

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-08/0322**  
**of 19 December 2018**

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

Meffert System A2 classic

Product family  
to which the construction product belongs

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

Manufacturer

Meffert AG  
Farbwerke  
Sandweg 15  
55543 Bad Kreuznach  
DEUTSCHLAND

Manufacturing plant

Meffert CR spol. s r.o.  
Náchodská 2397/23  
193 00 PRAHA 9 - HORNÍ POCERNICE  
TSCHECHISCHE REPUBLIK  
UAB Meffert Baltica  
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LITAUEN

This European Technical Assessment  
contains

21 pages including 7 annexes which form an integral part  
of this assessment

Annex 5 Control Plan contains confidential information  
and is not included in the European Technical  
Assessment when that assessment is publicly available

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

ETAG 004, edition 2000, amended 2013,  
used as EAD according to Article 66 Paragraph 3 of  
Regulation (EU) No 305/2011.

**European Technical Assessment**

**ETA-08/0322**

English translation prepared by DIBt

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## Specific Part

### 1 Technical description of the product

#### 1.1 Definition of the kit

This product is an External Thermal Insulation Composite System (ETICS) 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 all components of the ETICS specified in this ETA.

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

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

The ETICS may include special fittings (e.g. base profiles, corner profiles ...) 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.

#### 1.2 Composition of the ETICS

	Components	Coverage [kg/m <sup>2</sup> ]	Thickness [mm]
	National application documents shall be taken into account		
Insulation material with associated method of fixing	<b>Bonded ETICS:</b>		
	• <b>Insulation product</b> (see annex 1 for product characteristics) factory-prefabricated mineral wool (MW) product - MW lamella	—	≤ 400
	• <b>Adhesives</b>		
	- <b>Meffert Klebe und Spachtelmasse grau</b> (cement based powder requiring addition of about 30 % of water)	4.5 to 7.0 (prepared)	—
	- <b>Meffert Klebe und Spachtelmasse AKS</b> (cement based powder requiring addition of about 20 % of water)	6.0 to 7.5 (prepared)	—
	- <b>Meffert Klebe und Spachtelmasse weiß</b> (cement based powder requiring addition of about 20 % of water)		—
	- <b>Meffert Klebe und Spachtelmasse leicht</b> (cement based powder requiring addition of about 20 % of water)		—
	- <b>Meffert Klebe und Spachtelmasse leicht</b> (cement based powder requiring addition of about 20 % of water)	4.2 to 6.3 (prepared)	—

	Components National application documents shall be taken into account	Coverage [kg/m <sup>2</sup> ]	Thickness [mm]
Insulation material with associated method of fixing	<b>Mechanically fixed ETICS with profiles and supplementary adhesive:</b> <ul style="list-style-type: none"> <li>• <b>Insulation product</b> (see annex 1 for product characteristics) 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> </ul>	–	60 to 200
	<ul style="list-style-type: none"> <li>• <b>Supplementary adhesive</b> (equal to bonded ETICS)</li> <li>• <b>Profiles</b> (see annex 3 for product characteristics) <ul style="list-style-type: none"> <li>- "Alu Halteleiste" and</li> <li>- "Alu Verbindungsleiste"</li> </ul> Aluminium (Al) – profiles</li> <li>• <b>Anchors for profiles</b> (see annex 2 for product characteristics) <ul style="list-style-type: none"> <li>- WS 8 L</li> <li>- ejothem SDK U</li> <li>- SDF-K plus</li> <li>- ejothem NK U</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> (see annex 1 for product characteristics) 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> with characteristics defined in annex 2</li> </ul>	– –	60 to 340 60 to 200
Base coat	<b>Meffert Klebe und Spachtelmasse AKS</b> <b>Meffert Klebe und Spachtelmasse weiß</b> Identical with the equally named adhesives given above.	} about 6.5 (prepared)	about 5.0

