

1. Unique identification code of the product-type:  
**Enveo therm<sup>s</sup> Excellent MW**
2. Intended use:  
**External Thermal Insulation Composite System (ETICS) with renderings (rendering system)**  
**The product is a kit , comprising from number of components**
3. Manufacturer:  
**Saint-Gobain Construction Products CZ a.s.**  
**Smrčková 2485/4 180 00 Praha 8**  
[www.saint-gobain.cz](http://www.saint-gobain.cz)
4. Authorised representative : -
5. System of assessment and verification of constancy of performance:  
**AVCP System 1**
6. Notified body: **Technical and Test Institute for Construction Prague / 1020**  
European Assessment Document: **EAD 040083-00-0404**  
European Technical Assessment: **ETA-24/0976 of 28/7/2025**  
Certificate of constancy of performance: **1020-CPR-020-052474 of 28/7/2025**
7. Declared performance:  
Essential characteristics

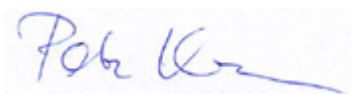
Essential characteristic	Assessment method (EAD clause)	Performance
Reaction to fire of ETICS	Cl. 2.2.1.1	See cl. 3.1.1
Reaction to fire of thermal insulation material	Cl. 2.2.1.2	No performance assessed (See Annex No. 3 for component characteristic)
Façade fire performance	Cl. 2.2.2	See cl. 3.1.2
Propensity to undergo continuous smouldering of ETICS	Cl. 2.2.3	No performance assessed
Content, emission and/or release of dangerous substances – leachable substances	Cl. 2.2.4	No performance assessed
Water absorption of the base coat and the rendering system	Cl. 2.2.5.1	See cl. 3.2.1
Water absorption of the insulation product	Cl. 2.2.5.2	No performance assessed (See Annex No. 3 for component characteristic)
Water-tightness of the ETICS: hygrothermal behaviour	Cl. 2.2.6	See cl. 3.2.2
Water-tightness: freeze thaw performance	Cl. 2.2.7	See cl. 3.2.3
Impact resistance	Cl. 2.2.8	See cl. 3.2.4
Water vapour permeability of the rendering system (equivalent air thickness $s_d$ )	Cl. 2.2.9.1	See cl. 3.2.5
Water vapour permeability of thermal insulation product (water-vapour resistance factor)	Cl. 2.2.9.2	No performance assessed (See Annex No. 3 for component characteristic)
Bond strength between the base coat and the thermal insulation product (mortar or paste)	Cl. 2.2.11.1	See cl. 3.3.1
Bond strength between the adhesive and the substrate	Cl. 2.2.11.2	See cl. 3.3.2

## Essential characteristics

Bond strength between the adhesive and the thermal insulation product	Cl. 2.2.11.3	See cl. 3.3.3
Fixing strength (transverse displacement)	Cl. 2.2.12	No performance assessed
Wind load resistance of ETICS – pull-through tests of fixings	Cl. 2.2.13.1	See cl. 3.3.4
Wind load resistance of ETICS – static foam block test	Cl. 2.2.13.2	No performance assessed
Wind load resistance of ETICS – dynamic wind uplift test	Cl. 2.2.13.3	No performance assessed
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions	Cl. 2.2.14.1	No performance assessed (See Annex No. 3 for component characteristic)
Tensile test perpendicular to the faces of the thermal insulation product – in wet conditions	Cl. 2.2.14.2	No performance assessed
Shear strength and shear modulus of elasticity test of ETICS	Cl. 2.2.15	No performance assessed (See Annex No. 3 for component characteristic)
Render strip tensile test	Cl. 2.2.17	No performance assessed
Bond strength after ageing of finishing coat tested in the rig	Cl. 2.2.20.1	See cl. 3.3.5
Bond strength after ageing of finishing coat not tested in the rig	Cl. 2.2.20.2	See cl. 3.3.6
Tensile strength of the glass fibre mesh	Cl. 2.2.21.1 Cl. 2.2.21.2	No performance assessed (See Annex No. 5 for component characteristic)
Airborne sound insulation of ETICS	Cl. 2.2.22.1	No performance assessed
Dynamic stiffness of the thermal insulation product	Cl. 2.2.22.2	No performance assessed
Air flow resistance of the thermal insulation product	Cl. 2.2.22.3	No performance assessed
Thermal resistance and thermal transmittance of ETICS	Cl. 2.2.23	See cl. 3.3.7
Thermal resistance of the thermal insulation product	Cl. 2.2.23.1	No performance assessed (See Annex No. 3 for component characteristic)

8. the performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 7. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified in point 3.

Signed for and on behalf of the manufacturer



Liberec 5.8.2025

.....  
Petr Vlana  
Product legislation manager,  
Weber  
Saint-Gobain Construction products CZ a.s.

