



Austrian Institute of Construction Engineering
Schenkenstrasse 4 | T+43 1 533 65 50
1010 Vienna | Austria | F+43 1 533 64 23
www.oib.or.at | mail@oib.or.at



European Technical Assessment

ETA-15/0731
of 17.02.2017

General part

Technical Assessment Body issuing the European Technical Assessment

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

Trade name of the construction product

best wood SCHNEIDER®
Wärmedämmverbundsystem

Product family to which the construction product belongs

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

Manufacturer

Holzwerk Gebrüder Schneider GmbH
Kappel 28
88436 Eberhardzell
Germany

Manufacturing plant

Holzwerk Gebrüder Schneider GmbH
Kappel 28
88436 Eberhardzell
Germany

This European Technical Assessment contains

20 pages

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

This European Technical Assessment replaces

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General part

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Specific parts

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 wood fibre insulation product (uncoated and factory-provided pre-coated boards) to be bonded or bonded and 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 | Mechanically fixed ETICS with anchors and supplementary adhesive (see § 2.3.3 a) for possible associations EPS/anchors) | | |
| | ➤ Insulation product: best wood WALL 180/WALL 180 D best wood WALL 140 best wood WALL 110 | - | 20 to 180 20 to 240 60 to 240 |
| | ➤ Adhesives: Aggregates, cement, sand, synthetic resin dispersion powder, additives | | |
| | - best wood Klebe- und Armierungsmörtel (UP) | 2,0 to 10,0 (Powder) | / |
| | - FIXIT 439 [IA 680] | 2,0 to 10,0 (Powder) | / |
| | - HASIT Dieplast 860 Light [IA 680] | | |
| | - KREISEL IA 680 | | |
| | - RÖFIX Unistar LIGHT [IA 680] | | |
| | - FIXIT 435 [IA 710] | 3,0 to 12,0 (Powder) | / |
| | - HASIT Dieplast 804 [IA 710] | | |
| | - KREISEL IA 710 | | |
| | - RÖFIX Polystar [IA 710] | | |
| | - FIXIT 435 [IA 720] | 3,0 to 12,0 (Powder) | / |
| - HASIT Dieplast 804 [IA 720] | | | |
| - KREISEL IA 720 | | | |
| - RÖFIX Polystar [IA 720] | | | |
| - SCHWENK Spachtelkleber SK leicht | 3,5 to 6,0 (powder) | / | |
| - weber.therm family KS grob | ca. 5 (powder) | / | |
| - weber.therm freestyle KS | ca. 5 (powder) | / | |
| - weber.therm prestige KS | ca. 5 (powder) | / | |
| - weber.therm 301 | 3,5 to 6,0 (powder) | / | |
| - villerit InnoTherm Klebe- und Armierungsmörtel | 3,5 to 6,0 (powder) | / | |

| | Components | Coverage (kg/m ²) | Thickness (mm) |
|---|--|----------------------------------|-------------------|
| Insulation materials with associated methods of fixing | - Baunit multiContact MC 55W | 3,5 to 6,0 (powder) | / |
| | - Baunit Dickschicht Klebespachtel | 3,5 to 6,0 (powder) | / |
| | - Baunit KlebeSpachtel light | 3,5 to 6,0 (powder) | / |
| | ➤ Fixings: Anchors with valid ETA according 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: - best wood Klebe- und Armierungsmörtel (UP) | 4,5 to 10,0 (powder) | 5,0 to 8,0 |
| | - FIXIT 439 [IA 680] | 4,5 to 10,0 (powder) | 5,0 to 8,0 |
| | - HASIT Dieplast 860 Light [IA 680] | | |
| | - KREISEL IA 680 | | |
| | - RÖFIX Unistar LIGHT [IA 680] | | |
| | - FIXIT 435 [IA 710] | 3,5 to 6,0 (powder) | 5,0 to 8,0 |
| | - HASIT Dieplast 804 [IA 710] | | |
| | - KREISEL IA 710 | | |
| | - RÖFIX Polystar [IA 710] | | |
| | - FIXIT 435 [IA 720] | 3,5 to 6,0 (powder) | 5,0 to 8,0 |
| | - HASIT Dieplast 804 [IA 720] | | |
| | - KREISEL IA 720 | | |
| | - RÖFIX Polystar [IA 720] | | |
| - SCHWENK Spachtelkleber SK leicht | 4,5 to 7,4 (powder) | 5,0 to 8,0 | |
| - weber.therm family KS grob | ca. 7,00 (powder) | 4,0 to 7,0 | |
| - weber.therm freestyle KS | ca. 7,0 (powder) | 4,0 to 7,0 | |
| - weber.therm prestige KS | ca. 7,0 (powder) | 4,0 to 7,0 | |
| - weber.therm 301 | 3,5 to 6,0 (powder) | 4,0 to 7,0 | |
| - villerit InnoTherm Klebe- und Armierungsmörtel | 3,5 to 6,0 (powder) | 5,0 to 8,0 | |