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

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

	Components National application documents shall be taken into account	Coverage [kg/m <sup>2</sup> ]	Thickness [mm]
<b>Glass fibre mesh</b>	<b>Meffert Glasgewebe grob</b> Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 200 g/m <sup>2</sup> and mesh size of about 6.0 mm x 6.0 mm.	–	–
	<b>Meffert Glasgewebe fein</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 (see annex 4 for product characteristics)	–	–
<b>Key coat</b>	<b>Meffert Putzgrund</b> Ready to use pigmented acrylic-resin dispersion liquid For the compatibility with the finishing coats see below	0.15 to 0.20 [l/m <sup>2</sup> ]	–
<b>Finishing coat</b>	<b>Application without key coat:</b> • Thick layered cement based powder requiring addition of about 20 to 27 % of water: <b>Meffert Mineralischer Edelkratzputz D</b> (particle size 2.5 to 5.0 mm)	14.0 to 20.0 (prepared)	about 8.0
	<b>To use with key coat "Meffert Putzgrund" if applicable:*</b> • Thick layered cement based powder requiring addition of about 27 to 33 % of water: <b>Meffert Mineralischer</b> - Kratzputz / Kratzputz leicht (particle size 1,5 to 4,0 mm) - Reibeputz (particle size 2,5 to 5,0 mm) - Strukturputz (particle size 1,5 to 2,5 mm) • Ready to use pastes–acrylic-resin binder <b>Meffert Siliconharz</b> - Reibeputz (particle size 2.0 und 3.0 mm) - Kratzputz (particle size 1,5 – 2.0 and 3.0 mm) • Ready to use paste – silicate/acrylic-resin binder: <b>Meffert Silikat</b> - Reibeputz (particle size 2.0 and 3.0 mm) - Kratzputz (particle size 1,5 – 2.0 and 3.0 mm)	<div>3.0 to 5.0 (prepared)</div> <div>3.0 to 4.5</div>	<div>1.5 to 4.0 2.5 to 5.0 1.5 to 2.2</div> <div>regulated by particle size</div>
	<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 ETA manufacturer.

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

### **2.1 Intended use**

This ETICS is intended to be used as external insulation to the walls of buildings made of masonry (bricks, blocks, stones ...) or concrete (cast on site or as prefabricated panels) with and without rendering. The characteristics of the walls shall be verified prior to use of the ETICS, especially regarding conditions for reaction to fire classification and for fixing of the ETICS either by bonding or mechanically. It shall be designed to give the wall to which it is applied satisfactory thermal insulation.

The ETICS is non load-bearing construction element. It does not contribute directly to the stability of the wall on which it is installed, but it can contribute to durability by providing enhanced protection from the effects of weathering.

The ETICS can be used on new or existing (retrofit) vertical walls.

The ETICS is not intended to ensure the air tightness of the building structure.

The choice of the method of fixing depends on the characteristics of the substrate, which could need preparation (see clause 7.2.1 of ETAG 004) and on the national instructions.

The verifications and assessment methods on which this European Technical Assessment (hereinafter called ETA) is based lead to the assumption of a working life of the ETICS "Meffert System A2 classic" of 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.

### **2.2 Manufacturing**

The ETA is issued for the ETICS on the basis of agreed data/information, deposited with the DIBt, which identifies the ETICS that has been assessed and judged. Changes to the ETICS or the components or their production process, which could result in this deposited data/information being incorrect, should be notified to the DIBt before the changes are introduced. The DIBt will decide whether such changes affect the approval and consequently the validity of the CE marking on the basis of the approval and if so whether further assessment or alterations to the approval shall be necessary.

### **2.3 Design and installation**

The installation instructions including special installation techniques and provisions for the qualification of the personnel are given in the manufacturer's technical documentation.

Design, installation and execution of ETICS are to be in conformity with national documents. Such documents and the level of their implementation in Member States' legislation are different. Therefore, the assessment and declaration of performance are done taking into account general assumptions introduced in the chapters 7.1 and 7.2 of ETAG 004 used as EAD, which summarize how information introduced in the ETA and related documents is intended to be used in the construction process and gives advice to all parties interested when normative documents are missing.

### **2.4 Packing, transport and storage**

The information on packaging, transport and storage is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer to ensure that this information is made known to the concerned people.

## 2.5 Use, maintenance, 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 adapted and compatible with the ETICS (possibly after washing or ad hoc preparation)

Only products which are compatible with the ETICS shall be used.

Necessary repairs should be performed 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 Characteristics of products and methods of verification

### 3.0 General

The performances of the kit as described in this chapter are valid provided that the components of the kit comply with Annexes 1 to 4.