## Specific Parts

### 1 Technical description of the product

#### 1.1 Composition of the product (kit)

Table 1

Use and variant	Component	Coverage [kg/m <sup>2</sup> ]	Thickness [mm]
Adhesive 1	<b>EnveoKleber Excellent</b> Powder requiring addition of water 0.24 l/kg Use as adhesive or supplementary adhesive	3 – 10 (dry powder)	2 – 20
Thermal insulation product 1	Factory made mineral wool lamellas (MW) See Annex No. 3	N/A	40 – 300
Thermal insulation product 2	Factory made mineral wool panels (MW) See Annex No. 4	N/A	50 – 300
Anchors	Plastic anchors See Annex No. 5	N/A	N/A
Base coat 1	<b>EnveoKleber Excellent</b> Powder requiring addition of water 0.24 l/kg	4 – 5 (dry powder)	3 – 5
Reinforcement 1	<b>EnveoTherm Mesh 131</b> <b>Webertherm R131</b> Standard glass fibre mesh, one or two layers Embedded in base coat See Annex No. 6	0.150–0.172 (per layer)	< 1.0 (per layer)
Reinforcement 2	<b>EnveoTherm Mesh 117</b> <b>Webertherm R117</b> Standard glass fibre mesh, one or two layers Embedded in base coat See Annex No. 6	0.139–0.155 (per layer)	< 1.0 (per layer)
Reinforcement 3	Standard glass fibre mesh, one or two layers Embedded in base coat See Annex No. 6	0.139–0.172 (per layer)	< 1.0 (per layer)
Key coat 1	<b>EnveoGrund</b> Mandatory use with finishing coats 1 – 17 Applied in one layer	0.20 – 0.24 (liquid)	< 0.2
Finishing coat 1	<b>EnveoPutz Silicat</b> Ready-to-use paste, floated structure	2.2 – 2.7 (paste)	~ 1.5
Finishing coat 2	<b>EnveoPutz Silicat</b> Ready-to-use paste, floated structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 3	<b>EnveoPutz Silicat</b> Ready-to-use paste, rilled structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 4	<b>EnveoPutz Silicon</b> Ready-to-use paste, floated structure	2.2 – 2.7 (paste)	~ 1.5
Finishing coat 5	<b>EnveoPutz Silicon</b> Ready-to-use paste, floated structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 6	<b>EnveoPutz Silicon</b> Ready-to-use paste, rilled structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 7	<b>EnveoPutz Premium Silicon</b> Ready-to-use paste, floated structure	2.2 – 2.7 (paste)	~ 1.5
Finishing coat 8	<b>EnveoPutz Premium Silicon</b> Ready-to-use paste, rilled structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 9	<b>EnveoPutz Premium Aqua</b> Ready-to-use paste, floated structure	2.2 – 2.7 (paste)	~ 1.5
Finishing coat 10	<b>EnveoPutz Premium Aqua</b> Ready-to-use paste, floated structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 11	<b>EnveoPutz Premium Aqua</b> Ready-to-use paste, rilled structure	3.1 – 3.8 (paste)	~ 2.0

Use and variant	Component	Coverage [kg/m <sup>2</sup> ]	Thickness [mm]
Finishing coat 12	<b>EnveoPutz Premium Clean</b> Ready-to-use paste, floated structure	2.2 – 2.7 (paste)	~ 1.5
Finishing coat 13	<b>EnveoPutz Premium Clean</b> Ready-to-use paste, floated structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 14	<b>EnveoPutz Premium Clean</b> Ready-to-use paste, rilled structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 15	<b>EnveoPutz Premium Active</b> Ready-to-use paste, floated structure	2.2 – 2.7 (paste)	~ 1.5
Finishing coat 16	<b>EnveoPutz Premium Active</b> Ready-to-use paste, floated structure	3.1 – 3.8 (paste)	~ 2.0
Finishing coat 17	<b>EnveoPutz Premium Active</b> Ready-to-use paste, rilled structure	3.1 – 3.8 (paste)	~ 2.0

Types of the ETICS can be distinguished, depending on the fixing method of thermal insulation:

Table 2

Component	Type of ETICS		
	Purely bonded ETICS	Bonded ETICS with supplementary anchors	Mechanically fixed ETICS with anchors with supplementary adhesive
Adhesive	<b>EnveoKleber Excellent</b> Min. 40 % area covered by adhesive	<b>EnveoKleber Excellent</b> Min. 40 % area covered by adhesive	<b>EnveoKleber Excellent</b>
Thermal insulation product	Thermal insulation product 1	Thermal insulation product 1	Thermal insulation product 1 or Thermal insulation product 2
Anchors	Not to be used	See Annex No. 5	See Annex No. 5

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

This product is an External Thermal Insulation Composite System (ETICS) with renderings (rendering system). The product is a kit, comprising from number of components.

The ETICS may include special fittings (e.g. base profiles, corner profiles ...) to treat details of ETICS (connections, apertures, corners, parapets, sills ...). Special fittings are not listed nor assessed in this ETA.

The ETICS is installed in accordance with Manufacturer's installation instructions.

The ETICS may be used on new or existing (retrofit) vertical building walls. The walls can be made of masonry (bricks, blocks, stones, etc.) or concrete (cast on site or as prefabricated panels). The surface can be rendered or unrendered.

The ETICS is designed for use on vertical walls but can also be used on horizontal or inclined surfaces which are not exposed to precipitation.

The ETICS is a non-load-bearing construction element and it does not contribute directly to the stability of the wall on which it is installed.

The ETICS provides additional thermal insulation and protection from effect of weathering.

The provisions made in this ETA are based on an assumed intended working life of at least 25 years, provided that the ETICS installed and maintained properly. The indications given as to the working life of the construction product cannot be interpreted as a guarantee, but are regarded as means for expressing the expected economically reasonable working life of the product.

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advice his clients on the transport, storage, maintenance, replacement and repair of the product as he considers necessary.

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

Table 3

Essential characteristic	Assessment method (EAD clause)	Performance
Reaction to fire of ETICS	Cl. 2.2.1.1	See cl. 3.1.1
Reaction to fire of thermal insulation material	Cl. 2.2.1.2	No performance assessed (See Annex No. 3 for component characteristic)
Façade fire performance	Cl. 2.2.2	No performance assessed
Propensity to undergo continuous smouldering of ETICS	Cl. 2.2.3	No performance assessed
Content, emission and/or release of dangerous substances – leachable substances	Cl. 2.2.4	No performance assessed
Water absorption of the base coat and the rendering system	Cl. 2.2.5.1	See cl. 3.2.1
Water absorption of the insulation product	Cl. 2.2.5.2	No performance assessed (See Annex No. 3 for component characteristic)
Water-tightness of the ETICS: hygrothermal behaviour	Cl. 2.2.6	See cl. 3.2.2
Water-tightness: freeze thaw performance	Cl. 2.2.7	See cl. 3.2.3
Impact resistance	Cl. 2.2.8	See cl. 3.2.4
Water vapour permeability of the rendering system (equivalent air thickness $s_d$ )	Cl. 2.2.9.1	See cl. 3.2.5
Water vapour permeability of thermal insulation product (water-vapour resistance factor)	Cl. 2.2.9.2	No performance assessed (See Annex No. 3 for component characteristic)
Bond strength between the base coat and the thermal insulation product (mortar or paste)	Cl. 2.2.11.1	See cl. 3.3.1
Bond strength between the adhesive and the substrate	Cl. 2.2.11.2	See cl. 3.3.2
Bond strength between the adhesive and the thermal insulation product	Cl. 2.2.11.3	See cl. 3.3.3
Fixing strength (transverse displacement)	Cl. 2.2.12	No performance assessed
Wind load resistance of ETICS – pull-through tests of fixings	Cl. 2.2.13.1	See cl. 3.3.4
Wind load resistance of ETICS – static foam block test	Cl. 2.2.13.2	No performance assessed
Wind load resistance of ETICS – dynamic wind uplift test	Cl. 2.2.13.3	No performance assessed
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions	Cl. 2.2.14.1	No performance assessed (See Annex No. 3 for component characteristic)
Tensile test perpendicular to the faces of the thermal insulation product – in wet conditions	Cl. 2.2.14.2	No performance assessed
Shear strength and shear modulus of elasticity test of ETICS	Cl. 2.2.15	No performance assessed (See Annex No. 3 for component characteristic)
Render strip tensile test	Cl. 2.2.17	No performance assessed
Bond strength after ageing of finishing coat tested in the rig	Cl. 2.2.20.1	See cl. 3.3.5
Bond strength after ageing of finishing coat not tested in the rig	Cl. 2.2.20.2	See cl. 3.3.6