| | Components | Coverage (kg/m²) | Thickness (mm) |
|-------------------------------------|--|--|---------------------------|
| Base coat | - Baunit multiContact MC 55W | 3,5 to 6,0 (powder) | 5,0 to 8,0 |
| | - Baunit Dickschicht Klebespachtel | 3,5 to 6,0 (powder) | 5,0 to 8,0 |
| | - Baunit KlebeSpachtel light | 3,5 to 6,0 (powder) | 5,0 to 8,0 |
| Glass fibre mesh | ➤ Standard glass fibre mesh: Mesh size between 3 mm and 6 mm: | | |
| | - best wood Armierungsgewebe | / | / |
| | - villerit Armierungsgewebe fein | / | / |
| | - FIXIT Armierungsgewebe | / | / |
| | - HASIT Armierungsgewebe | / | / |
| | - KREISEL Armierungsgewebe | / | / |
| | - RÖFIX Armierungsgewebe | / | / |
| | - SCHWENK Armierungsgewebe | / | / |
| | - Weber.therm 311 | / | / |
| | - weber.therm Textilglasgittergewebe | / | / |
| | - armature trame G2 | / | / |
| - Baunit StarTex Fein | / | / | |
| - Baunit TextilglasGitter | / | / | |
| Key coat | Organic based with mineral fillers and pigments: | | |
| | - FIXIT Putzgrund [SP 300] | 0,25 (liquid) | / |
| | - HASIT Putzgrund [SP 300] | | |
| | - KREISEL Putzgrund [SP 300] | | |
| | - RÖFIX Putzgrund [SP 300] | | |
| | - FIXIT Putzgrund PREMIUM [SP 310] | 0,25 (liquid) | / |
| | - HASIT Putzgrund PREMIUM [SP 310] | | |
| | - KREISEL Putzgrund PREMIUM [SP 310] | | |
| | - RÖFIX Putzgrund PREMIUM [SP 310] | | |
| | - SCHWENK Grund | 0,30 (liquid) | / |
| - Baunit PremiumPrimer DG 27 | 0,25 (liquid) | / | |
| - Baunit UniPrimer | 0,25 (liquid) | / | |
| - Baunit PremiumPrimer | 0,25 (liquid) | / | |

| | Components | Coverage (kg/m²) | Thickness (mm) |
|-----------------------|--|--|----------------------------|
| Finishing coat | <ul style="list-style-type: none"> ➤ Mineral powder - cement based: particle size 1,5-6,0mm mm - best wood Mineralischer Oberputz (MOP) Kratzputzstruktur - villerit Stockputz - villerit Rauhputz | <p>2,2 to 6,6 (powder)</p> <p>2,2 to 6,6 (powder)</p> <p>2,2 to 6,6 (powder)</p> | Regulated by particle size |
| | <ul style="list-style-type: none"> particle size 2,0/3,0/5,0 mm: - best wood Mineralischer Oberputz (MOP) Rillenputzstruktur - best wood Mineralischer Oberputz (MOP) Modellierputzstruktur | <p>2,2 to 6,6 (powder)</p> <p>2,5 to 3,5 (powder)</p> | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicon resin: particle size 2,0/3,0 mm: - best wood Mineralischer Oberputz (SOP) Siliconharz Oberputz | <p>2,5 to 3,8 (paste)</p> | |
| | <ul style="list-style-type: none"> ➤ Mineral powder – cement based: particle size 1,5 to 3,0mm - villerit Rustikalputz | <p>2,5 to 5,0 (powder)</p> | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicon resin: particle size 1,5 to 4,0mm - villerit Silicon K/R | <p>2,2 to 5,0 (paste)</p> | |
| | <ul style="list-style-type: none"> ➤ 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 - FIXIT 714, FIXIT 715, FIXIT 716, FIXIT 777 - HASIT 252, HASIT 704 [SE 714], HASIT 705, HASIT 709 [SE 716], HASIT 715 [SE 715], HASIT 725 - KREISEL 714, KREISEL 715, KREISEL 716 - RÖFIX SE 714, RÖFIX 715 [SE 715], RÖFIX SE 716, RÖFIX 772 | <p>1,8 to 24,0 (powder)</p> | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicate binder: Particle size 1,0/1,5/2,0/3,0/6,0 mm - FIXIT Silikatputz [SE 210] - HASIT Silikatputz [SE 210] - KREISEL Silikatputz [SE 210] - RÖFIX Silikatputz [SE 210] | <p>2,4 to 5,5 (paste)</p> | |

