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European Technical Assessment ETA-04/0078 of 28.06.2018

General part

<p>Technical Assessment Body issuing the European Technical Assessment</p>	<p>Österreichisches Institut für Bautechnik (OIB) Austrian Institute of Construction Engineering</p>
<p>Trade name of the construction product</p>	<p>RÖFIX FIRESTOP MW-Wärmedämmsystem RÖFIX SPEED MW-Lamellen-Wärmedämmsystem RÖFIX FIRESTOP LIGHT MW-Wärmedämmsystem RÖFIX SPEED LIGHT MW-Lamellen-Wärmedämmsystem HASIT HASITHERM MW-Basic-Putzsystem HASIT HASITHERM MW-Light-Putzsystem FIXITHERM roc-Platten Basic FIXITHERM roc-Lamellen Basic FIXITHERM roc-Platten Light FIXITHERM roc-Lamellen Light KREISEL Turbo-WPL-Basic KREISEL Turbo-WPL-Light Greutol GreoTherm System M /MD/ Mineral</p>
<p>Product family to which the construction product belongs</p>	<p>External Thermal Insulation Composite Systems with rendering on MW for the use as external insulation to walls of buildings</p>
<p>Manufacturer</p>	<p>FIXIT Trockenmörtel Holding AG Haldenstrasse 5 6342 Baar Switzerland</p>
<p>Manufacturing plant</p>	<p>Werk 1 - 8</p>
<p>This European Technical Assessment contains</p>	<p>17 pages including 1 Annex</p>
<p>This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of</p>	<p>ETAG 004, edition 2013, used as European Assessment Document (EAD)</p>
<p>This European Technical Assessment replaces</p>	<p>European Technical Assessment ETA-04/0078 issued on 28.06.2015</p>

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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 mineral wool 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/m ²)	Thickness (mm)
Insulation materials with associated methods of fixing	Bonded ETICS (partially or fully bonded. National application documents shall be taken into account)		
	➤ Insulation product 1: Standard mineral wool slabs	/	50 to 200
	➤ Insulation product 2: Standard mineral wool lamellas	/	80 to 200
	Adhesives:		
	Mineral Powder, cement base with sand, dispersion powder, additives: - IA 730	2,8 to 9,8 (powder)	/
	- IA 735	2,8 to 9,8 (powder)	/
	- IA 680	2,6 to 7,2 (powder)	/
	- IA 622	4,0 to 6,0 (powder)	/
	- IA 710	2,8 to 9,8 (powder)	/
	- IA 720	2,8 to 9,8 (powder)	/
	water, terpolymers dispersion, filler, fibres, additives: - IA 310	2,0 (paste)	/
	Mechanically fixed ETICS with anchors and supplementary adhesive		
	➤ Insulation product 1: Standard mineral wool slabs	/	50 to 200
➤ Insulation product 2: Standard mineral wool lamellas	/	80 to 200	
Adhesives:			
Mineral Powder, cement base with sand, dispersion powder, additives: - IA 710	2,8 to 9,8 (powder)	/	
- IA 720	2,8 to 9,8 (powder)	/	
- IA 730	2,8 to 9,8 (powder)	/	
- IA735	2,8 to 9,8 (powder)	/	
- IA 680	2,6 to 7,2 (powder)	/	
- IA 622	4,0 to 6,0 (powder)	/	

