativTop: particle size S-Fine 0,1 mm, Pearl 0,5 mm, Fine 1,0 mm, Trend 3,0 mm, Max 4,0 mm, Vario	2,5 to 4,2	
key coat the manufacturers specification has to be	 Ready to use paste – silicate binder: Baumit SilikatTop particle size 1,5/2,0/3,0 mm 	2,5 to 4,2	Regulated by particle size
followed	- Baumit NanoporTop: particle size 1,5/2,0/3,0 mm	2,5 to 4,2	
	➤ Ready to use paste – polymeric binder: - Baumit PuraTop particle size 1,5/2,0/3,0 mm	2,5 to 4,2	
	 Mineral powder, cement base with sand, dispersion powder, additives: Baumit open Fascina Special/Baumit EdelPutz Spezial: particle size 1,5/2,0/3,0 mm 	2,5 to 4,0	
	- Baumit open Fascina: particle size 2,0/3,0 mm	3,1 to 3,7	



1.2.2 Characteristics of the insulation product

Designation code	WF-EN 13171-T4-CS(10/Y)70-TR10-WS1,0-MU5-AF100			
Reaction to fire / EN 13501-1	Max. density (kg/m³)	Thickness (mm)	class	
WF board	185	40 to 300	E	
Water absorption / EN 1609	approx. 1 kg/m ² at a tested density of approx. 185kg/m ³			
Water vapour diffusion	μ is less than 5			
resistance factor (µ) / EN 12086	at a tested density of approx. 185 kg/m ³			
Bending strength	> BS 500			
Tensile test / EN 1607		conditions: ≥ 0,01 Mpa		
Thermal resistance to be calculated according the following formula	$R_{ins} = d_{ins} \cdot \lambda_{ins}^{-1}$ R_{ins} : thermal resistance of insulation product thickness of the insulation product (m) λ_{ins} : 0,043 W/m.K			

1.2.3 Anchors

Anchors used with valid ETA according to ETAG 014 "Plastic Anchors For Fixing OF External Thermal Insulation Composite Systems With Rendering" shown in the control plan and the declaration of performance.

1.2.4 Render

The average value of the crack width of the base coat with the glass fibre mesh, measured at a render strain value of 50% is about 0,1 mm.

1.2.5 Glass fibres meshes

Γ	Alkalis resistance				
	Residual res ageing		Relative residual resistance: % (after ageing) of the strength in the as delivered state		
	Warp	Weft	Warp	Weft	
Baumit TextilglasGitter, Baumit StarTex Glass fibre mesh with mesh size between 3 and 5 mm	≥ 20	≥ 20	≥ 50	≥ 50	

1.3 Manufacturing

The European Technical Assessment is issued for ETICS on the basis of agreed data/information, deposited with the Österreichisches Institut für Bautechnik, which identifies the ETICS that has been assessed and judged. Changes to the ETICS or production process, which could result in this deposited data/information being incorrect, shall be notified to the Österreichisches Institut für Bautechnik before the changes are introduced. The Österreichisches Institut für Bautechnik will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

1.4 Design and installation

The installation instructions including special installation techniques and provisions for the qualification of the personnel are given in the manufacturer's technical documentation. Design, installation and execution of ETICS are to be in conformity with national documents.

Such documents and the level of their implementation in Member States' legislation are different. Therefore, the assessment and declaration if performance are done taking into account general assumptions introduced in chapter 7 of ETAG 004, which summarizes how information introduced in the ETA and related documents is intended to be used in the construction process and gives advice to all parties interested when normative documents are missing.



1.5 Packaging, transport and storage

The information on packaging, transport and storage is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer(s) to ensure that this information is made know to the concerned people.

1.6 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 localised damaged areas due to accidents,
- the aspect maintenance with products adapted and compatible with the ETICS (possibly after washing or ad hoc preparation).

Necessary repairs should be performed as soon as the need has been identified. It is important to be able to carry out maintenance as far as possible using readily available products and equipment, without spoiling appearance. Only products which are compatible with the ETICS shall be used. The information on use, maintenance and repair is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer(s) to ensure that this information is made know to the concerned people.

2. Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

This ETICS is intended for use as external insulation of buildings' walls. The walls are made of masonry (bricks, blocks, stones,...), concrete (cast on site or as prefabricated panels) or cement-bonded panels. The characteristics of walls shall be verified prior to use of the ETICS, especially regarding conditions for reaction to fire classification and for fixing of the ETICS either by bonding or/and mechanically. The ETICS is designed to give the wall to which it is applied satisfactory thermal insulation.

The ETICS is made of non load-bearing construction elements. It does not contribute directly to the stability of the wall on which it is installed, but it can contribute to durability by providing enhanced protection from the effect of weathering.

The ETICS can be used on new or existing (retrofit) vertical walls. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation.

The ETICS is not intended to ensure the airtightness of the building structure.

The choice of the method of fixing depends on the characteristics of the substrate, which may need preparation (see § 7.2.1 of the ETAG 004) and shall be done in accordance with the national instructions.

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

3.1 Reaction to fire

Configuration according to clause 1.2.1	Maximum declared organic content of the rendering system	Minimum declared flame retardant content of the rendering system	Euroclass acc. to EN 13501-1 : 2002
Baumit StarSystem Nature	Base coat: 4,2 % Finishing coat: 6,8 %	Base coat: 0 % Finishing coat: 0 %	B – s1, d0



Note: A European reference fire scenario has not been laid down for facades. In some Member States, the classification of ETICS according to EN 13501-1: 2002 might not be sufficient for the use in facades. An additional assessment of ETICS according to national provisions (e.g. on the basis of a large scale test) might be necessary to comply with Member State regulations, until the existing European classification system has been completed.

3.2 Water absorption (capillarity test)

- Base coat:
 - Water absorption after 1 hour < 1 kg/m²
 - Water absorption after 24 hours < 0,5 kg/m²
- Rendering system:

.		Water absorption after 24 hours	
		< 0,5 kg/m ²	≥ 0,5 kg/m ²
	Baumit SilikatTop		X
	Baumit SilikonTop	X	
	Baumit PuraTop	X	
Rendering	Baumit CreativTop	X	
systems:	Baumit NanoporTop	X	
Base coat	Baumit GranoporTop	Χ	
+	Baumit StellaporTop	X	
finishing coats	Baumit StarTop	X	
indicated	Baumit open Fascina	X	
hereafter:	Baumit EdelPutz Extra	Х	
	Baumit open Fascina	Х	
	Special/Baumit EdelPutz Spezial	^	
	Baumit MosaikTop	X	

3.3 Watertightness

Passed without defects

3.4 Impact resistance

		Single standard layer	Double standard layer
	Baumit SilikatTop		
	Baumit SilikonTop		
	Baumit CreativTop		
Rendering	Baumit PuraTop		
systems:	Baumit NanoporTop	Category II	Category I
Base coat	Baumit GranoporTop		
+	Baumit StellaporTop		
finishing coats	Baumit StarTop		
indicated	Baumit MosaikTop		
hereafter:	Baumit EdelPutz Extra		
	Baumit open Fascina	Cate	gory l
	Special/Baumit EdelPutz Spezial	Cate	gory
	Baumit open Fascina		



3.5 Water vapour permeability

		Equivalent air thickness (m)
	Baumit SilikatTop	≤ 1,0 m
	Baumit Sinkatrop	(test result with particle size 3,0 mm: 0,3 m)
	Baumit SilikonTop	≤ 1,0 m
	Baumit Silikom top	(test result with particle size 3,0 mm: 0,7 m)
	Baumit CreativTop	≤ 1,0 m
	Daumit Creativiop	(test result with particle size 3,0 mm: 0,1 m)
	Baumit PuraTop	≤ 1,0 m
		(test result with particle size 3,0 mm: 0,8 m)
Pondoring	Baumit NanoporTop Baumit GranoporTop Baumit StellaporTop	≤ 1,0 m
Rendering		(test result with particle size 3,0 mm: 0,1 m)
systems:		≤ 1,0 m
Base coat		(test result with particle size 3,0 mm: 1,0 m)
+		≤ 1,0 m
finishing coats	Budinit Otonapor rop	(test result with particle size 2,0 mm: 0,6 m)
indicated hereafter:	Baumit StarTop	≤ 1,0 m
nerealter:		(test result with particle size 3,0 mm: 0,4 m)
	Baumit open Fascina	≤ 1,0 m
	Dadinit open i deema	(test result with particle size 3,0 mm: 0,2 m)
	Baumit EdelPutz Extra	≤ 1,0 m
		(test result with particle size 3,0 mm: 0,2 m)
	Baumit open Fascina	≤ 1,0 m
	Special/Baumit EdelPutz Spezial	(test result with particle size 3,0 mm: 0,2 m)
	Baumit MosaikTop	≤ 1,0 m
	Baumit Wosaik 10p	(test result with particle size 3,0 mm: 1,0 m)