| | Components | Coverage (kg/m²) | Thickness (mm) |
|-----------------------|--|--|----------------------------------|
| Finishing coat | <ul style="list-style-type: none"> ➤ Ready to use paste – acryl and silicon resin: particle size 1,0/1,5/2,0/3,0 mm <ul style="list-style-type: none"> - FIXIT Silikonharzputz [SE 410] - HASIT Silikonharzputz [SE 410] - KREISEL Silikonharzputz [SE 410] - RÖFIX Silikonharzputz [SE 410] | 2,4 to 4,0 (paste) | Regulated by particle size |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicate binder/silicon resin: Particle size 1,0/1,5/2,0/3,0/4,0/6,0mm <ul style="list-style-type: none"> - FIXIT SiSi-Putz [SE 510] - HASIT SiSi-Putz [SE 510] - KREISEL SiSi-Putz [SE 510] - RÖFIX SiSi-Putz [SE 510] | 2,4 to 5,5 (paste) | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicate binder/silicon resin: Particle size 0,7 mm <ul style="list-style-type: none"> - FIXIT SE 520 - HASIT SE 520 - KREISEL SE 520 - RÖFIX Anticofino [SE 520] | 2,4 (paste) | |
| | Particle size 0,4 mm <ul style="list-style-type: none"> - FIXIT SE 530 - HASIT SE 530 - KREISEL SE 530 - RÖFIX Decofino [SE 530] | 2,4 (paste) | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – cement-synthetic binder: Particle size 1,0/2,0/3,0/4,0 mm <ul style="list-style-type: none"> - FIXIT SE 773 - HASIT SE 773 - KREISEL SE 773 - RÖFIX 773 [SE 773] | 11,0 to 18,0 (paste) | |
| | <ul style="list-style-type: none"> ➤ Mineral powder - cement based: particle size 2,0/3,0 mm: <ul style="list-style-type: none"> - SCHWENK Edelputz – VarioStar | 2,5 to 5,0 (powder) | |
| | particle size 2,0/3,0/5,0 mm: <ul style="list-style-type: none"> - SCHWENK Edelputz – Rustikalputz | 2,5 to 7,0 (powder) | |
| | <ul style="list-style-type: none"> - SCHWENK Edelputz – Scheibenputz | 2,5 to 7,0 (powder) | |
| | <ul style="list-style-type: none"> - SCHWENK Edelputz – Münchner Rauputz | 2,5 to 7,0 (powder) | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicon resin: particle size 2,0/3,0 mm: <ul style="list-style-type: none"> - SCHWENK Silikonharzputz | 2,5 to 3,8 (paste) | |

| | Components | Coverage (kg/m ²) | Thickness (mm) |
|---|--|---|----------------------------------|
| Finishing coat | <ul style="list-style-type: none"> ➤ Mineral powder - cement based: particle size 2,0/3,0 mm: - weber.star 220 | 2,5 to 4,0 (powder) | Regulated by particle size |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicon resin: particle size 2,0/3,0 mm: - weber.pas 481 top - weber.pas 481 AquaBalance - weber.pas Silikonharzputz | 2,0 to 4,0 (paste) 2,0 to 4,0 (paste) 2,0 to 4,0 (paste) | |
| | <ul style="list-style-type: none"> ➤ Mineral powder - cement based: particle size 2,0/3,0 mm: - villerit Stockputz - Baunit Fascina | 2,5 to 5,0 (powder) 3,1 to 3,7 (powder) | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicon resin: particle size 2,0/3,0 mm: - villerit Siliconharzoberputz | 2,5 to 3,8 (paste) | |
| | <ul style="list-style-type: none"> particle size 1,0/2,0/3,0 mm: - Baunit SilikonTop | 2,5 to 4,2 (paste) | |
| | <ul style="list-style-type: none"> particle size S-Fine 0,1 mm, Fine 1,0 mm, Trend 3,0 mm, Max 4,0 mm: - Baunit CreativTop | 2,5 to 4,2 (paste) | |
| | <ul style="list-style-type: none"> ➤ Ready to use paste – silicate binder: particle size 2,0/3,0 mm: - Baunit SilikatTop | 2,5 to 4,2 (paste) | |
| <ul style="list-style-type: none"> ➤ Mineral powder - cement based: particle size 2,0/3,0/5,0 mm: - Baunit ScheibenPutz SEP | 2,5 to 4,0 (powder) | | |

