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European Technical Assessment Body  
for construction products



## European Technical Assessment

ETA-13/0542  
of 19 November 2025

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Knauf WARM-WAND System MW/SM700 Pro

Product family  
to which the construction product belongs

Product area code: 4  
External Thermal Insulation Composite System with  
rendering on mineral wool for use on building walls

Manufacturer

Knauf Gips KG  
Am Bahnhof 7  
97346 Iphofen  
DEUTSCHLAND

Manufacturing plant

Knauf Gips KG  
Am Bahnhof 7  
97346 Iphofen  
DEUTSCHLAND

This European Technical Assessment  
contains

18 pages including 5 annexes which form an integral part  
of this assessment

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

EAD 040083-00-0404

This version replaces

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## Specific Part

### 1 Technical description of the product

This product is an ETICS (External Thermal Insulation Composite System) with rendering - a kit comprising components which are factory-produced by the manufacturer or component suppliers. It's made up on site from these. The ETICS manufacturer is ultimately responsible for the ETICS.

The ETICS kit comprises a prefabricated insulation product of mineral wool (MW) to be bonded and if necessary additional mechanically fixed onto a wall. The methods of fixing and the relevant components are specified in annex 1.

The insulation product is faced with a rendering system consisting of one base and finishing coat (site applied), the base coat contains reinforcement. The rendering system is applied directly to the insulating panels, without any air gap or disconnecting layer.

The ETICS may include special fittings (e.g. base profiles, corner profiles ...) for connection to adjacent building elements (apertures, corners, parapets...). Assessment and performance of these components is not addressed in this ETA, however the ETICS-manufacturer is responsible for adequate compatibility and performance within the ETICS when the components are delivered as a part of the kit.

### 2 Specification of the intended use in accordance with the applicable European assessment Document

The performances in Section 3 can only be assumed if the ETICS is used in accordance with the specifications and under the boundary conditions specified in Annexes 2 to 5.

The verifications and assessment methods on which this ETA is based lead to the assumption of a working life of the ETICS "Knauf WARM-WAND System MW/SM700 Pro" at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as a means for choosing the right products in relation to the assumed economically reasonable working life of the works.

For use, maintenance and repair, the finishing coat shall normally be maintained in order to fully preserve the ETICS performance. Maintenance includes at least:

- visual inspection of the ETICS,
- the repairing of localized damaged areas due to accidents,
- the aspect maintenance with products compatible with the ETICS (possibly after washing or ad hoc preparation).

Necessary repairs are to be carried out as soon as the need has been identified.

The information on use, maintenance and repair is given in the manufacturer's technical documentation.

It is the responsibility of the manufacturer to ensure that this information is made known to the concerned people.

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

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

Essential characteristic	Performance
Reaction to fire of the ETICS	(see annex 2) Class according to EN 13501-1
Reaction to fire of the MW-insulation product - Cross heat of combustion for the MW insulation product EN ISO 1716 - Density EN 1602	(see annex 2) Class A1 according EN 13501-1 Value [MJ/kg] Value [kg/m <sup>3</sup> ]
Facade fire performance	No performance assessed
Propensity to undergo continuous smouldering of ETICS	No performance assessed

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

Essential characteristic	Performance
<b>Release of dangerous substances</b>	no performance assessed
<b>Water absorption</b> Base coat after 1 hour after 24 hours	(see annex 3.1) Mean value [kg/m <sup>2</sup> ] Mean value [kg/m <sup>2</sup> ]
<b>Rendering system</b> after 1 hour after 24 hours	Mean value [kg/m <sup>2</sup> ] Mean value [kg/m <sup>2</sup> ]
<b>MW insulation product after 24 hours</b>	Maximum value 3.0 [kg/m <sup>2</sup> ]
<b>Water-tightness of the ETICS:</b> Hygrothermal behaviour on the test wall	Passed without defects
<b>Freeze/thaw behaviour of the ETICS</b>	The water absorption of the base coat as well as the rendering systems is after 24 hours less than 0.5 kg/m <sup>2</sup> for all configurations of the ETICS. The ETICS is so assessed as free/thaw resistant.
<b>impact resistance</b>	(see annex 3.2) Category
<b>Water vapour permeability</b> - Rendering system - MW insulation product	(see annex 3.3) s <sub>d</sub> value [m] μ = 1 Thickness of the insulation product 340 mm