3.6 Dangerous substances

According to the manufacturer's declaration the assessed system does not contain dangerous substances detailed in Council Directive 67/548/EEC and Regulation (EC) no 1272/2008 as well as EOTA TR 034 (General ER 3 Checklist for ETAGs/CUAPs/ETAs- Content and/or release of dangerous substances in products/kits), edition March 2012.

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

3.7 Bond strength between base coat and insulation product

Conditionings					
Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)			
< 0,08 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product			

3.8 Adhesives onto substrate and insulation product (safety in use of the bonded ETICS)

		Conditionings		
		Initial state	48 h immersion in water + 2 h 23 °C/50 % RH	48 h immersion in water + 7 days 23 °C/50 % RH
	concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
All adhesives according to clause 1.2.1	Insulation product	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product



Fixing strength (displacement test) 3.9

U_e (displacement corresponding to the elasticity limit) = 2,5 mm

3.10 Wind load resistance

3.10.1 Safety in use of mechanically fixed ETICS using anchors

The following values only apply for the combination (anchor plate characteristics) / (insulation product characteristics) mentioned in this table. All anchors which will be used are shown in the control plan and the declaration of performance.

Anchors for which the following failure loads apply		Trade name			according to clause 1.2.2 of the ETA
lallure i	oads apply	Plate diam	eter (m	m)	≥ 60
	eristics of the insulation	Thickness			≥ 50
product panels for which the following failure loads apply		Tensile strength perpendicular to the face (kPa)		perpendicular	≥ 15
Failure load	Anchors not placed at the p (pull through test; wet cond		R _{panel}	Minimum: Average:	≥ 150 ≥ 200
[N]	Anchors placed at the pa (pull through test; wet cond		R _{joint}	Minimum: Average:	≥ 150 ≥ 200

For all calculations the following formula shall be used:

$$R_d = \frac{4}{m} [kN/m^2]$$

 $R_d \ge S_d$

where:

Rd:

design resistance

Sd: wind load suction

national safety factor of resistance for normal materials (partial safety factor to be chosen m: in function of the type of failure which occurred and the ageing of material properties concerned).

The above given loads apply for all anchors if they meet the following criteria:

- valid ETA according to ETAG 014
- plate stiffness of anchors ≥ 0,3 kN/mm
- load resistance of anchor plate ≥ 1,0 kN
- anchors mounted on the insulation panel surface or with the minimal residual thickness of the insulation product as stated above

3.11 Thermal resistance

The thermal transmittance of the substrate wall covered by the ETICS is calculated in accordance with the standard EN ISO 6946:

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

 $\chi_p.n$ has only to be taken into account if it is greater than 0,04 W/(m².K) Where:

> global thermal transmittance of the covered wall (W/ (m².K)) U:

number of anchors (through insulation product) per m² n:

local influence of thermal bridge caused by an anchor. The values listed below χр: can be taken into account if not specified in the anchor's ETA:

= 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 $(\chi_n.n \text{ negligible for n} < 20)$



= 0,004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material ($\chi_p.n$ negligible for n < 10)

= negligible for anchors with plastic nails (reinforced or not with glass fibres)

 U_c : thermal transmittance of the current part of the covered wall (excluding thermal bridges) (W/ (m².K)) determined as follows:

$$Uc = \frac{1}{R_i + R_{render} + R_{substrate} + R_{se} + R_{si}}$$

Where: Ri:

thermal resistance of the insulation product (according to declaration in

reference to EN 13163) in (m².K)/W

R_{render}: thermal resistance of the render (about 0.02 in (m².K)/W)

R_{substrate}: thermal resistance of the substrate of the building (concrete, brick ...) in

 $(m^2.K)/W$

 R_{se} :

external superficial thermal resistance in (m².K)/W

 R_{si} :

internal superficial thermal resistance in (m².K)/W

The value of thermal resistance of each insulation product shall be given in the Declaration of performance along with the possible range of thicknesses. In addition, the point thermal conductivity of anchors shall be given when anchors are used in the ETICS.