| | Components | Coverage (kg/m ²) | Thickness (mm) |
|----------------------------|---|----------------------------------|-------------------|
| Finishing paint | <ul style="list-style-type: none"> ➤ Ready to use finishing paint Silicon emulsion and water based acrylic binder, aggregates, additives: <ul style="list-style-type: none"> - FIXIT PE 429 - HASIT PE 429 - KREISEL PE 429 - RÖFIX PE 429 | 0,2 to 0,4 l (liquid) | |
| | <ul style="list-style-type: none"> ➤ Silicate emulsion and water based acrylic binder, aggregates, additives: <ul style="list-style-type: none"> - FIXIT PE 228, FIXIT PE 229 - HASIT PE 228, HASIT PE 229 - KREISEL PE 228, KREISEL PE 229 - RÖFIX PE 229 | 0,2 to 0,4 l (liquid) | / |
| | <ul style="list-style-type: none"> ➤ Silicate emulsion, silicon resin emulsion, water based acrylic binder, aggregates, additives: <ul style="list-style-type: none"> - FIXIT PE 516, FIXIT PE 519 - HASIT PE 516, HASIT PE 519 - KREISEL PE 516, KREISEL PE 519 - RÖFIX PE 516, RÖFIX PE 519 | 0,2 to 0,4 l (liquid) | / |
| | <ul style="list-style-type: none"> ➤ Silicate emulsion, silicon resin emulsion, water based acrylic binder, aggregates, additives: <ul style="list-style-type: none"> - FIXIT PE 319 - HASIT PE 319 - KREISEL PE 319 - RÖFIX PE 319 | 0,2 to 0,4 l (liquid) | / |
| | <ul style="list-style-type: none"> ➤ Ready to use finishing paint – silicon resin: <ul style="list-style-type: none"> - SCHWENK Silikonharzfinish - best wood Silikonharzfarbe - Villerit Siliconharzfarbe | 0,2 to 0,4 l (liquid) | |
| Ancillary materials | Descriptions in accordance with § 3.2.2.5 of the ETAG 004 used as EAD Remain under the ETA-holder responsibilities | | |

1.2.2 Characteristics of the insulation product

| Descriptions and characteristics | best wood WALL 180/WALL 180 D |
|---|--|
| Reaction to fire / EN 13501-1 | Euroclass E - Thickness: 20 mm to 180 mm - density: 180 kg/m ³ |
| Thermal resistance ((m ² .K)/W) | Defined in the CE marking in ref. to EN 13171 "Thermal insulation products for buildings" -Factory made wood fibre (WF) products |
| Designation Code | WF-EN13171-T4-CS(10Y)150-TR30-WS1,0-AF100-MU3 |
| Water absorption (partial immersion) / EN 1609 | ≤ 1,0 kg/m ² |
| Water vapour diffusion resistance factor (μ) / EN 12086 | ≤ 3 |

| Descriptions and characteristics | best wood WALL140/ WALL 140 |
|---|--|
| Reaction to fire / EN 13501-1 | Euroclass E - Thickness: 20 mm to 240 mm - density: 140 kg/m ³ |
| Thermal resistance ((m ² .K)/W) | Defined in the CE marking in ref. to EN 13171 "Thermal insulation products for buildings" -Factory made wood fibre (WF) products |
| Designation Code | WF-EN13171-T4-CS(10Y)100-TR20-WS1,0-AF75-MU3 |
| Water absorption (partial immersion) / EN 1609 | ≤ 1,0 kg/m ² |
| Water vapour diffusion resistance factor (μ) / EN 12086 | ≤ 3 |

| Descriptions and characteristics | best wood WALL 110 |
|---|--|
| Reaction to fire / EN 13501-1 | Euroclass E - Thickness: 60 mm to 240 mm - density: 110 kg/m ³ |
| Thermal resistance ((m ² .K)/W) | Defined in the CE marking in ref. to EN 13171 "Thermal insulation products for buildings" -Factory made wood fibre (WF) products |
| Designation Code | WF-EN13171-T4-CS(10Y)50-TR18-WS1,0-AF50-MU3 |
| Water absorption (partial immersion) / EN 1609 | ≤ 1,0 kg/m ² |
| Water vapour diffusion resistance factor (μ) / EN 12086 | ≤ 3 |