Essential characteristic	Assessment method (EAD clause)	Performance
Tensile strength of the glass fibre mesh	Cl. 2.2.21.1 Cl. 2.2.21.2	No performance assessed (See Annex No. 6 for component characteristic)
Airborne sound insulation of ETICS	Cl. 2.2.22.1	No performance assessed
Dynamic stiffness of the thermal insulation product	Cl. 2.2.22.2	No performance assessed
Air flow resistance of the thermal insulation product	Cl. 2.2.22.3	No performance assessed
Thermal resistance and thermal transmittance of ETICS	Cl. 2.2.23	See cl. 3.3.7
Thermal resistance of the thermal insulation product	Cl. 2.2.23.1	No performance assessed (See Annex No. 3 for component characteristic)

**Table 4 – Table 21 lay down assessments of essential characteristics of specific combinations of ETICS components.**

**Any combination of components not meeting the criteria of Table 4 – Table 22 is assessed as “No performance assessed” in regard to the relevant essential characteristic.**

### 3.1 Safety in case of fire (BWR 2)

#### 3.1.1 Reaction to fire of ETICS

Table 4

Reaction to fire of ETICS: A2-s1, d0	
Component	ETICS configuration
Adhesive	In accordance with Table 1
Thermal insulation product	Thermal insulation product 1 or 2 Max. apparent density (EN 1602): 105 kg/m <sup>3</sup>
Anchors	In accordance with Table 1
Base coat	In accordance with Table 1
Reinforcement	In accordance with Table 1 in max. two layers
Key coat	In accordance with Table 1
Finishing coat	In accordance with Table 1



## 3.2 Hygiene, health and the environment (BWR 3)

### 3.2.1 Water absorption of the base coat and the rendering system

Table 5

Water absorption of the reinforced base coat		
ETICS configuration requirements:	After 1 h [kg/m <sup>2</sup> ]	After 24 h [kg/m <sup>2</sup> ]
EnveoKleber Excellent	0.04	0.25

Table 6

Water absorption of the complete rendering				
ETICS configuration requirements:			After 1 h [kg/m <sup>2</sup> ]	After 24 h [kg/m <sup>2</sup> ]
Base coat	Finishing coat	Key coat		
EnveoKleber Excellent	EnveoPutz Silicat floated	EnveoGrund	0.01	0.04
EnveoKleber Excellent	EnveoPutz Silicat rilled	EnveoGrund	0.01	0.06
EnveoKleber Excellent	EnveoPutz Silicon floated	EnveoGrund	0.01	0.02
EnveoKleber Excellent	EnveoPutz Silicon rilled	EnveoGrund	0.01	0.05
EnveoKleber Excellent	EnveoPutz Premium Silicon floated	EnveoGrund	0.01	0.05
EnveoKleber Excellent	EnveoPutz Premium Silicon rilled	EnveoGrund	0.02	0.08
EnveoKleber Excellent	EnveoPutz Premium Aqua floated	EnveoGrund	0.01	0.06
EnveoKleber Excellent	EnveoPutz Premium Aqua rilled	EnveoGrund	0.01	0.08
EnveoKleber Excellent	EnveoPutz Premium Clean floated	EnveoGrund	0.01	0.04
EnveoKleber Excellent	EnveoPutz Premium Clean rilled	EnveoGrund	0.01	0.05
EnveoKleber Excellent	EnveoPutz Premium Active floated	EnveoGrund	0.00	0.05
EnveoKleber Excellent	EnveoPutz Premium Active rilled	EnveoGrund	0.01	0.06

### 3.2.2 Water-tightness of the ETICS: hygrothermal behaviour

Table 7

Water-tightness of the ETICS: hygrothermal behaviour
Hygrothermal cycles have been performed on products tested in the hygrothermal rig. The ETICS passed the test and is assessed as <b>resistant to hygrothermal cycles</b> .

### 3.2.3 Water-tightness: freeze thaw performance

Table 8

Water-tightness: freeze thaw performance
The ETICS is <b>freeze-thaw resistant</b> , because the water absorption of both, reinforced base coat and the rendering system, are less than 0.5 kg/m <sup>2</sup> after 24 hours.

### 3.2.4 Impact resistance

Table 9

Impact resistance (products tested after hygrothermal cycles on the rig)					
ETICS configuration requirements:			Cracks	Max. impact diameter [mm]	Impact resistance category
Base coat	Finishing coat	Reinforcement and key coat			
EnveoKleber Excellent	EnveoPutz Silicat floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	22 – 3 J 40 – 10 J	III
EnveoKleber Excellent	EnveoPutz Silicon floated	Reinforcement 1 or 2 or 3 and EnveoGrund	No – 3 J Yes – 10 J	/ – 3 J 30 – 10 J	II
EnveoKleber Excellent	EnveoPutz Premium Aqua floated	Reinforcement 1 or 2 or 3 and EnveoGrund	No – 3 J Yes – 10 J	/ – 3 J 38 – 10 J	II
EnveoKleber Excellent	EnveoPutz Premium Active floated	Reinforcement 1 or 2 or 3 and EnveoGrund	No – 3 J Yes – 10 J	/ – 3 J 40 – 10 J	III

