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for construction products



## European Technical Assessment

ETA-15/0299  
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

Magmax WDVS MW

Product family  
to which the construction product belongs

Product Area Code: 4

External Thermal Insulation Composite System with rendering for the use as external insulation of building walls

Manufacturer

MAGNETIC d.o.o.  
Sesvetska cesta 64  
10360 SESVETE  
KROATIEN

Manufacturing plant

MAGNETIC d.o.o.  
Sesvetska cesta 64  
10360 SESVETE  
KROATIEN

This European Technical Assessment contains

19 pages including 6 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

040083-00-0404

This version replaces

ETA-15/0299 issued on 27 August 2015

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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 "Magmax WDVS MW" 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 - Apparent 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> <b>Hygrothermal behaviour on the test wall</b>	Pass 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 400 [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>
<p><b>Wind load resistance of ETICS</b> pull-through test of fixing static foam block test</p>	<p>(see annex 4.4)</p> <ul style="list-style-type: none"> <li>- <math>R_{\text{panel}}</math> [kN/fixing],</li> <li>- <math>R_{\text{joint}}</math> [kN/fixing],</li> <li>- Plate diameter of anchor <math>\geq 60</math> mm, <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><b>Tensile strength perpendicular to the faces</b> in dry conditions MW panel MW panel MW lamella in wet conditions - series 2 - series 3</p>	<p><math>\sigma_{\text{mt}} \geq 14</math> kPa <math>\sigma_{\text{mt}} \geq 5</math> kPa <math>\sigma_{\text{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_{\text{mt}} \geq 14</math> [kPa] MW lamella <math>\sigma_{\text{mt}} \geq 80</math> kPa MW panel <math>\sigma_{\text{mt}} \geq 5</math> [kPa]</p>	<p><math>\geq 20</math> kPa <math>\geq 20</math> kPa <math>\geq 6</math> kPa</p>

Essential characteristic	Performance
<b>Shear modulus of the ETICS</b> MW panel $\sigma_{mt} \geq 14$ kPa MW lamella $\sigma_{mt} \geq 80$ kPa MW panel $\sigma_{mt} \geq 5$ kPa	$\geq 1,0$ MPa $\geq 1,0$ MPa $\geq 0,3$ MPa
<b>Pull-through resistance of fixings from profiles</b>	$\geq 0.5$ kN
<b>Render strip tensile test</b>	no performance assessed
<b>Bond strength after ageing</b> finishing coat not tested on the rig	(see annex 4.5) 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 MW insulation product</b>	no performance assessed
<b>Air flow resistance of the MW 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 [ $(m^2 \cdot K)/W$ ]
<b>Thermal transmittance of ETICS</b>	(see annex 5) Calculated value or measurement value U [ $W/(m^2 \cdot K)$ ]

#### 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
"Magmax WDVS MW"	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+

<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)  
<sup>(2)</sup> Products/materials not covered by footnote (1)  
<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)

#### 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 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 (characteristics and performances)	<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>Magmax Klebepachtel ds</b> (cement based powder requiring addition of about 25 % of water)</li> </ul> </li> </ul>	–  4.0 to 6.0 (prepared)	≤ 400  –
	<b>Mechanically fixed ETICS with profiles 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, <math>\sigma_{mt} \geq 14</math> kPa</li> </ul> </li> <li>• <b>Supplementary adhesive</b> (equal to bonded ETICS)</li> <li>• <b>Profiles</b> <ul style="list-style-type: none"> <li>– "Magmax-Halteleiste Alu"</li> <li>– "Magmax-Verbindungsleiste Alu"</li> </ul> </li> </ul>	–	60 to 200
	<ul style="list-style-type: none"> <li>• <b>Anchors for profiles</b> <ul style="list-style-type: none"> <li>- WS 8 L, WS 8 N</li> <li>- ejotharm SDK U, ejotharm NK U</li> <li>- SDF-K plus</li> </ul> </li> <li>• <b>Anchors for insulation product if necessary</b> (equal to mechanically fixed ETICS with anchors and supplementary adhesive, see below)</li> </ul>		
	<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 EAD330196-00-0604<sup>1</sup></li> </ul>	– –	60 to 400 60 to 200
	<b>Base coat</b>	<b>Magmax Klebepachtel ds</b> Identical with the equally named adhesive given above.	6.5 to 13.0 (prepared)
<b>Glass fibre mesh</b>	<b>Magmax Armierungsgewebe M</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 8.0 mm x 8.0 mm.	–	–