	Components	Coverage (kg/m ²)	Thickness (mm)
Insulation materials with associated methods of fixing	water, terpolymers dispersion, filler, fibres, additives: - IA 310	2,0 (paste)	/
	➤ Anchors: Anchors with valid ETA acc. to ETAG 014 "Plastic Anchors For Fixing Of External Thermal Insulation Composite Systems With Rendering"	/	/
Base coat	Aggregates, cement, sand, synthetic resin dispersion powder, additives: - IA 730	5,5 to 10,0 (powder)	5,0
	- IA 735	5,5 to 10,0 (powder)	5,0
	- IA 680	5,0 to 10,0 (powder)	5,0
	- IA 710	5,5 to 10,0 (powder)	5,0
	- IA 720	5,5 to 10,0 (powder)	5,0
Glass fibre mesh	Standard glass fibre mesh: mesh size between 3,0 mm and 6,0 mm - FIXIT Armierungsgewebe feinmaschig	/	/
Key coat	Organic based with mineral fillers and pigments - SP 300	0,25 (l/m ²)	/
	- SP 310	0,25 (l/m ²)	/
Finishing coat	➤ Lime-cement based powder requiring addition of 20 to 36 % water: particle size 0,7/1,0/1,5/2,0/3,0/4,0/7,0 mm - SE 714 SE 715 SE 773	2,0 to 7,0 (powder)	Regulated by particle size
	➤ Cement based: particle size 1,0/1,5/2,0/3,0/4,0 mm - SE 780	1,8 to 5,3 (powder)	
	➤ Ready to use paste – silicate binder / silicon resin: Particle size 1,0/1,5/2,0/3,0/4,0/6,0mm - SE 510	2,4 to 5,5 (paste)	
	Particle size 0,7 mm - SE 520 , Particle size 0,2 mm - SE 530	2,4 (paste) 2,4 (paste)	

	Components	Coverage (kg/m ²)	Thickness (mm)
Finishing coat	➤ Ready to use paste – silicate binder: Particle size 1,0/1,5/2,0/3,0/6,0 mm - SE 210	2,4 to 5,5 (paste)	
	➤ Ready to use paste – acryl and silicon resin: particle size 1,0/1,5/2,0/3,0 mm - SE 410	2,4 to 4,0 (paste)	
	➤ Cement-lime synthetic binder: particle size 1,0/2,0/3,0/4,0 mm - SE 773	11 to 18 (powder)	
	particle size 1,5/2,0/3,0/4,0/6,0 mm - SE 772	15 to 25 (powder)	
Finishing paint	➤ Ready to use finishing paint Silicon emulsion and water based acrylic binder, aggregates, additives: - PE 410, PE 419, PE 421, PE 429	0,2 to 0,4 l (liquid)	/
	➤ Silicate emulsion and water based acrylic binder, aggregates, additives: - PE 224, PE 228, PE 229	0,2 to 0,4 l (liquid)	/
	➤ Silicate emulsion, silicon resin emulsion and water based acrylic binder, aggregates, additives: - PE 516, PE 519	(0,2 to 0,4 l (liquid)	/
	Note: Finishing paint only to be used for - SE 714, SE 715, SE 716		
Ancillary materials	Descriptions in accordance with § 3.2.2.5 of the ETAG 004 Remain under the ETA-holder responsibilities		

Depending on the end use the ETICS can only be used as mechanical fixed systems with supplementary adhesive.

Production Plants:

Werk 1: RÖFIX; A-6832 Röthis,
Werk 2: HASIT; D-85356 Freising,
Werk 3: HASIT; CZ-34101 Hordazdovice,
Werk 4: HASIT; SK-90055 Lozorno,
Werk 5: HASIT; RO-401114 Turda,
Werk 6: KREISEL; PL-60462 Poznan,
Werk 7: Greutol; CH 8112 Otelfingen,
Werk 8: FIXIT; CH-5113 Holderbank

1.2.2 Characteristics of the insulation product

Insulation product TR 5

Designation code	MW-EN 13162-T5-CS(10)5-TR5		
Reaction to fire according to EN 13501-1	Maximum density (kg/m ³)	Maximum thickness (mm)	class
MW board d _w = 50 mm to 200 mm	110,5	200	A1
Water absorption according EN 1609	approx. 0,15 kg/m ² at a tested density of approx. 110,5 kg/m ³		
Water vapour diffusion resistance factor (μ) according to EN 12086	μ is less than 1 at a tested density of approx. 110,5 kg/m ³		
Tensile test according to EN 1607	Under dry conditions: ≥ 0,005 MPa Under wet conditions: ≥ 0,002 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 d _{ins} : thickness of the insulation product (m) λ _{ins} : 0,035 W/m.K, 0,040 W/m.K	