Table 10

Impact resistance (products tested after immersion in water)					
ETICS configuration requirements:			Cracks	Max. impact diameter [mm]	Impact resistance category
Base coat	Finishing coat	Reinforcement and key coat			
EnveoKleber Excellent	EnveoPutz Silicat floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	22 – 3 J 43 – 10 J	III
EnveoKleber Excellent	EnveoPutz Silicat rilled	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	30 – 3 J 57 – 10 J	III
EnveoKleber Excellent	EnveoPutz Silicon floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	22 – 3 J 72 – 10 J	III
EnveoKleber Excellent	EnveoPutz Silicon rilled	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	40 – 3 J 60 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Silicon floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	31 – 3 J 80 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Silicon rilled	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	31 – 3 J 65 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Aqua floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	24 – 3 J 39 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Aqua rilled	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	34 – 3 J 82 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Clean floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	24 – 3 J 39 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Clean rilled	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	25 – 3 J 57 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Active floated	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	23 – 3 J 40 – 10 J	III
EnveoKleber Excellent	EnveoPutz Premium Active rilled	Reinforcement 1 or 2 or 3 and EnveoGrund	Yes – 3 J Yes – 10 J	34 – 3 J 60 – 10 J	III

### 3.2.5 Water vapour permeability of the rendering system (equivalent air thickness $s_d$ )

Table 11

Water vapour permeability of the rendering system (equivalent air thickness $s_d$ )			
ETICS configuration requirements:			Equivalent air thickness $s_d$ [m]
Base coat	Finishing coat	Key coat	
EnveoKleber Excellent	EnveoPutz Silicat floated	EnveoGrund	0.3
EnveoKleber Excellent	EnveoPutz Silicat rilled	EnveoGrund	0.2
EnveoKleber Excellent	EnveoPutz Silicon floated	EnveoGrund	0.7
EnveoKleber Excellent	EnveoPutz Silicon rilled	EnveoGrund	0.3
EnveoKleber Excellent	EnveoPutz Premium Silicon floated	EnveoGrund	0.5
EnveoKleber Excellent	EnveoPutz Premium Silicon rilled	EnveoGrund	0.3
EnveoKleber Excellent	EnveoPutz Premium Aqua floated	EnveoGrund	0.7
EnveoKleber Excellent	EnveoPutz Premium Aqua rilled	EnveoGrund	0.3
EnveoKleber Excellent	EnveoPutz Premium Clean floated	EnveoGrund	0.8
EnveoKleber Excellent	EnveoPutz Premium Clean rilled	EnveoGrund	0.4
EnveoKleber Excellent	EnveoPutz Premium Active floated	EnveoGrund	0.2
EnveoKleber Excellent	EnveoPutz Premium Active rilled	EnveoGrund	0.2

### 3.3 Safety and accessibility in use (BWR 4)

#### 3.3.1 Bond strength between the base coat and the thermal insulation product (mortar or paste)

Table 12

Bond strength between the base coat and the thermal insulation product (mortar or paste)					
ETICS configuration requirements:		Conditioning before the test	Rupture type	Bond strength [kPa]	
Insulation product	Base coat			Min.	Mean
Insulation product 1	<b>EnveoKleber Excellent</b>	Initial state (dry condition)	In the insulation product	<b>50</b>	<b>55</b>
Insulation product 2 (min. TR 13 kPa)	<b>EnveoKleber Excellent</b>	Initial state (dry condition)	In the insulation product	<b>11</b>	<b>13</b>
Insulation product 1	<b>EnveoKleber Excellent</b>	After hygrothermal cycles	In the insulation product	<b>27</b>	<b>39</b>
Insulation product 2	<b>EnveoKleber Excellent</b>	After hygrothermal cycles	In the insulation product	<b>6</b>	<b>7</b>

#### 3.3.2 Bond strength between the adhesive and the substrate

Table 13

Bond strength between the adhesive and the substrate					
ETICS configuration requirements:		Conditioning before the test	Rupture type	Bond strength [kPa]	
Substrate	Adhesive (and tested thickness)			Min.	Mean
Concrete	<b>EnveoKleber Excellent</b> (3 - 5 mm)	Initial state (dry condition)	In the adhesive	<b>1640</b>	<b>1816</b>
Concrete	<b>EnveoKleber Excellent</b> (3 - 5 mm)	2 days immersion and 2 hours drying	In the adhesive	<b>325</b>	<b>474</b>
Concrete	<b>EnveoKleber Excellent</b> (3 - 5 mm)	2 days immersion and min. 7 days drying	In the adhesive	<b>2652</b>	<b>3006</b>

### 3.3.3 Bond strength between the adhesive and the thermal insulation product

Table 14

Bond strength between the adhesive and the thermal insulation product					
ETICS configuration requirements:		Conditioning before the test	Rupture type	Bond strength [kPa]	
Insulation product	Adhesive (and tested thickness)			Min.	Mean
Insulation product 1	<b>EnveoKleber Excellent</b> (3 - 5 mm)	Initial state (dry condition)	In the insulation product	<b>41</b>	<b>52</b>
Insulation product 1	<b>EnveoKleber Excellent</b> (3 - 5 mm)	2 days immersion and 2 hours drying	In between the insulation product and the adhesive	<b>29</b>	<b>39</b>
Insulation product 1	<b>EnveoKleber Excellent</b> (3 - 5 mm)	2 days immersion and min. 7 days drying	In the insulation product	<b>49</b>	<b>60</b>