<sup>1</sup> EAD330196-00-0604

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

	<b>Components</b> National application documents shall be taken into account characteristics and performances)	<b>Coverage</b> [kg/m <sup>2</sup> ]	<b>Thickness</b> [mm]
<b>Key coat</b>	<b>Magmax Universal-Grund</b> Ready to use pigmented acrylic binder To be used with all finishing coats indicated hereafter.	about 0.20 l/m <sup>2</sup>	–
<b>Finishing coat</b>	<b>To use with key coat "Magmax Universal-Grund" if applicable *:</b> <ul style="list-style-type: none"> <li>• Thick layered cement based powder requiring addition of about 22 % of water: <b>MAGMAX Edelkratzputz</b> (particle size 2 – 3 mm)</li> <li>• Thin layered cement based powder requiring addition of about 27 % of water: <b>MAGMAX Münchner Rauputz</b> (particle size 2 – 3 mm) <b>MAGMAX Scheibenputz</b> (particle size 1.5 – 2 – 3 – 4 mm) <b>MAGMAX Marmorputz</b> (particle size 0.5 – 1 – 1.5 – 2 – 2.5 mm)</li> <li>• Thin layered cement based powder requiring addition of about 36 to 40 % of water: <b>MAGMAX Leichtedelputz</b> (particle size 1.5 – 2 – 3 mm)</li> <li>• Ready to use pastes – acrylic/vinylic binder: <b>MAGMAX Kunstharzputz</b> (particle size 1.5 – 2 – 3 – 4 mm)</li> <li>• Ready to use pastes – acrylic/vinylic/siloxane binder: <b>MAGMAX Silikonharzputz</b> (particle size 1.5 – 2 – 3 mm) <b>MAGMAX Siloxanputz</b> (particle size 1.5 – 2 – 3 mm)</li> <li>• Ready to use paste – silicate/acrylic binder: <b>MAGMAX Silikatputz</b> (particle size 1.5 – 2 – 3 mm)</li> </ul>	20.0 to 25.0 (before scraping) about 14.0 (finished)	12.0 to 15.0  8.0 to 12.0  2.0 to 3.0 1.5 to 4.0 1.0 to 5.0  1.5 to 3.0  1.5 to 4.0  1.5 to 3.0 1.5 to 3.0  1.5 to 3.0
<b>Ancillary material</b>	Remains the responsibility of the manufacturer.		
* The instruction to the installer concerning the use of a key coat 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	Class according to EN 13501-1
Base coat	max. 2.4 %	no flame retardant	
Mineral wool insulation product	in quantity ensuring Class E according to EN 13501-1	no flame retardant	
Profile	-	-	
Anchors	-	-	
<b>Rendering system</b> Base coat with finishing coat and compatible key coat indicated in clause 1.2:			
MAGMAX Edelkratzputz MAGMAX Münchner Rauhputz MAGMAX Scheibenputz MAGMAX Marmorputz MAGMAX Leichtedelputz each with Magmax Universal-Grund	max. 1.2 %	no flame retardant	A2 - s1,d0
MAGMAX Kunstharzputz MAGMAX Silikonharzputz MAGMAX Siloxanputz MAGMAX Silikatputz each with Magmax Universal-Grund	max. 7.5 %	min. 3 %	

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

$PCS \leq 1,4$  [MJ/kg]