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

Essential characteristic	Performance
<p><b>Bond strength</b> between base coat and MW insulation product</p> <p>between adhesive and substrate</p> <p>between adhesive and MW insulation</p>	<p>(see annex 4.1)</p> <ul style="list-style-type: none"> <li>- Minimum value/mean value [kPa], rupture type: Initial state (28 d immersion)</li> <li>- Minimum value/mean value [kPa], rupture type: after hygrothermal cycles</li> </ul> <p>(see annex 4.2)</p> <ul style="list-style-type: none"> <li>- Thickness [mm] of the used adhesives</li> <li>- Minimum value [kPa], rupture type: Initial state (dry conditions)</li> <li>- Minimum value/mean value [kPa], rupture type: after 2 d immersion in water, 2 h drying</li> <li>- Minimum value/mean value [kPa], rupture type: after 2 d immersion in water, 7 d drying</li> </ul> <p>(see annex 4.3)</p> <ul style="list-style-type: none"> <li>- Thickness [mm] of the used adhesives</li> <li>- Minimum value [kPa], rupture type: Initial state (dry conditions)</li> <li>- Minimum value/mean value [kPa], rupture type: after 2 d immersion in water, 2 h drying</li> <li>- Minimum value/mean value [kPa], rupture type: after 2 d immersion in water, 7 d drying</li> </ul>
<b>Fixing strength (displacement test)</b>	Test not required therefore no limitation of ETICS length required.
<p><b>Wind load resistance of ETICS</b> pull-through test of fixing static foam block test</p> <p>dynamic wind uplift test</p>	<p>(see annex 4.4)</p> <ul style="list-style-type: none"> <li>- <math>R_{panel}</math> [kN/fixing],</li> <li>- <math>R_{joint}</math> [kN/fixing],</li> <li>- Plate diameter of anchor <math>\geq 90</math> res. <math>\geq 140</math> mm</li> <li>- plate stiffness <math>\geq 0.3</math> kN/mm<sup>2</sup></li> <li>- load resistance of the anchor plate <math>\geq 1.0</math> kN</li> </ul> <p>not applicable</p>
<p><b>Tensile strength perpendicular to the faces</b> in dry conditions MW panel MW lamella in wet conditions - series 2 - series 3</p>	<p><math>\sigma_{mt} \geq 7.5</math> kPa <math>\sigma_{mt} \geq 80</math> kPa</p> <p><math>\geq 33</math> % of mean value value in dry conditions <math>\geq 50</math> % of mean value value in dry conditions</p>
<p><b>Shear strength of the ETICS</b> MW panel <math>\sigma_{mt} \geq 7.5</math> kPa MW lamella <math>\sigma_{mt} \geq 80</math> kPa</p>	<p><math>\geq 15</math> kPa <math>\geq 20</math> kPa</p>
<p><b>Shear modulus of the ETICS</b> MW panel <math>\sigma_{mt} \geq 7.5</math> kPa MW lamella <math>\sigma_{mt} \geq 80</math> kPa</p>	<p><math>\geq 0.5</math> MPa <math>\geq 1.0</math> MPa</p>