### 3.3.4 Wind load resistance of ETICS – pull-through tests of fixings

Table 15


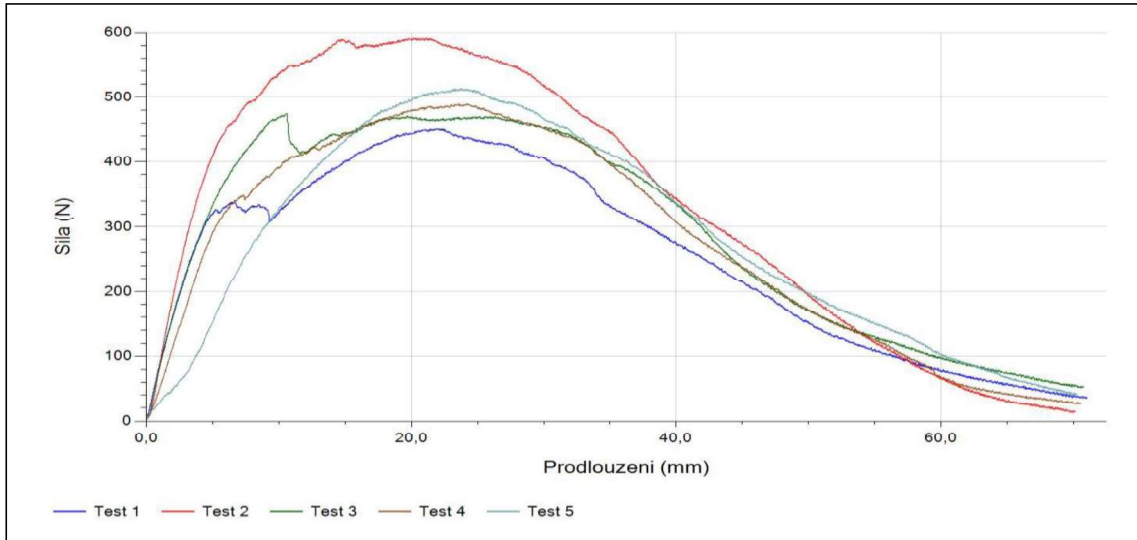
Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		Tested position	Test conditions	Failure load per fixing [kN]	
Insulation product	Fixing			Individual	Mean
Insulation product 1 Thickness: $\geq 50$ mm or $\geq 100$ mm for countersunk assembly Tensile strength in dry condition: $\geq 13$ kPa	Surface assembly or countersunk assembly (only single layer insulation product) Anchors in accordance with Annex No. 4 Plate diameter: $\geq 60$ mm Plate stiffness: $\geq 0.6$ kN/mm	$R_{\text{panel}}$ 	Dry condition 23 °C and 50 % relative humidity of air	<b>0.451</b> <b>0.591</b> <b>0.475</b> <b>0.490</b> <b>0.514</b>	<b>0.504</b>
Load / displacement graph:					
					

Table 16

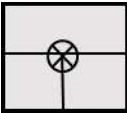
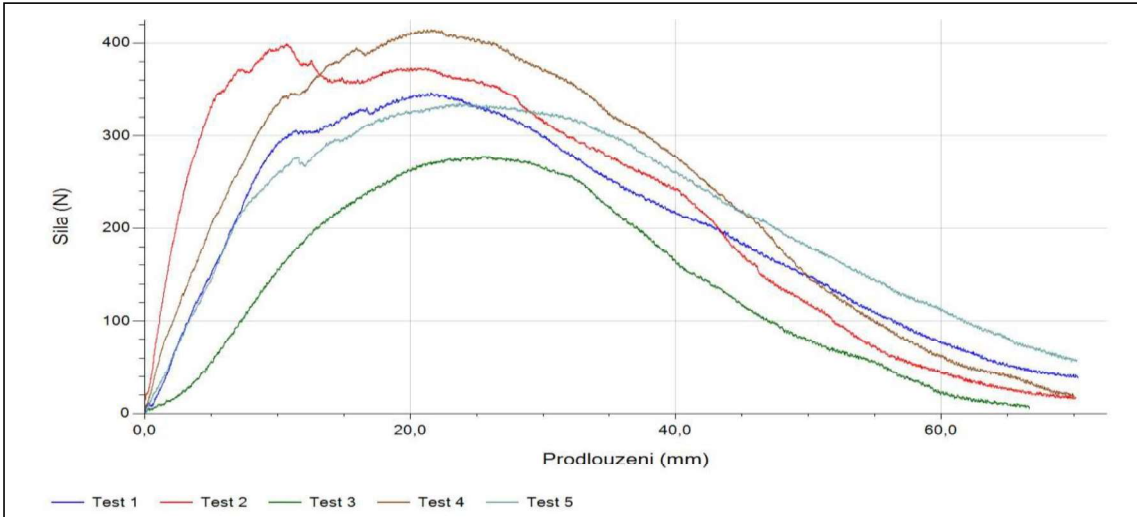
Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		Tested position	Test conditions	Failure load per fixing [kN]	
Insulation product	Fixing			Individual	Mean
Insulation product 1 Thickness: $\geq 50$ mm or $\geq 100$ mm for countersunk assembly Tensile strength in dry condition: $\geq 13$ kPa	Surface assembly or countersunk assembly (only single layer insulation product) Anchors in accordance with Annex No. 4 Plate diameter: $\geq 60$ mm Plate stiffness: $\geq 0.6$ kN/mm	$R_{joint}$ 	Dry condition 23 °C and 50 % relative humidity of air	<b>0.347</b> <b>0.399</b> <b>0.278</b> <b>0.415</b> <b>0.335</b>	<b>0.355</b>
Load / displacement graph:					
					