Insulation product TR10

Designation code	MW-EN 13162-T5-CS(10)30-TR10		
Reaction to fire according to EN 13501-1	Maximum density (kg/m ³)	Maximum thickness (mm)	class
MW board d _w = 50 mm to 200 mm	142,5	200	A1
Water absorption according EN 1609	approx. 0,2 kg/m ² at a tested density of approx. 142,5kg/m ³		
Water vapour diffusion resistance factor (μ) according to EN 12086	μ is less than 1 at a tested density of approx. 142,5 kg/m ³		
Tensile test according to EN 1607	Under dry conditions: ≥ 0,010 MPa Under wet conditions: ≥ 0,006 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 d _{ins} : thickness of the insulation product (m) λ _{ins} : 0,035 W/m.K, 0,040 W/m.K	

Insulation product TR80

Designation code	MW-EN 13162-T5-CS(10)50-TR80		
Reaction to fire according to EN 13501-1	Maximum density (kg/m ³)	Maximum thickness (mm)	class
MW lamellas d _w = 80mm to 200mm	142,5	200	A1
Water absorption according EN 1609	approx. 0,2 kg/m ² at a tested density of approx. 142,5 kg/m ²		
Water vapour diffusion resistance factor (μ) according to EN 12086	μ is less than 1 at a tested density of approx. 142,5 kg/m ²		
Tensile test according to EN 1607	under dry conditions ≥ 0,080 MPa under wet conditions ≥ 0,050 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 d _{ins} : thickness of the insulation product (m) λ _{ins} : 0,035 W/m.K, 0,040 W/m.K	

1.2.3 Anchors

Only 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 may be used.

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

	Alkalis resistance			
	Residual resistance after ageing (N/mm)		Relative residual resistance: % (after ageing) of the strength in the as delivered state	
	Warp	Weft	Warp	Weft
RÖFIX/HASIT/FIXIT/KREISEL/ Greutol Armierungsgewebe Glass fibre mesh with mesh size between 3 and 6 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 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 the chapter 7 of ETAG 004 used as EAD, 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 according to EN 13501-1 : 2002
RÖFIX FIRESTOP MW-Wärmedämmsystem, RÖFIX SPEED MW-Lamellen-Wärmedämmsystem, HASIT HASITHERM MW-Basic-Putzsystem, FIXITHERM roc-Platten Basic, FIXITHERM roc-Lamellen Basic, KREISEL Turbo-WPL-Basic, Greutol GreoTherm System M /MD/ Mineral	Base coat: 3,2 % Finishing coat:10,0 %	Base coat: 0 % Finishing coat: 0 %	A2 – s1, d0

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 according to EN 13501-1 : 2002
RÖFIX FIRESTOP LIGHT MW-Wärmedämmsystem, RÖFIX SPEED LIGHT MW-Lamellen-Wärmedämmsystem, HASIT HASITHERM MW-Light-Putzsystem, FIXITHERM roc-Platten Light, FIXITHERM roc-Lamellen Light, KREISEL Turbo-WPL-Light, Greutol GreoTherm System M /MD/ Mineral	Base coat: 4,5 % Finishing coat: 10,0 %	Base coat: 0 % Finishing coat: 0 %	A2 – 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
Rendering systems: base coat (including key coat according to clause 1.2.1) + finishing coats indicated hereafter:	All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA of following companies: RÖFIX, HASIT, FIXIT, KREISEL, Greutol	X	
	All finishing coats (powder) used in this system according to clause 1.2.1 of this ETA of following companies: RÖFIX, HASIT, FIXIT, KREISEL, Greutol	X	