Essential characteristic	Performance
<b>Pull-through resistance of fixings from profiles</b>	not applicable
<b>Render strip tensile test</b>	no performance assessed
<b>Bond strength after ageing</b> finishing coat tested on the rig finishing coat not tested on the rig	(see annex 4.5) Minimum value/ mean value [kPa], rupture type Minimum value/ mean value [kPa], rupture type
<b>Tensile strength of the glass fibre mesh in the as-delivered state</b>	(see annex 4.6) Mean value [N/mm]
<b>Residual tensile strength of the glass fibre mesh after aging</b>	(see annex 4.6) Mean value [N/mm]
<b>Relative residual tensile strength of the glass fibre mesh after aging</b>	(see annex 4.6) Mean value [%]
<b>Elongation of the glass fibre mesh in the as-delivered state</b>	(see annex 4.6) Mean value [%]
<b>Elongation of the glass fibre mesh after aging</b>	(see annex 4.6) Mean value [%]

#### 3.4 Protection against noise (BWR 5)

Essential characteristic	Performance
<b>Airborne sound insulation of ETICS</b>	no performance assessed
<b>Dynamic stiffness of the EPS insulation product</b>	no performance assessed
<b>Air flow resistance of the EPS insulation product</b>	no performance assessed

#### 3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
<b>Thermal resistance of ETICS</b>	(see annex 5) Calculated value or measurement value R [ $\text{m}^2 \cdot \text{K}/\text{W}$ ]
<b>thermal transmittance of ETICS</b>	(see annex 5) Calculated value or measurement value U [ $\text{W}/(\text{m}^2 \cdot \text{K})$ ]

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

In accordance with EAD No. 040083-00-0404 the applicable European legal act is: 97/556/EC changed by 2001/596/EC.

The systems to be applied are:

Product	Intended use	Levels or classes (Reaction to fire)	Systems
"Knauf WARM-WAND System MW/SM700 Pro"	ETICS in external wall subject to fire regulations	A1 <sup>(1)</sup> , A2 <sup>(1)</sup> , B <sup>(1)</sup> , C <sup>(1)</sup>	1
		A1 <sup>(2)</sup> , A2 <sup>(2)</sup> , B <sup>(2)</sup> , C <sup>(2)</sup> , D, E, (A1 to E) <sup>(3)</sup> , F	2+
	ETICS in external wall not subject to fire regulations	any	2+
<p><sup>(1)</sup> Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e. g. an addition of fire retardants or a limiting of organic material)</p> <p><sup>(2)</sup> Products/materials not covered by footnote (1)</p> <p><sup>(3)</sup> Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Classes A1 according to Commission Decision 96/603/EC)</p>			

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 19 November 2025 by Deutsches Institut für Bautechnik

Dirk Brandenburger  
Head of Department

*beglaubigt:*  
Klette

## Annex 1

### Composition of the ETICS

	<b>Components</b> National application documents shall be taken into account	<b>Coverage</b> [kg/m <sup>2</sup> ]	<b>Thickness</b> [mm]
<b>Insulation material with associated method of fixing</b>	<b>Bonded ETICS:</b> <ul style="list-style-type: none"> <li>• <b>Insulation product</b> factory-prefabricated mineral wool (MW) product <ul style="list-style-type: none"> <li>- MW lamella</li> </ul> </li> <li>• <b>Adhesives</b> <ul style="list-style-type: none"> <li>- <b>SM700 Pro</b> (cement based powder requiring addition of about 25 % of water)</li> <li>- <b>Duo-Kleber</b> (cement based powder requiring addition of about 25 % of water)</li> <li>- <b>SM300</b> (cement based powder requiring addition of about 25 % of water)</li> <li>- <b>Lustro</b> (cement based powder requiring addition of about 25 % of water)</li> <li>- <b>SM700</b> (cement based powder requiring addition of about 25 % of water)</li> </ul> </li> </ul>	–	≤ 200
	<b>Mechanically fixed ETICS with anchors and supplementary adhesive:</b> <ul style="list-style-type: none"> <li>• <b>Insulation product</b> factory-prefabricated mineral wool (MW) product <ul style="list-style-type: none"> <li>- MW panel</li> <li>- MW lamella</li> </ul> </li> <li>• <b>Supplementary adhesive</b> (equal to bonded ETICS)</li> <li>• <b>Anchors for insulation product</b> all anchors with ETA according to EAD330196-01-0604<sup>1</sup></li> </ul>	– –	60 to 340 60 to 200
<b>Base coat</b>	<b>SM700 Pro</b> Identical with the equally named adhesives given above.	7.0 to 14.0	5.0 to 10.0
<b>Glass fibre mesh</b>	<b>Armiergewebe 5x5 mm</b> Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 205 g/m <sup>2</sup> and mesh size of about 5.0 mm x 5.0 mm.	–	–
	<b>Armiergewebe 4x4 mm</b> Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 160 g/m <sup>2</sup> and mesh size of about 4.0 mm x 4.0 mm.	–	–
	<b>Panzergewebe</b> (implemented in addition to the standard mesh to improve the impact resistance) Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 335 g/m <sup>2</sup> and mesh size of about 6.0 mm x 5.0 mm.	–	–