Table 17

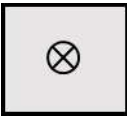
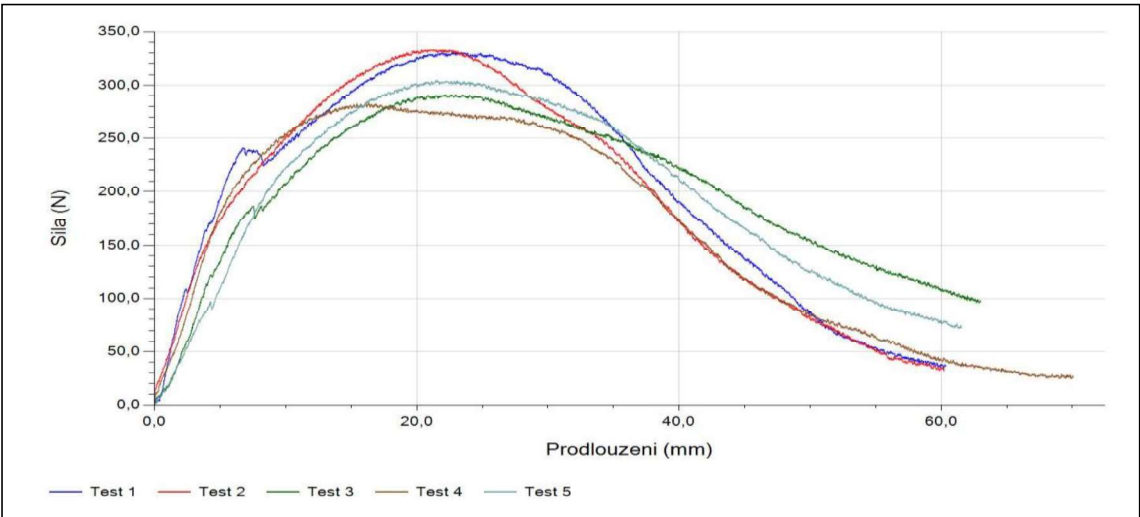
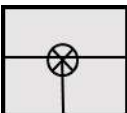
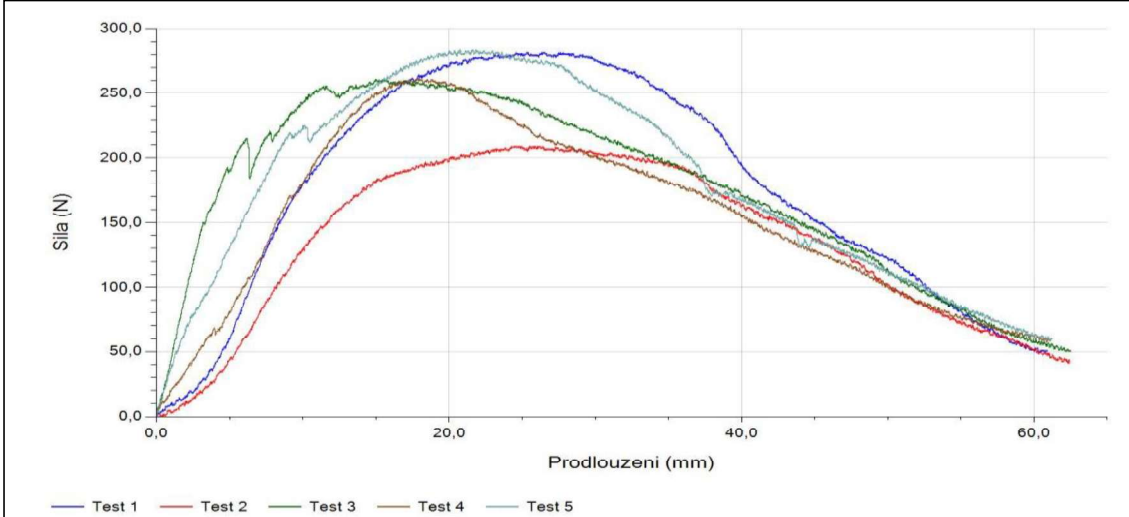
Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		Tested position	Test conditions	Failure load per fixing [kN]	
Insulation product	Fixing			Individual	Mean
Insulation product 1 Thickness: $\geq 50$ mm or $\geq 100$ mm for countersunk assembly Tensile strength in dry condition: $\geq 13$ kPa Tensile strength in wet condition: $\geq 7$ kPa	Surface assembly or countersunk assembly (only single layer insulation product) Anchors in accordance with Annex No. 4 Plate diameter: $\geq 60$ mm Plate stiffness: $\geq 0.6$ kN/mm	$R_{\text{panel}}$ 	Wet condition $70^{\circ}\text{C}$ and 95 % relative humidity of air	<b>0.331</b> <b>0.333</b> <b>0.291</b> <b>0.283</b> <b>0.305</b>	<b>0.309</b>
Load / displacement graph:					
					

Table 18

Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		Tested position	Test conditions	Failure load per fixing [kN]	
Insulation product	Fixing			Individual	Mean
Insulation product 1 Thickness: $\geq 50$ mm or $\geq 100$ mm for countersunk assembly Tensile strength in dry condition: $\geq 13$ kPa Tensile strength in wet condition: $\geq 7$ kPa	Surface assembly or countersunk assembly (only single layer insulation product) Anchors in accordance with Annex No. 4 Plate diameter: $\geq 60$ mm Plate stiffness: $\geq 0.6$ kN/mm	$R_{joint}$ 	Wet condition $70^{\circ}\text{C}$ and 95 % relative humidity of air	<b>0.282</b> <b>0.209</b> <b>0.261</b> <b>0.262</b> <b>0.284</b>	<b>0.260</b>
Load / displacement graph:					
					

### 3.3.5 Bond strength after ageing of finishing coat tested in the rig

Table 19

Bond strength after ageing of finishing coat tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat		Individual	Mean
Insulation product 1 (min. TR 11 kPa)	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Silicat</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	9	11
				In the insulation product	12	
				In the insulation product	12	
				In the insulation product	11	
				In the insulation product	9	
Insulation product 1 (min. TR 7 kPa)	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Silicon</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	7	7
				In the insulation product	7	
				In the insulation product	7	
				In the insulation product	6	
				In the insulation product	6	
Insulation product 1 (min. TR 8 kPa)	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium Aqua</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	10	8
				In the insulation product	10	
				In the insulation product	9	
				In the insulation product	6	
				In the insulation product	6	
Insulation product 1 (min. TR 9 kPa)	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium Active</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	9	167
				In the insulation product	9	
				In the insulation product	9	
				In the insulation product	10	
				In the insulation product	7	

### 3.3.6 Bond strength after ageing of finishing coat not tested in the rig

Table 20

Bond strength after ageing of finishing coat NOT tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat		Individual	Mean
Insulation product 1	<b>EnveoKleber Excellent</b>	<b>EnveoPutz silicat</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>45</b>	<b>49</b>
				In the insulation product	<b>61</b>	
				In the insulation product	<b>44</b>	
				In the insulation product	<b>46</b>	
				In the insulation product	<b>50</b>	
Insulation product 1	<b>EnveoKleber Excellent</b>	<b>EnveoPutz silicon</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>59</b>	<b>59</b>
				In the insulation product	<b>63</b>	
				In the insulation product	<b>58</b>	
				In the insulation product	<b>57</b>	
				In the insulation product	<b>56</b>	
Insulation product 1	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium silicon</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>55</b>	<b>64</b>
				In the insulation product	<b>63</b>	
				In the insulation product	<b>61</b>	
				In the insulation product	<b>75</b>	
				In the insulation product	<b>66</b>	
Insulation product 1	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium Aqua</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>53</b>	<b>55</b>
				In the insulation product	<b>47</b>	
				In the insulation product	<b>42</b>	
				In the insulation product	<b>66</b>	
				In the insulation product	<b>69</b>	