3.3 Watertightness

Passed without defects

3.4 Impact resistance

		Single layer	Double layer
Rendering systems: base coat (including key coat according to clause 1.2.1) + finishing coats indicated hereafter:	All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA of following companies: RÖFIX, HASIT, FIXIT, KREISEL, Greutol	Category II	Category I
	All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA of following companies: RÖFIX, HASIT, FIXIT, KREISEL, Greutol	Category II	Category I
	IA 680 with SE 210, IA 680 with SE 510, IA 730 with SE 210, IA 730 with SE 510	Category II and ≥ 2 mm Category I	Category I

3.5 Water vapour permeability

		Equivalent air thickness (m)
Rendering systems: base coat (including key coat according to clause 1.2.1) + finishing coats indicated hereafter:	SE 714 SE 715 SE 716	$\leq 1,0$ m (test result obtained with particle size 2,0 mm: 0,2 m)
	SE 780 SE 773 SE 772	$\leq 1,0$ m (test result obtained with particle size 2,0 mm: 0,1 m)
	SE 510 SE 210	$\leq 1,0$ m (test result obtained with particle size 2,0 mm: 0,3 m)
	SE 410	$\leq 1,0$ m (test result obtained with particle size 2,0 mm: 0,4 m)
	SE 520	$\leq 1,0$ m (test result obtained with particle size 1,5 mm: 0,1 m)
	SE 530	$\leq 1,0$ m (test result obtained with particle size 1,5 mm: 0,1 m)

3.6 Dangerous substances

According to the manufacturer's declaration according to this assessed ETICS 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

Base coat onto insulation product TR 5 and TR 10

Conditionings		
Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)
≥ 0,08 MPa	< 0,08 MPa but failure into insulation product	Test not required because freeze/thaw cycles not necessary

Base coat onto insulation product TR 80

Conditionings		
Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)
≥ 0,08 MPa	≥ 0,08 MPa	Test not required because freeze/thaw cycles not necessary

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

		Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)
IA 730	concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
	Insulation product 1	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 2	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 3	≥ 0,08 MPa	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
IA 735	concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
	Insulation product 1	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 2	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 3	≥ 0,08 MPa	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
IA 680	concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
	Insulation product 1	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 2	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 3	≥ 0,08 MPa	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product

		Initial state	After the hygrothermal cycles (on the rig)	After the freeze/thaw cycles (on samples)
IA 710	concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
	Insulation product 1	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 2	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 3	≥ 0,08 MPa	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
IA 710	concrete	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
	Insulation product 1	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 2	< 0,08 MPa but failure into insulation product	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product
	Insulation product 3	≥ 0,08 MPa	< 0,03 MPa but failure into insulation product	< 0,08 MPa but failure into insulation product

3.9 Fixing strength (displacement test)

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 and characteristics:		All anchors according to clause 1.1		
		Plate diameter of anchor		≥ Ø 60 mm
Characteristic of insulation product for which the following failure loads apply		Thickness		≥ 50 mm
		Tensile strength perpendicular to the face		≥ 5 kPa
Failure load [N]	Anchors not placed at the panel joints (pull through test; wet conditions)	R _{panel}	Minimum:	≥ 150
	Anchors placed at the panel joints (pull through test; wet conditions)	R _{joint}	Average:	≥ 200
			Minimum:	≥ 150
			Average:	≥ 200

For all calculations the following formula shall be used:

$$R_d = \frac{4}{m}$$

$$R_d \geq S_d$$

where:

R_d: design resistance

S_d: wind load suction

m: national safety factor of resistance for normal materials (partial safety factor to be chosen 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 $\geq 0,3$ kN/mm
- load resistance of anchor plate $\geq 1,0$ 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:

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

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

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

n: number of anchors (through insulation product) 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:

= $0,002$ 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 ($\chi_p \cdot n$ negligible for $n < 20$)