<sup>1</sup> EAD330196-01-0604

Plastic anchors for fixing of external thermal insulation composite systems with rendering

	<b>Components</b> National application documents shall be taken into account	<b>Coverage</b> [kg/m <sup>2</sup> ]	<b>Thickness</b> [mm]
<b>Finishing coat</b>	<ul style="list-style-type: none"> <li>Thick layered cement based powder requiring addition of about 25 – 30 % of water:                             <ul style="list-style-type: none"> <li><b>Noblo</b> (particle size 1.5 – 2 and 3 mm)</li> <li><b>Noblo Filz 1.0</b> (particle size 1.0 mm)</li> <li><b>Noblo Filz 1.5</b> (particle size 1.5 mm)</li> <li><b>SP260 Pro</b> (particle size 2.0 and 3.0 mm)</li> <li><b>RP240</b> (particle size 2.0 and 3.0 mm)</li> <li><b>SM700 Pro</b></li> </ul> </li> <li>Ready to use paste – styrene-acrylate/silicone resin binder:                             <ul style="list-style-type: none"> <li><b>Conni S</b> (particle size 1.5 to 2 and 3 mm)</li> </ul> </li> <li>Ready to use pastes – styrene/acrylic binder:                             <ul style="list-style-type: none"> <li><b>Addi S</b> (particle size 1.5 to 2.0 and 3.0 mm)</li> </ul> </li> </ul>	2.3 to 3.7	1.5 to 3.0
		1.6 to 8.0	1.0 to 5.0
		2.2 to 7.5	1.5 to 5.0
		3.2 to 5.0	2.0 to 3.0
		3.1 to 5.0	2.0 to 5.0
		2.5 to 4.2	2.0 to 3.0
		2.2 to 3.7	1.5 to 3.0
		2.2 to 3.2	1.5 to 3.0
<b>Ancillary material</b>	Remains the responsibility of the manufacturer.		

## Annex 2

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

#### 2.1 Reaction to fire

Configurations	Organic content	Flame retardant content	Euroclass according to EN 13501-1
Base coat	max. 2.9 %	no flame retardant	
Mineral wool-insulation product	Euroclass A1 according to EN 13501-1	no flame retardant	
Anchors	-	-	
<b>Rendering system</b> Base coat with finishing coat indicated in annex 1:			
Noblo	max. 2.9 %	no flame retardant	A2 - s1,d0
Noblo Filz 1.0			
Noblo Filz 1.5			
SP260 Pro			
RP240			
SM700 Pro	max. 8.4 %	min. 2.0 %	
Conni S Addi S			

#### 2.2 Cross heat of combustion for the MW-insulation product EN ISO 1716

PCS ≤ 1,4 MJ/kg

#### 2.3 Density EN 1602

Description and characteristics	MW panel	MW lamella
Tensile strength perpendicular to the faces [kPa]; EN 1607 - in dry conditions*	$\sigma_{mt} \geq 7.5$	$\sigma_{mt} \geq 80$
Density [kg/m <sup>3</sup> ]; EN 1602	$85 \leq \rho_a \leq 100$	$70 \leq \rho_a \leq 95$
* Minimum value of all individual values		