Bond strength after ageing of finishing coat NOT tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat		Individual	Mean
Insulation product 1	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium Clean</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>55</b>	<b>57</b>
				In the insulation product	<b>53</b>	
				In the insulation product	<b>66</b>	
				In the insulation product	<b>66</b>	
				In the insulation product	<b>44</b>	
Insulation product 1	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium Active</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>69</b>	<b>66</b>
				In the insulation product	<b>49</b>	
				In the insulation product	<b>69</b>	
				In the insulation product	<b>76</b>	
				In the insulation product	<b>66</b>	
Insulation product 2 (min. TR 8 kPa)	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium silicon</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>8</b>	<b>8</b>
				In the insulation product	<b>9</b>	
				In the insulation product	<b>8</b>	
				In the insulation product	<b>9</b>	
				In the insulation product	<b>7</b>	
Insulation product 2 (min. TR 11 kPa)	<b>EnveoKleber Excellent</b>	<b>EnveoPutz Premium Clean</b> floated or rilled	<b>EnveoGrund</b>	In the insulation product	<b>12</b>	<b>11</b>
				In the insulation product	<b>10</b>	
				In the insulation product	<b>9</b>	
				In the insulation product	<b>10</b>	
				In the insulation product	<b>12</b>	

### 3.3.7 Thermal resistance and thermal transmittance of ETICS

Table 21

Thermal resistance and thermal transmittance of ETICS ( $R_{ETICS}$ )	
Thermal resistance	$[(m^2 \cdot K)/W]$
$R_{render}$	0.02
$R_{ETICS}$	$\geq 1.00$
See Annex No. 2 for information on calculation of thermal transmittance of ETICS In order to meet criteria of EAD 040083-00-0404, the $R_{ETICS}$ calculated in line with Annex No. 2 has to be min. 1.0 $(m^2 \cdot K)/W$ .	

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

The applicable AVCP system is 2+ for any use except for uses subject to regulations on reaction to fire. For uses subject to regulations on reaction to fire the applicable AVCP systems regarding reaction to fire are 1 or 2+ depending on the conditions defined hereafter.

According to the Decision 97/556/EC as amended by Decision 2001/596/EC of the European Commission the systems of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table apply.

Table 22

Product	Intended uses	Class(es) (reaction to fire)	Systems of assessment and verification of constancy of performance
External thermal insulation composite system/kits with rendering (ETICS)	in external wall subject to fire regulations	A <sup>(1)</sup> – B <sup>(1)</sup> – C <sup>(1)</sup>	1
		A <sup>(2)</sup> – B <sup>(2)</sup> – C <sup>(2)</sup> A (without testing) D – E – F	2+
	in external wall not subject to fire regulations	any	2+
(1) Materials for which the reaction to fire performance is susceptible to change during the production process			
(2) Materials for which the reaction to fire performance is not susceptible to change during the production process			

## **5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD: 040083-00-0404**

The manufacturer and the Technical and Test Institute for Construction Prague have agreed on a Control Plan which is deposited at the Technical and Test Institute for Construction Prague and it accompanies the ETA. The Control Plan specifies the type and frequency of checks/tests conducted on raw materials, manufactured and subcontracted components.

The manufacturer has defined special techniques of installation that shall always be followed.

Installation shall be done by qualified personnel trained in the special installation techniques defined by the manufacturer.

Notified body has to carry out the initial inspection of the manufacturing plant and of factory production control. Notified body also carries out continuous surveillance, assessment and evaluation of factory production control at least once per year.



Issued in Prague on 28/07/2025

by

**Ing. Jiří Studnička, Ph.D.**

Head of the Technical Assessment Body (TAB)

*Annexes:*

- |             |                                    |
|-------------|------------------------------------|
| Annex No. 1 | List of manufacturing plants       |
| Annex No. 2 | Thermal transmittance of ETICS     |
| Annex No. 3 | Thermal insulation product 1       |
| Annex No. 4 | Thermal insulation product 2       |
| Annex No. 5 | Mechanical fixing device – anchors |
| Annex No. 6 | Reinforcement – glass fibre mesh   |

## **Annex No. 1 List of manufacturing plants**

1. SAINT-GOBAIN HUNGARY KFT.  
2085 Pilisvörösvár, Bécsi út 07/5 hrsz, Hungary
2. Saint-Gobain Construction Products, s.r.o.  
Stará Vajnorská 139, 831 04 Bratislava, Slovakia
3. SAINT-GOBAIN GRAĐEVINSKI PROIZVODI D.O.O.  
Apatin – Somborska 122, 25260 Apatin, Serbia
4. SAINT-GOBAIN GRAĐEVINSKI PROIZVODI D.O.O.  
Topola – Bulevar Vožda Karađorđa 126, 34310 Topola, Serbia
5. SAINT-GABAIN BULGARIA  
9155 Izvorsko, Bulgaria
6. SAINT-GABAIN BULGARIA  
2230 Kostinbrod 13 Imperator Konstantin Veliki str., Bulgaria

## Annex No. 2 Thermal transmittance of ETICS

$$U_c = U + \Delta U [W/m^2 \cdot K]$$

$U_c$  is corrected thermal transmittance of the entire wall, including thermal bridges.

$U$  is thermal transmittance of the entire wall, including ETICS, without thermal bridges.

$\Delta U$  is correction term of the thermal transmittance for mechanical fixing devices.

$$U = \frac{1}{R_{ETICS} + R_{substrate} + R_{se} + R_{si}} [W/m^2 \cdot K]$$

$$R_{ETICS} = R_{insulation} + R_{render} [m^2 \cdot K/W]$$

Where:  $R_{insulation}$  = insulation thickness / thermal conductivity coefficient [ $m^2 \cdot K/W$ ]

$R_{render} = 0.02 [m^2 \cdot K/W]$

$R_{substrate}$  thermal resistance of the substrate wall [ $m^2 \cdot K/W$ ].

$R_{se}$  external surface thermal resistance [ $m^2 \cdot K/W$ ].

$R_{si}$  internal surface thermal resistance [ $m^2 \cdot K/W$ ].

$$\Delta U = \chi_P \times n + \sum \Psi_i \times l_i [m^2 \cdot K/W]$$

Where:  $\chi_P$  is point thermal transmittance value of the anchor [ $W/K$ ]. Specified by the ETA for anchors or as follows:

0.002 [ $W/K$ ] For anchors with a plastic screw/nail, stainless steel screw/nail with the head covered by at least 15 mm plastic material, or with a minimum 15 mm air gap at the head of the screw/nail.

0.004 [ $W/K$ ] For anchors with a galvanized carbon steel screw/nail with the head covered by at least 15 mm plastic material or a minimum 15 mm air gap at the head of the screw /nail.

0.008 [ $W/K$ ] For all other anchors (the worst case).