= $0,004$ W/K for anchors with a galvanized steel screw with the head covered by a plastic material ($\chi_p \cdot n$ 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:

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

Where: R_i: 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 (m².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 1+2: MW slabs Range of thickness: 50 to 200 mm Insulation type 3: MW lamellas Range of thickness: 80 to 200 mm maximum dynamic stiffness: NPD air flow resistance: NPD	minimum mass of the rendering system: depending on ETICS-thickness	<p>mechanical fixing</p> type: anchors acc. to ETAG 014 maximum number per m ² : depending on calculation <p>bonding by adhesives</p> maximum bonded surface area: 100 %	type: heavy wall - mass per unit: depending on wall construction	$\Delta R_w = \text{NPD}$ $\Delta R_w + C = \text{NPD}$ $\Delta R_w + C_{tr} = \text{NPD}$

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 coats + finishing coats indicated hereafter:	All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA of following companies: RÖFIX, HASIT, FIXIT, KREISEL, Greutol	< 0,08 MPa
	All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA of following companies: RÖFIX, HASIT, FIXIT, KREISEL, Greutol	< 0,08 MPa

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 insulation composite systems/kits (ETICS) with rendering	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+
	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 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.
- 3) 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.
- 4) 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.

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 28.06.2018

Rainer Mikulits
Managing Director

Annex 1 - Reference list of further trade names

Product	Fixit-Group	FIXIT	GREUTOL	HASIT	RÖFIX	KREISEL
Adhesive	[IA 310]	FIXIT IA 468	GREUTOL Dispersionskleber FR	HASIT VIP-KL	RÖFIX UNICOLL/ AIRCOLL	KREISEL IA 310
	[IA 622]	FIXIT IA 622	-	HASIT IA 622	RÖFIX Raso Basic	KREISEL 220 extra IA 622
	[IA 680]	FIXIT 439-	Greutol Combi light 432 Greutol Combi light 432 FR	HASIT Dieplast 860 light	RÖFIX Unistar light RÖFIX Unistar light X RÖFIX Poly Light	KREISEL IA 680
	[IA 730]	FIXIT IA 730,	Greutol IA 730	HASIT IA 630	RÖFIX Unistar Basic	KREISEL IA 630
	[IA 735]	FIXIT IA 735	Greutol IA 735	HASIT IA 735	RÖFIX Unistar NHL Basic	Kreisel IA 735
	[IA 710]		Greutol IA 710	HASIT Dieplast S 804 grau	RÖFIX POLYSTAR (grau)	KREISEL IA 710
	[IA 720]		Greutol IA 720	HASIT Dieplast S 804 weiß	RÖFIX POLYSTAR (weiss)	KREISEL IA 720
	[IA 730]	FIXIT IA 730	Greutol IA 730	HASIT IA 630	RÖFIX Unistar Basic	KREISEL IA 730
[IA 735]	FIXIT IA 735	Greutol IA 730	HASIT IA 735	RÖFIX Unistar NHL Basic	Kreisel IA 735	