### Annex 3

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

##### 3.1 Water absorption

Base coat	Mean value water absorption [kg/m <sup>2</sup> ]	
	after 1 h	after 24 h
SM700 Pro	0.123	0.403

Rendering system Base coat "SM700 Pro" with finishing coat indicated hereafter	Mean value water absorption [kg/m <sup>2</sup> ]	
	after 1 h	after 24 h
Noblo	0.045	0.457
Noblo Filz 1.0	0.041	0.339
Noblo Filz 1.5	0.045	0.370
SP260 Pro	0.046	0.470
RP240	0.045	0.400
SM700 Pro	0.120	0.381
Conni S	0.020	0.314
Addi S	0.041	0.350

##### 3.2 Impact resistance

The verified resistance to hard body impact with different mesh configurations results in the classification into categories listed below.

Rendering system Base coat "SM700 Pro" with finishing coat indicated hereafter	Single mesh "Armiergewebe 5x5 mm"	Double mesh "Armiergewebe 5x5 mm"	Reinforced mesh "Panzergewebe" with "Armiergewebe 5x5 mm"
Noblo	Category II	Category II	Category II
Noblo Filz 1.0	Category II	Category II	Category II
Noblo Filz 1.5	Category II	Category II	Category II
SP260 Pro	Category II	Category II	Category II
RP240	Category II	Category II	Category II
SM700 Pro	Category II	Category II	Category II
Conni S	Category II	Category I	Category I
Addi S	Category II	Category I	Category I

No performance was assessed for any other combinations.

### 3.3 Water vapour permeability

<b>Rendering system:</b> Base coat "SM700 Pro" with finishing coat indicated hereafter	<b>Equivalent air thickness <math>s_d</math></b> (Result determined with a layer thickness of 7 mm for the base coat)
Noblo	$\leq 1.0$ m (Test result obtained with particle size 3 mm: 0.11 m)
Noblo Filz 1.0	$\leq 1.0$ m (Test result obtained with particle size 2 mm: 0.14 m)
Noblo Filz 1.5	$\leq 1.0$ m (Test result obtained with a layer thickness 3 mm: 0.09 m)
SP260 Pro	$\leq 1.0$ m (Test result obtained with a layer thickness 3 mm: 0.11 m)
RP240	$\leq 1.0$ m (Test result obtained with a layer thickness 3 mm: 0.08 m)
SM700 Pro	$\leq 1.0$ m (Test result obtained with a layer thickness 3 mm: 0.13 m)
Conni S	$\leq 1.0$ m (Test result obtained with a layer thickness 3 mm: 0.21 m)
Addi S	$\leq 1.0$ m (Test result obtained with a layer thickness 3 mm: 0.20 m)

## Annex 4

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

#### 4.1 Bond strength between base coat and MW lamella

		Rupture type	Conditioning		
			Initial state [kPa]	after hygrothermal cycles [kPa]	after freeze/thaw test
SM700 Pro	Mean value	in insulation product	95	no performance assessed	Test not required because freeze/thaw cycles not necessary
	Minimum value		92		

#### 4.2 Bond strength between adhesive and substrate

Substrate: concrete		Rupture type	Conditioning		
			Initial state [kPa]	2 d immersion in water and 2 h drying [kPa]	2 d immersion in water and 7 d drying [kPa]
SM700 Pro	Mean value	in adhesive	1400	857	1500
	Minimum value		1267	785	1312
Duo-Kleber	Mean value	in adhesive	1615	1319	1634
	Minimum value		1431	1229	1476
SM300	Mean value	in adhesive	1369	1179	1439
	Minimum value		1231	1047	1310
Lustro	Mean value	in adhesive	544	262	395
	Minimum value		412	212	359
SM700	Mean value	in adhesive	500	260	382
	Minimum value		459	201	261