#### 2.3 Apparent density EN 1602

Description and characteristics	MW panels	MW panels	MW lamella
Tensile strength perpendicular to the faces [kPa]; EN 1607 - in dry conditions*	$\sigma_{mt} \geq 14$	$\sigma_{mt} \geq 5$	$\sigma_{mt} \geq 80$
Apparent density [kg/m <sup>3</sup> ]; EN 1602	$120 \leq \rho_a \leq 150$	$80 \leq \rho_a \leq 150$	$80 \leq \rho_a \leq 150$
* Minimum value of all individual values			

### Annex 3

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

#### 3.1 Water absorption (capillarity test)

##### Base coat

Base coat	Thickness [mm]	Mean value water absorption [kg/m <sup>2</sup> ]	
		after 1 h	after 24 h
Magmax Klebespachtel ds	10	0.03	0.13

##### Rendering system

Base coat "Magmax Klebespachtel ds" with finishing coat indicated hereafter	Thickness [mm]	Mean value water absorption [kg/m <sup>2</sup> ]	
		after 1 h	after 24 h
MAGMAX Edelkratzputz with Magmax Universal-Grund	10	0.03	0.12
MAGMAX Münchner Rauhputz with Magmax Universal-Grund	3	0.05	0.12
MAGMAX Scheibenputz with Magmax Universal-Grund	3	0.04	0.10
MAGMAX Marmorputz with Magmax Universal-Grund	2.5	0.03	0.12
MAGMAX Leichtedelputz with Magmax Universal-Grund	3	0.19	0.40
MAGMAX Kunstharzputz with Magmax Universal-Grund	3	0.04	0.17
MAGMAX Silikonharzputz with Magmax Universal-Grund	3	0.05	0.16
MAGMAX Siloxanputz with Magmax Universal-Grund	2	0.04	0.16
MAGMAX Silikatputz with Magmax Universal-Grund	2	0.12	0.37

### 3.2 Impact resistance

The verified resistance to hard body impact of the ETICS results in the classification into categories listed below.

Rendering system: Base coat "Magmax Klebespachtel ds" with finishing coat and compatible key coat indicated in annex 1	Single standard mesh: "Magmax Armierungsgewebe M"
MAGMAX Edelkratzputz	Category I
MAGMAX Münchner Rauhputz	Category II
MAGMAX Scheibenputz	Category II
MAGMAX Marmorputz	Category II
MAGMAX Leichtedelputz	Category II
MAGMAX Kunstharzputz	Category II
MAGMAX Silikonharzputz	Category I
MAGMAX Siloxanputz	Category I
MAGMAX Silikatputz	Category II

### 3.3 Water vapour permeability

Rendering system: Base coat "Magmax Klebespachtel ds" with finishing coat and compatible key coat indicated in annex 1 (evaluated without key coat)	Equivalent air thickness $s_d$ (Result determined with a layer thickness of 10 mm for the base coat)
MAGMAX Edelkratzputz	$\leq 1.0$ m (Test result obtained with a layer thickness 10 mm: 0.17 m)
MAGMAX Münchner Rauhputz	$\leq 1.0$ m (Test result obtained with particle size 3 mm: 0.20 m)
MAGMAX Scheibenputz	$\leq 1.0$ m (Test result obtained with particle size 3 mm: 0.11 m)
MAGMAX Marmorputz	$\leq 1.0$ m (Test result obtained with particle size 2.5 mm: 0.22 m)
MAGMAX Leichtedelputz	$\leq 1.0$ m (Test result obtained with particle size 3 mm: 0.23 m)
MAGMAX Kunstharzputz	$\leq 1.0$ m (Test result obtained with particle size 2 mm: 0.26 m)
MAGMAX Silikonharzputz	$\leq 1.0$ m (Test result obtained with particle size 2 mm: 0.24 m)
MAGMAX Siloxanputz	$\leq 1.0$ m (Test result obtained with particle size 2 mm: 0.22 m)
MAGMAX Silikatputz	$\leq 1.0$ m (Test result obtained with particle size 2 mm: 0.12 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
Magmax Klebspachtel ds	Mean value	in the insulation product	119	84	Test not required because freeze/thaw cycles not necessary
	Minimum value		110	60	