Glass fibre mesh	[IG 342]	FIXIT Armierungs- gewebe feinmaschig	GREUTOL Glasgittergewebe	HASIT Armierungs- gewebe rot	RÖFIX P50 Armierungsgewebe	KREISEL Armierungsgewebe
Key Coat	[SP 300]	FIXIT SP 300	GREUTOL Voranstrich FR	HASIT Putzgrund	RÖFIX Putzgrund UNI	KREISEL SP 300
	[SP 310]	FIXIT SP 310	GREUTOL Voranstrich Premium	HASIT Putzgrund Premium	RÖFIX Putzgrund Premium	KREISEL SP 310
Finishing Coat (Powder)	[SE 714]	FIXIT 714	GREUTOL Edelputz 400 FR	HASIT 704 Kratzputzstruktur opti	RÖFIX SE 714	KREISEL 714
	[SE 715]	FIXIT 777 Edelputz	GREUTOL Edelputz 400 FR	HASIT 715 Scheibenputz opti	RÖFIX 715 Edelputz Spezial	KREISEL 715
	[SE750]	-	-	-	RÖFIX Kellenwurf 750	-
	[SE 772]	-	-	-	RÖFIX Kratzputz 772	-
	[SE 773]	FIXIT 793 Steinputz	GREUTOL Steinputz	HASIT 725 Kratzputz opti 1	RÖFIX 773 Stoneline	KREISEL SE 773
	[SE 777]				RÖFIX Designputz	
[SE 780]	FIXIT SE 780	-	HASIT SE 780	RÖFIX 780 Faschenputz	KREISEL SE 780	
Finishing Coat (Paste)	[SE 210]	FIXIT 730 Silikatputz	GREUTOL Silikatputz 350/351 FR	HASIT SE 210 Mineral	RÖFIX Silikatputz	KREISEL Silikatputz
	[SE 310]	FIXIT 710 Kunstharzputz	GREUTOL Deckputz außen	HASIT SE 310 ELAST	RÖFIX Kunstharzputz	KREISEL Kunstharzputz
	[SE 410]	FIXIT 740 Silikonharzputz	GREUTOL Silikonharzputz FR	HASIT SE 410 PROTECT	RÖFIX Silikonharz- putz Protect RÖFIX Silikonharz- putz Premium	KREISEL Silikon- harzputz Protect
	[SE 510]	Fixit 732 Silikat-APS Putz	GREUTOL Silikon- deckputz 365/366 FR	HASIT SE 510 SISI VITAL	RÖFIX SiSi- Putz Vital	KREISEL SiSi-Putz Vital
	[SE 520]	FIXIT Anticofino	-	HASIT Anticofino	RÖFIX Anticofino	FIXIT Anticofino
	[SE 530]	FIXIT Decofino	-	HASIT Decofino,	RÖFIX Decofino	KREISEL Decofino
Finishing Paint	[PE 224]	-	-	HASIT PE 224 SILICATE MW	RÖFIX PE 224	-
	{PE 228}	-	-	HASIT PE 228 Silicat Sol mineralischer Außenanstrich	RÖFIX PE 228 Silicat Sol mineralischer Außenanstrich	-
	[PE 229]	Fixit 783	GREUTOL Greo Color Sol Silikat FR	HASIT PE 228 SILICATE SOL	RÖFIX PE 229 SOL SILIKAT	KREISEL PE 229
	[PE 319]	Fixit 782	GREUTOL Greo Color OptiTop FR	HASIT PE 319 OUTSIDE	RÖFIX PE 319 OUT SIDE	KREISEL PE 319
	[PE 410]	Fixit 785 evo	GREUTOL Greo Color Dispersion Außen FR	HASIT PE 410 EGALISATION	RÖFIX PE 410 EGALISATION	KREISEL PE 410
	[PE 419]	FIXIT PE 419	-	HASIT PE 419	RÖFIX PE 419 ETICS	KREISEL PE 419
	[PE 421]	-	-	HASIT PE 421 Strucosil Struktur- und Füllanstrich	-	-
	[PE 429]	FIXIT PE 429	GREUTOL Greo Color OptiSilc FR	HASIT PE 429 SILOSAN	RÖFIX PE 429 SILOSAN	KREISEL PE 429
	[PE 516]	Fixit 786	-	HASIT PE 516 SISI MICRO	RÖFIX PE 516 SISI MICRO	KREISEL PE 516
[PE 519]	Fixit 784	GREUTOL GreoColor SiSi FR	HASIT PE 519 SISI OUTDOOR, HASIT PE 519 SISI IMPRESSIVE,	RÖFIX PE 519 PREMIUM SISI, RÖFIX PE 519 PREMIUM DARK	KREISEL PE 519	

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