$n$  is number of anchors per  $m^2$ . In case  $n$  is more than 16, the  $U_c$  calculation does not apply.

$\Psi_i$  is linear thermal transmittance value of the profile [ $W/m \cdot K$ ].

$l_i$  is length of the profile per  $m^2$ .

The influence of thermal bridges can also be calculated as described in EN ISO 10211. If there are more than 16 pcs of anchors per  $m^2$  the declared  $\chi_P$  shall not be used. The EN ISO 10211 calculation shall be used in such case.

### Annex No. 3 Thermal insulation product 1

Mineral wool (MW)	
Generic type	
Fibre orientation perpendicular to the faces of the panels (lamellas)	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Perpendicular to the faces of the panel (lamellas)
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	Allowed (thin mineral-based coat improving adhesion)
Max. thermal conductivity coefficient $\lambda_D$ :	max. 0.065 W/(m·K)
Short-term water absorption $W_p$ :	max. 1.0 kg/m <sup>2</sup>
Long-term water absorption $W_{lp}$ :	max. 3.0 kg/m <sup>2</sup>
Length:	max. $\pm$ 2.0 %
Width:	max. $\pm$ 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) $\mu$ :	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 80 kPa
Shear strength:	min. 20 kPa
Shear modulus:	min. 1000 kPa

Mineral wool (MW)	
Generic type	
Fibre orientation perpendicular to the faces of the panels (lamellas)	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Perpendicular to the faces of the panel (lamellas)
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	Allowed (thin mineral-based coat improving adhesion)
Max. thermal conductivity coefficient $\lambda_D$ :	max. 0.065 W/(m·K)
Short-term water absorption $W_p$ :	max. 1.0 kg/m <sup>2</sup>
Long-term water absorption $W_{lp}$ :	max. 3.0 kg/m <sup>2</sup>
Length:	max. $\pm 2.0$ %
Width:	max. $\pm 1.5$ %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) $\mu$ :	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 80 kPa
Shear strength:	min. 20 kPa
Shear modulus:	min. 1000 kPa
Compressive strength:	min. 20 kPa

Mineral wool (MW)	
Generic type	
Fibre orientation perpendicular to the faces of the panels (lamellas)	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Perpendicular to the faces of the panel (lamellas)
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	Allowed (thin mineral-based coat improving adhesion)
Max. thermal conductivity coefficient $\lambda_D$ :	max. 0.065 W/(m·K)
Short-term water absorption $W_p$ :	max. 1.0 kg/m <sup>2</sup>
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) $\mu$ :	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 80 kPa
Shear strength:	min. 20 kPa
Shear modulus:	min. 1000 kPa

## Annex No. 4 Thermal insulation product 2

Mineral wool (MW)	
Generic type	
Fibre orientation longitudinal to the faces of the panels (boards)	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Longitudinal to the faces of the panel (boards)
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	Allowed (thin mineral-based coat improving adhesion)
Max. thermal conductivity coefficient $\lambda_D$ :	max. 0.065 W/(m·K)
Short-term water absorption $W_p$ :	max. 1.0 kg/m <sup>2</sup>
Long-term water absorption $W_{ip}$ :	max. 3.0 kg/m <sup>2</sup>
Length:	max. $\pm$ 2.0 %
Width:	max. $\pm$ 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) $\mu$ :	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 7.5 kPa

Mineral wool (MW)	
Generic type	
Fibre orientation longitudinal to the faces of the panels (boards)	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Longitudinal to the faces of the panel (boards)
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	Allowed (thin mineral-based coat improving adhesion)
Max. thermal conductivity coefficient $\lambda_D$ :	max. 0.065 W/(m·K)
Short-term water absorption $W_p$ :	max. 1.0 kg/m <sup>2</sup>
Long-term water absorption $W_{lp}$ :	max. 3.0 kg/m <sup>2</sup>
Length:	max. $\pm$ 2.0 %
Width:	max. $\pm$ 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) $\mu$ :	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 7.5 kPa
Compressive strength:	min. 20 kPa



Mineral wool (MW)	
Generic type	
Fibre orientation longitudinal to the faces of the panels (boards)	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Longitudinal to the faces of the panel (boards)
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	Allowed (thin mineral-based coat improving adhesion)
Max. thermal conductivity coefficient $\lambda_D$ :	max. 0.065 W/(m·K)
Short-term water absorption $W_p$ :	max. 1.0 kg/m <sup>2</sup>
Reaction to fire of thermal insulation material:	A1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 7.5 kPa

## Annex No. 5 Mechanical fixing device – anchors

Plastic anchors for fixing external thermal insulation composite systems with rendering	
Generic type	
Requirements:	
Harmonized technical specification:	ETAG 014 or EAD 330196-00-0604 or EAD 330196-01-0604 or superseding harmonized technical specification
Setting:	to be screwed-in or nailed-in and: 1) to be installed flush with the insulation product with or without additional, flat, plate 2) to be installed countersunk (incision depth max. 20 mm) to the surface of the insulation product, without additional plate does not apply to multi-layered insulation products
Diameter of the anchor plate:	min. 60 mm
Load resistance of the anchor plate:	min. 1.25 kN
Plate stiffness:	min. 0.6 kN/mm
Material of the nail	plastics or metal

## Annex No. 6 Reinforcement – glass fibre mesh

Standard glass fibre mesh	
EnveoTherm Mesh 131 Webertherm R131	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Mass per unit area:	0.154 to 0.171 kg/m <sup>2</sup>
Heat of combustion:	Max. 5.8 MJ/kg
Mesh opening:	in warp direction: 3.0 to 4.5 mm in weft direction: 3.3 to 4.3 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft direction: min. 50 %

Standard glass fibre mesh	
EnveoTherm Mesh 117 Webertherm R117	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Mass per unit area:	0.139 to 0.154 kg/m <sup>2</sup>
Heat of combustion:	Max. 6.64 MJ/kg
Mesh opening:	in warp direction: 3.0 to 4.5 mm in weft direction: 4.1 to 5.1 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft direction: min. 50 %

Standard glass fibre mesh	
Generic type	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Mass per unit area:	0.139 to 0.172 kg/m <sup>2</sup>
Heat of combustion:	Max. 8.74 MJ/kg
Mesh opening:	in warp direction: 3.0 to 4.5 mm in weft direction: 4.1 to 5.1 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft directions: min. 50 %