#### 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]
Magmax Klebspachtel ds	Mean value	in the adhesive	373	178	1062
	Minimum value		326	163	978

#### 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]
Magmax Klebspachtel ds	Mean value	in the insulation product	119	71	128
	Minimum value		110	65	118

#### Minimal bonded surface

$$S [\%] = 0,03 \text{ N/mm}^2 \times 100 / 0,08 \text{ N/mm}^2$$

$$S = 37,5 \%$$

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

#### 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 profiles

Failure loads – table 1

Eigenschaften der Characteristics of the <b>MW panels</b>	Dimensions	625 mm x 800 mm
	Thickness	≥ 60 mm
	<b>Tensile strength perpendicular to the faces</b>	<b>≥ 14 kPa</b>
Failure load [kN/panel] (Static Foam Block Test)	Horizontal profiles with a vertical distance of 625 mm, fixed every 30 cm and vertical connection profiles <b>No additional anchors in MW panel</b>	Minimal: 1.20 Mean value: 1.25

Failure loads – table 2

Eigenschaften der Characteristics of the <b>MW panels</b>	Dimensions	625 mm x 800 mm
	Thickness	≥ 60 mm
	<b>Tensile strength perpendicular to the faces</b>	<b>≥ 14 kPa</b>
Failure load [kN/panel] (Static Foam Block Test)	Horizontal profiles with a vertical distance of 625 mm, fixed every 30 cm and vertical connection profiles <b>Two additional anchors per MW panel,</b> plate diameter ≥ 60 mm, mounted on the MW panel surface	Minimal: 2.20 Mean value: 2.40

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

Failure loads – table 3

Apply to all anchors listed in the annex 1 mounted on the insulation panels surface			
Characteristics of the <b>MW panels</b>	Thickness		≥ 60 mm
	<b>Tensile strength perpendicular to the faces</b>		<b>≥ 14 kPa</b>
Plate diameter of anchor			≥ Ø 60 mm
Failure load [kN/anchor]	Anchors not placed at the panel joints (Static Foam Block Test)	$R_{\text{panel}}$	Minimal: 0.65 Mean value: 0.74
	Anchors placed at the panel joints (Static Foam Block Test)	$R_{\text{joint}}$	Minimal: 0.59 Mean value: 0.61
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	$R_{\text{panel}}$	Minimal: 0.64 Mean value: 0.69
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2* - series 3*	$R_{\text{panel}}$	Minimal: 0.36 Mean value: 0.39 Minimal: 0.41 Mean value: 0.45
* according to EAD 040083-00-0404 clause 2.2.14.2			

Failure loads – table 4

Apply to all anchors listed in the annex 1 mounted on the insulation panels surface				
Characteristics of the <b>MW panels</b>	Thickness		≥ 80 mm	
	<b>Tensile strength perpendicular to the faces</b>		≥ 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)	$R_{\text{panel}}$	Minimal: 0.48 Mean value: 0.49	Minimal: 0.56 Mean value: 0.69
	Anchors placed at the panel joints (Static Foam Block Test)	$R_{\text{joint}}$	Minimal: 0.38 Mean value: 0.39	Minimal: 0.44 Mean value: 0.54
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	$R_{\text{panel}}$	Minimal: 0.54 Mean value: 0.61	no performance assessed
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2*	$R_{\text{panel}}$	Minimal: 0.40 Mean value: 0.46	no performance assessed
* according to EAD 040083-00-0404 clause 2.2.14.2				

Failure loads – Table 5

Apply to all anchors listed in the 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)	$R_{\text{joint}}$	Minimal: 0.62 Mean value: 0.66
	Anchors placed at the panel joints (Pull-through test, wet condition)	$R_{\text{joint}}$	Minimal: 0.51 Mean value: 0.57
	Anchors placed at the panel joints (Static Foam Block Test)	$R_{\text{joint}}$	Minimal: 0.71