#### 4.3 Bond strength between adhesive and MW lamella

		Rupture type	Conditioning		
			Initial state [kPa]	2 d immersion in water and 2 h drying [kPa]	2 d immersion in water and 7 d drying [kPa]
SM700 Pro	Mean value	in insulation product	95	58	81
	Minimum value		92	54	75
Duo-Kleber	Mean value	in insulation product	92	64	84
	Minimum value		82	61	82
SM300	Mean value	in insulation product	93	53	61
	Minimum value		86	44	57
Lustro	Mean value	in insulation product	90	62	86
	Minimum value		84	55	81
SM700	Mean value	in insulation product	96	65	88
	Minimum value		88	57	84

##### Minimal bonded surface area

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

$$S = 37,5 \%$$

The minimal bonded surface S of bonded ETICS is 50 % (systemic).

English translation prepared by DIBt

#### 4.4 Wind load resistance

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

##### 4.4.1 Safety in use of mechanically fixed ETICS using anchors

Failure loads – Table 1

Apply to all anchors listed in the annex 1 mounted on the insulation panels surface				
Characteristics of the MW panels	Thickness		≥ 80 mm	
	Tensile strength perpendicular to the faces		≥ 5 kPa	
Plate diameter of anchor			≥ Ø 90 mm	≥ Ø 140 mm
Failure load [kN/anchor]	Anchors not placed at the panel joints (Static Foam Block Test)	R <sub>panel</sub>	Minimal: 0.48 Mean value: 0.49	Minimal: 0.56 Mean value: 0.69
	Anchors placed at the panel joints (Static Foam Block Test)	R <sub>joint</sub>	Minimal: 0.38 Mean: 0.39	Minimal: 0.44 Mean: 0.54
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	R <sub>panel</sub>	Minimal: 0.54 Mean: 0.61	no performance assessed
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2*	R <sub>panel</sub>	Minimal: 0.40 Mean: 0.46	no performance assessed

\* according to EAD 040083-00-0404 clause 2.2. 14.2

Failure loads – Table 2

Apply to all anchors listed in the annex 1 mounted on the insulation panels surface						
Characteristics of the MW panels	Thickness		60 ≤ d < 80	80 ≤ d < 120	120 ≤ d ≤ 200	> 200
	Tensile strength perpendicular to the faces		≥ 7.5 kPa			
Plate diameter of anchor			≥ Ø 90 mm			
Failure load [kN/anchor]	Anchors not placed at the panel joints (Static Foam Block Test, dry conditions)	R <sub>panel</sub>	Minimal: 0.45 Mean value: 0.48	Minimal: 0.54 Mean value: 0.57	Minimal: 0.73 Mean value: 0.82	Minimal: 0.73 Mean value: 0.82
	Anchors placed at the panel joints (Static Foam Block Test)	R <sub>joint</sub>	no performance assessed	Minimal: 0.36 Mean value: 0.38	Minimal: 0.49 Mean value: 0.55	Minimal: 0.49 Mean value: 0.55
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	R <sub>panel</sub>	Minimal: 0.50 Mean value: 0.56	Minimal: 0.85 Mean value: 0.86	Minimal: 0.98 Mean value: 1.02	Minimal: 0.98 Mean value: 1.02
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2*	R <sub>panel</sub>	no performance assessed	Minimal: 0.46 Mean value: 0.46	Minimal: 0.56 Mean value: 0.59	Minimal: 0.56 Mean value: 0.59

\* according to EAD 040083-00-0404 clause 2.2.14.2

Failure loads – Table 3

Apply to all anchors listed in annex 1 mounted on the insulation panels surface			
Characteristics of the <b>MW lamella</b>	Thickness		≥ 60 mm
	<b>Tensile strength perpendicular to the faces</b>		≥ 80 kPa
Plate diameter of anchor			≥ Ø 140 mm
Failure load [kN/anchor]	Anchors placed at the panel joints (Pull-through test, dry condition)		R <sub>joint</sub> Minimal: 0.62 Mean value: 0.66
	Anchors placed at the panel joints (Pull-through test, wet condition)		R <sub>joint</sub> Minimal: 0.51 Mean value: 0.57
	Anchors placed at the panel joints (Static Foam Block Test)		R <sub>joint</sub> Minimal: 0.71