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

| | Alkali resistance | | | |
|---|---|------|--|------|
| | Residual resistance after ageing (N/mm) | | Relative residual resistance: % (after ageing) of the strength in the as delivered state | |
| | Warp | Weft | Warp | Weft |
| Glass fibre meshes acc. to clause 1.2.1 with mesh size between 3 mm 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 the level of their implementation in Member States' legislation are different.

Therefore, the assessment and declaration of 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 known 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 known 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 bonded 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 |
|---|--|--|--|
| Schneider Wärmedämmverbundsystem mit best wood Putzsystem | Base coat: 3,1 % Finishing coat: 4,8 % | Base coat: 0 % Finishing coat: 0 % | B – s1, d0 |
| Schneider Wärmedämmverbundsystem mit FIXIT Putzsystem HASIT Putzsystem KREISEL Putzsystem RÖFIX Putzsystem | Base coat: 4,9 % Finishing coat: 4,9 % | Base coat: 0 % Finishing coat: 0 % | B – s1, d0 |
| Schneider Wärmedämmverbundsystem mit SCHWENK Putzsystem | Base coat: 4,6 % Finishing coat: 6,5 % | Base coat: 0 % Finishing coat: 0 % | B – s1, d0 |
| Schneider Wärmedämmverbundsystem mit weber-Putzsystem | Base coat: ≤ 2,3% Finishing coat: ≤ 1,7 bzw ≤ 8,7% | Base coat: 0 % Finishing coat: 0 % | B – s1, d0 |
| Schneider Wärmedämmverbundsystem mit villerit-Putzsystem | Base coat: 3,1 % Finishing coat: 4,8 % | Base coat: 0 % Finishing coat: 0 % | B – s1, d0 |
| Schneider Wärmedämmverbundsystem mit Baumit-Putzsystem | Base coat: 3,5 % Finishing coat: 9,7 % | 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 |
| 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 | X | |
| | All finishing coats (powder) used in this system according to clause 1.2.1 of this ETA | X | |

3.3 Watertightness

Passed without defects

3.4 Impact resistance

| | | Single layer | Double layer |
|--|--|--------------|--------------|
| Rendering systems: base coat + finishing coat indicated hereafter: | All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA | Category II | Category I |
| | All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA | Category II | Category I |

3.5 Water vapour permeability

| | | Equivalent air thickness (m) |
|---|---|---|
| Rendering systems: Base coat + finishing coats indicated hereafter: | best wood Mineralischer Oberputz (MOP) Kratzputzstruktur | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | best wood Mineralischer Oberputz (MOP) Rillenputzstruktur | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | best wood Mineralischer Oberputz (MOP) Modellierputzstruktur | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | best wood Mineralischer Oberputz (SOP) Siliconharz Oberputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |

| | | Equivalent air thickness (m) |
|---|--|---|
| Rendering systems: Base coat + finishing coats indicated hereafter: | FIXIT 714, FIXIT 715, FIXIT 716, FIXIT 777, HASIT 252, HASIT 704 [SE 714], HASIT 705, HASIT 709 [SE 716], HASIT 715 [SE 715], HASIT 725, KREISEL 714, KREISEL 715, KREISEL 716, RÖFIX SE 714, RÖFIX 715 [SE 715], RÖFIX SE 716, RÖFIX 772 | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,1 m) |
| | FIXIT / HASIT / KREISEL / RÖFIX Silikatputz [SE 210] | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,3 m) |
| | FIXIT / HASIT / KREISEL / RÖFIX Siliconharzputz [SE 410] | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |
| | FIXIT / HASIT / KREISEL / RÖFIX SiSi-Putz [SE 510] | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,3 m) |

| | | Equivalent air thickness (m) |
|---|--|---|
| Rendering systems: Base coat + finishing coats indicated hereafter: | SCHWENK Edelputz – VarioStar | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | SCHWENK Edelputz – Rustikalputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | SCHWENK Edelputz – Scheibenputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | SCHWENK Edelputz – Münchner Rauputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | SCHWENK Siliconharzputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |

| | | Equivalent air thickness (m) |
|--|----------------------------------|---|
| Rendering systems: Base coat + finishing coats indicated hereafter: | weber.star 220 | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | weber.pas 481 top | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | weber pas 481 AquaBalance | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | weber.pas Silikonharzputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |

| | | Equivalent air thickness (m) |
|--|-------------------------------------|---|
| Rendering systems: Base coat + finishing coats indicated hereafter: | villerit Stockputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | villerit Siliconharzoberputz | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |

| | | Equivalent air thickness (m) |
|--|--------------------------------|---|
| Rendering systems: Base coat + finishing coats indicated hereafter: | Baumit Fascina | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | Baumit ScheibenPutz SEP | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | Baumit SilikatTop | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |
| | Baumit SilikonTop | $\leq 1,0 \text{ m}$ (test result obtained with particle size 3,0 mm: 0,1 m) |
| | Baumit CreativTop | $\leq 1,0 \text{ m}$ (test result obtained with particle size 2,0 mm: 0,4 m) |

3.6 Dangerous substances

According to the manufacturer's declaration "best wood SCHNEIDER® Wärmedämmverbundsystem" 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) |
| $\leq 0,08 \text{ MPa}$ | $< 0,08 \text{ MPa}$ but failure into insulation product | $< 0,08 \text{ MPa}$ but failure into insulation product |

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) |
|--|----------------------|---------------|---|---|
| All adhesives used in this system acc. to clause 1.2.1 of this ETA of following companies: FIXIT, HASIT, KREISEL, RÖFIX | concrete | ≥ 0,25 MPa | ≥ 0,08 MPa | ≥ 0,25 MPa |
| | Insulation product 1 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| | Insulation product 2 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| SCHWENK Spachtelkleber SK leicht | concrete | ≥ 0,25 MPa | ≥ 0,08 MPa | ≥ 0,25 MPa |
| | Insulation product 1 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| | Insulation product 2 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| All adhesives used in this system acc. to clause 1.2.1 of this ETA of following companies: Weber | concrete | ≥ 0,25 MPa | ≥ 0,08 MPa | ≥ 0,25 MPa |
| | Insulation product 1 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| | Insulation product 2 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| villerit InnoTherm Klebe- und Armierungsmörtel | concrete | ≥ 0,25 MPa | ≥ 0,08 MPa | ≥ 0,25 MPa |
| | Insulation product 1 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| | Insulation product 2 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| All adhesives used in this system acc. to clause 1.2.1 of this ETA of following companies: Baumit | concrete | ≥ 0,25 MPa | ≥ 0,08 MPa | ≥ 0,25 MPa |
| | Insulation product 1 | < 0,08 MPa | < 0,03 MPa but failure into insulation product | < 0,08 MPa but failure into insulation product |
| | Insulation product 2 | < 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

| Anchors for which the following failure loads apply | All anchors according to clause 1.2.1 | |
|--|--|---------------------|
| | | Plate diameter (mm) |
| Characteristics of the insulation product panels for which the following failure loads apply | Thickness (mm) | 60 |
| | Tensile strength perpendicular to the face (kPa) | ≥ 10 |

For all calculations the following formula shall be used:

$$R_d = \frac{2}{m}$$

$$R_d \geq S_d$$

where:

Rd: design resistance

Sd: 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: WF Range of thickness: 20 to 240 mm maximum dynamic stiffness: NPD air flow resistance: NPD | minimum mass of the rendering system: depending on ETICS-thickness | <i>mechanical fixing</i> type: anchors acc. to ETAG 014 maximum number per m ² : depending on calculation | 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 | $< 0,08 \text{ MPa}$ but failure into insulation product |
| | All finishing coats (paste) used in this system according to clause 1.2.1 of this ETA | $< 0,08 \text{ MPa}$ 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 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)

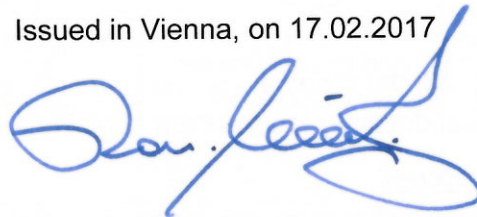
The manufacturer and the Österreichisches Institut für Bautechnik have agreed a Control Plan which is deposited with the Österreichisches Institut für Bautechnik in documentation which accompanies the ETA. The Control Plan specifies the type and frequency of checks/tests conducted during production and 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 17.02.2017



Rainer Mikulits
Managing Director