Failure loads – table 6

Apply to all anchors listed in the annex 1 mounted on the insulation panels surface						
Characteristics of the MW panels	Thickness	$60 \leq d < 80$	$80 \leq d < 120$	$120 \leq d \leq 200$	$> 200$	
	Tensile strength perpendicular to the faces	$\geq 7.5 \text{ kPa}$				
Plate diameter of anchor		$\geq \varnothing 90 \text{ mm}$				
Failure load [kN/anchor]	Anchors not placed at the panel joints (Static Foam Block Test, dry conditions)	$R_{\text{panel}}$	Minimal: 0.447 Mean value: 0.481	Minimal: 0.540 Mean value: 0.565	Minimal: 0.733 Mean value: 0.816	Minimal: 0.733 Mean value: 0.816
	Anchors placed at the panel joints (Static Foam Block Test)	$R_{\text{joint}}$	no performance assessed	Minimal: 0.362 Mean value: 0.379	Minimal: 0.491 Mean value: 0.547	Minimal: 0.491 Mean value: 0.547
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	$R_{\text{panel}}$	Minimal.: 0.501 Mean value: 0.557	Minimal: 0.848 Mean value: 0.857	Minimal: 0.975 Mean value: 1.015	Minimal: 0.975 Mean value: 1.015
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2*	$R_{\text{panel}}$	no performance assessed	Minimal: 0.415 Mean value: 0.460	Minimal: 0.565 Mean value: 0.590	Minimal: 0.565 Mean value: 0.590

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

The failure loads specified in Table 3 of Section 4.4.2 apply plate diameter of anchor of 60 mm for the following anchors, even with countersunk installation, only under the following conditions:

Anchor	Thickness of the MW panel [t]	Conditions of installation*
ejotherm STR U ejotherm STR U 2G (ETA-04/0023)	$t \geq 80 \text{ mm}$	– Maximum installation depth of the anchor plate: 15 mm ( $\cong$ thickness of insulation cover) – Cutting depth 20 mm
	$t \geq 100 \text{ mm}$	– Maximum installation depth of the anchor plate: 15 mm ( $\cong$ thickness of insulation cover) – Cutting depth 35 mm
TERMOZ 8 SV (ETA-06/0180)	$t \geq 80 \text{ mm}$	– Maximum installation depth of the anchor plate: 15 mm ( $\cong$ thickness of insulation cover)

\* according to the appropriate ETA of anchor

#### 4.5 Bond strength after aging

Base coat "Magmax Klebespachtel ds" with finishing coats indicated hereafter		Rupture type	7 d immersion in water and 7 d drying [kPa]
MAGMAX Edelkratzputz	Mean value	in the insulation product	90
	Minimum value		61
MAGMAX Münchner Rauhputz	Mean value	in the insulation product	106
	Minimum value		71
MAGMAX Scheibenputz	Mean value	in the insulation product	63
	Minimum value		56
MAGMAX Marmorputz	Mean value	in the insulation product	74
	Minimum value		67
MAGMAX Leichtedelputz	Mean value	in the insulation product	104
	Minimum value		82
MAGMAX Kunstharzputz	Mean value	in the insulation product	126
	Minimum value		117
MAGMAX Silikonharzputz	Mean value	in the insulation product	117
	Minimum value		102
MAGMAX Siloxanputz	Mean value	in the insulation product	71
	Minimum value		65
MAGMAX Silikatputz	Mean value	in the insulation product	80
	Minimum value		71

#### 4.6 Reinforcement (glass fibre mesh)

Magmax Armierungsgewebe M	Mean value warp	Mean value weft
Tensile strength in as-delivered state	61 N/mm	56 N/mm
Residual tensile strength after aging	41 N/mm	38 N/mm
Relative residual tensile strength after aging	≥ 50 %	≥ 50 %
Elongation in as-delivered state	4.1 %	3.8 %
Elongation after aging	2.7 %	2.4 %