#### 4.5 Bond strength after aging

Rendering system Base coat "SM700 Pro" with finishing coats indicated hereafter		Rupture type	after hygrothermal cycles  [kPa]	7 d immersion in water and 7 d drying  [kPa]
Noblo	Mean value	in insulation product	28	
	Minimum value		26	
Noblo Filz 1.0	Mean value	in insulation product		21
	Minimum value			18
Noblo Filz 1.5	Mean value	in insulation product		23
	Minimum value			21
SP260 Pro	Mean value	no performance assessed		
	Minimum value			
RP240	Mean value	in insulation product	30	22
	Minimum value		22	20
SM700 Pro	Mean value	in insulation product		27
	Minimum value			21
Conni S	Mean value	in insulation product		26
	Minimum value			22
Addi S	Mean value	in insulation product	26	
	Minimum value		16	

#### 4.6 Reinforcement (glass fibre mesh)

<b>Armiergewebe 4x4 mm</b>	<b>Mean value warp</b>	<b>Mean value weft</b>
Tensile strength in as-delivered state	≥ 43 N/mm	≥ 45 N/mm
Residual tensile strength after aging	≥ 26 N/mm	≥ 29 N/mm
Relative residual tensile strength after aging	≥ 50 %	≥ 50 %
Elongation in as-delivered state	3.6 %	3.9 %
Elongation after aging	2.3 %	2.3 %

<b>Armiergewebe 5x5 mm</b>	<b>Mean value warp</b>	<b>Mean value weft</b>
Tensile strength in as-delivered state	≥ 52 N/mm	≥ 49 N/mm
Residual tensile strength after aging	≥ 31 N/mm	≥ 32 N/mm
Relative residual tensile strength after aging	≥ 50 %	≥ 50 %
Elongation in as-delivered state	4.1 %	3.8 %
Elongation after aging	2.3 %	2.3 %

<b>Panzergewebe</b>	<b>Mean value warp</b>	<b>Mean value weft</b>
Tensile strength in as-delivered state	≥ 88 N/mm	≥ 114 N/mm
Residual tensile strength after aging	≥ 48 N/mm	≥ 57 N/mm
Relative residual tensile strength after aging	≥ 50 %	≥ 50 %
Elongation in as-delivered state	4.6 %	4.5 %
Elongation after aging	2.1 %	2.5 %

## Annex 5

### Energy economy and heat retention (BWR 6)

#### 5.1 Thermal resistance

The nominal value of the additional thermal resistance  $R$  provided by the ETICS to the substrate wall is calculated in accordance with EN ISO 6946 from the nominal value of the insulation product's thermal resistance  $R_D$  given accompanied to the CE marking and from the thermal resistance of the rendering system  $R_{render}$  which is about  $0.02 \text{ (m}^2 \cdot \text{K)/W}$ .

$$R = R_D + R_{render}$$

The thermal bridges caused by mechanical fixing (anchors, profiles) increases the thermal transmittance  $U$ . This influence had to take into account according to EN ISO 6946.

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

Where: $U_c$	corrected thermal transmittance [ $\text{W}/(\text{m}^2 \cdot \text{K})$ ]
$n$	number of anchors per $\text{m}^2$
$\chi_p$	local influence of thermal bridge caused by an anchor. The values listed below can be taken into account if not specified in the anchor's ETA:
$\chi_p = 0.004 \text{ W/K}$	for anchors with a galvanized steel screw with the head covered by a plastic material
$\chi_p = 0.002 \text{ W/K}$	for anchors with a stainless steel screw covered by plastic anchors and for anchors with an air gap at the head of the screw