3.12 Airborne sound insulation

Single improvement values determined by testing, ETICS configuration and substrate characteristics for which the values are valid:

Insulation product	Rendering system	ETICS fixing	Substrate description	ETICS performance
Insulation type: WF Range of thickness: 50 to 200 mm maximum dynamic stiffness: NPA air flow resistance: NPA	minimum mass of the rendering system: depending on ETICS- thickness	mechanical fixing type: anchors acc. to ETAG 014 maximum number per m²: depending on calculation	type: heavy wall - mass per unit: depending on wall construction	$\Delta R_w = NPA$ $\Delta R_w + C = NPA$ $\Delta R_w + C_{tr} = NPA$

3.13 Bond strength after ageing

		after hygrothermal cycles (on the rig) or after 7 days immersion in water + 7 days 23 °C/50 % RH
Rendering systems: base coat (including key coat according to clause 1.2.1) + finishing coats indicated hereafter:	All finishing coats according to clause 1.2.1	< 0,08 MPa but failure into insulation product



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

According to the European Commission decision 97/556/EC amended by the the European Commission decision 2001/596/EC, the AVCP systems (further described in Annex V to Regulation (EU) No 305/2011) 1 and 2+ apply.

Product(s)	Intended use(s)	Level(s) or class(es) (Reaction to fire)	System(s)
External thermal	in external wall subject	A1 ⁽¹⁾ , A2 ⁽¹⁾ , B ⁽¹⁾ , C ⁽¹⁾	1
insulation composite systems/kits (ETICS) with	to fire regulations	A1 ⁽²⁾ , A2 ⁽²⁾ , B ⁽²⁾ , C ⁽²⁾ , D, E, (A1 to E) ⁽³⁾ , F	2+
rendering	in external wall not subject to fire regulations	any	2+

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)

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

In order to help the Notified Body to make an evaluation of conformity, the Technical Assessment Body issuing the ETA shall supply the information detailed below. This information together with the requirements given in EC Guidance Paper B will generally form the basis on which the factory production control (FPC) is assessed by the Notified Body.

This information shall initially be prepared or collected by the Technical Assessment Body and shall be agreed with the manufacturer. The following gives guidance on the type of information required:

1) The ETA

Where confidentiality of information is required, this ETA makes reference to the manufacturer's technical documentation which contains such information.

2) Basic manufacturing process

The basic manufacturing process is described in sufficient detail to support the proposed FPC methods. The different components of ETICS are generally manufactured using conventional techniques. Any critical process or treatment of the components which affects performance are highlighted in the manufacturer's documentation.

Product and materials specifications

The manufacturer's documentation includes:

- detailed drawings (possibly including manufacturing tolerances),
- incoming (raw) materials specifications and declarations,
- references to European and/or international standards,
- technical data sheets.

Control Plan (as a part of FPC)

The manufacturer and the Österreichisches Institut für Bautechnik have agreed a Control Plan which is deposited with the Österreichisches Institut für Bautechnik in documentation which accompanies the ETA. The Control Plan specifies the type and frequency of checks/tests conducted during production and on the final product. This includes the checks conducted during manufacture on properties that cannot be inspected at a later stage and for checks on the final product.

⁽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)



Products not manufactured by the ETICS manufacturer shall also be tested according to the Control Plan. It must be demonstrated to the Notified Body that the FPC system contains elements securing that the ETICS manufacturer takes products conforming to the Control Plan from his supplier(s).

Where materials/components are not manufactured and tested by the supplier in accordance with agreed methods, then where appropriate they shall be subject to suitable checks/tests by the ETICS manufacturer before acceptance.

In cases where the provisions of the European Technical Assessment and its Control Plan are no longer fulfilled, the Notified Body shall withdraw the certificate and inform the Österreichisches Institut für Bautechnik without delay.

Issued in Vienna, on 01.12.2018

Rainer Mikulits Managing Director