## 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.

$$U_c = U + \Delta U \quad \text{corrected thermal transmittance [W/(m}^2 \cdot \text{K)]}$$

$$\Delta U = \Delta U_{Anchor} + \Delta U_{Profile} \quad \text{Correction factor for mechanical fasteners (anchor, profiles)}$$

$$\Delta U_{Anchor} = \chi_p \cdot n \quad \text{Correction factor for anchor}$$

Where:  $n$  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  
 $\Delta U_{Profil}$  Correction factor for profiles. Taking into account the thickness of the thermal insulation material and the thermal resistance of the wall substrate, the following values apply:

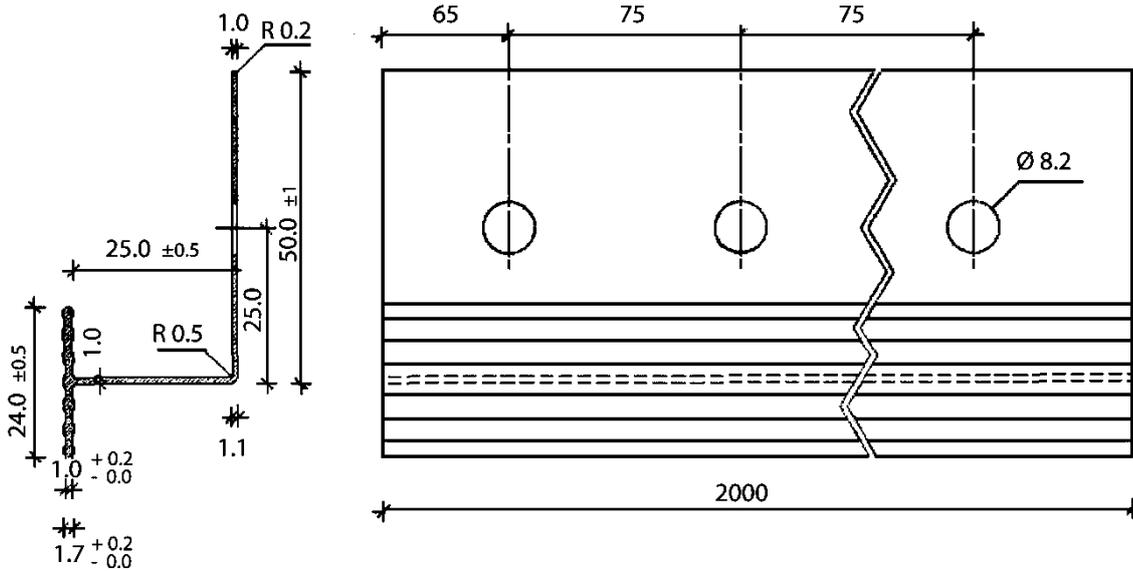
Thermal resistance of the wall substrate [(m <sup>2</sup> ·K)/W]	Thickness of thermal insulation [mm]	$\Delta U_{Profil}$ [W/(m <sup>2</sup> ·K)]
$R < 0.33$	$60 \leq d < 80$	0.03
	$80 \leq d < 120$	0.02
	$d \geq 120$	0
$0.33 \leq R \leq 1.10$	$60 \leq d < 80$	0.02
	$80 \leq d \leq 100$	0.01
	$d > 100$	0
$R > 1.10$	$d \geq 60$	0

## Annex 6

### Profiles

Aluminium (Al) profiles, EN AW-6060 T66 to EN 755-2 are to be used in the mechanically fixed ETICS with profiles.  
The Pull-through resistance of fixings from profiles is  $\geq 0.5$  kN.

#### Horizontal profile – "Magmax-Halteleiste Alu" (dimensions in millimetres)



#### Vertical connection profile – "Magmax-Verbindungsleiste Alu" (dimensions in millimetres)