### 3.1 Mechanical resistance and stability (BWR 1)

not relevant

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

Reaction to fire (ETAG 004 - clause 5.1.2)

Configurations	Organic content	Flame retardant content	Euroclass according to EN 13501-1: 2007
Base coat	max. 2.4 %	no flame retardant	
Mineral wool-insulation product	in quantity ensuring Euroclass A1 according to EN 13501-1	no flame retardant	
profiles	-	-	
anchors	-	-	
<b>rendering system:</b> Base coat with finishing coat and compatible key coat indicated in clause 1.2:			
Meffert Mineralischer Edelkratzputz D	max. 0.6 %	no flame retardant	A2 - s1,d0
Meffert Mineralischer Kratzputz / Kratzputz leicht, Meffert Mineralischer Reibeputz / Meffert Mineralischer Strukturputz with key coat "Meffert Putzgrund"			

Configurations	Organic content	Flame retardant content	Euroclass according to EN 13501-1: 2007
Meffert Silikat Kratzputz / Reibeputz, with key coat "Meffert Putzgrund"	max. 4.5 %	no flame retardant	A2 - s1,d0
Meffert Siliconharz Kratzputz / Reibeputz, with key coat "Meffert Putzgrund"	Max. 8.8 %		

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

#### 3.3.1 Water absorption (capillarity test) (ETAG 004 - clause 5.1.3.1)

##### Base coat:

Base coat	Water absorption after 1 h < 1.0 kg/m <sup>2</sup>	Water absorption after 24 h < 0.5 kg/m <sup>2</sup>
Meffert Klebe und Spachtelmasse AKS	x	x
Meffert Klebe und Spachtelmasse weiß	x	x

##### Rendering system:

		Water absorption after 24 hours	
		< 0.5 kg/m <sup>2</sup>	≥ 0.5 kg/m <sup>2</sup>
<b>Rendering system:</b> Both base coats with finishing coat indicated in clause 1.2:	Meffert Mineralischer Edelkratzputz D	x	
	Meffert Mineralischer Kratzputz / Kratzputz leicht, Meffert Mineralischer Reibeputz, Meffert Mineralischer Strukturputz	x	
	Meffert Silikat Kratzputz / Reibeputz		x
	Meffert Siliconharz Kratzputz / Reibeputz	x	

#### 3.3.2 Hygrothermal behaviour (ETAG 004 - clause 5.1.3.2)

Hygrothermal cycles tests have not been performed for the ETICS.

An extensive experience on site has been assessed by the DIBt in Germany.

##### Freeze/thaw behaviour

The ETICS with finishing coats "Meffert Silikat Kratzputz / Reibeputz" has been assessed as freeze/thaw resistant according to the simulated method.

#### 3.3.3 Impact resistance (ETAG 004 - clause 5.1.3.3)

The verified resistance to hard body impact of the ETICS with both base coats and all finishing coats (thickness ≥ 3 mm) results in category II.

The impact resistance of all other configurations of the ETICS is not assessed (no performance assessed).



### 3.3.4 Water vapour permeability (ETAG 004 - clause 5.1.3.4)

Rendering system: Both base coats with finishing coat and compatible key coat indicated hereafter	Equivalent air thickness $s_d$
Meffert Mineralischer Edelkratzputz D	$\leq 1.0$ m (Test result obtained with $d = 8$ mm : 0.2 m)
Meffert Mineralischer Kratzputz / Kratzputz leicht, Meffert Mineralischer Reibeputz, Meffert Mineralischer Strukturputz with key coat "Meffert Putzgrund"	$\leq 1.0$ m (Test result obtained with $d = 3$ mm : 0.1 m)
Meffert Siliconharz Kratzputz / Reibeputz with key coat "Meffert Putzgrund"	$\leq 1.0$ m (Test result obtained with particle size 3 mm : 0.3 m)
Meffert Silikat Kratzputz / Reibeputz with key coat "Meffert Putzgrund"	$\leq 1.0$ m (Test result obtained with particle size 3 mm : 0.1 m)

### 3.3.5 Release of dangerous substances (ETAG 004 - clause 5.1.3.5, EOTA TR 034)

Essential characteristic	Performance
Release of dangerous substances	no performance assessed

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

### 3.4.1 Bond strength between base coat and insulation product (MW) (ETAG 004 - clause 5.1.4.1.1)

Base coat	Conditioning		
	Initial state	After hygrothermal cycles on the rig	After freeze/thaw test
Meffert Klebe und Spachtelmasse AKS	$\geq 0.08$ MPa	$< 0.08$ MPa but failure in the insulation product	Test not required because freeze/thaw cycles not necessary
Meffert Klebe und Spachtelmasse weiß	$\geq 0.08$ MPa	$< 0.08$ MPa but failure in the insulation product	

### 3.4.2 Bond strength between adhesive and substrate resp. insulation product (MW lamella) (ETAG 004 - clauses 5.1.4.1.2 and 5.1.4.1.3)

Adhesive	Substrate resp. insulation product	Conditioning		
		Initial state	2 d immersion in water + 2 h drying	2 d immersion in water + 7 d drying
Meffert Klebe und Spachtelmasse grau	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	MW lamella	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
Meffert Klebe und Spachtelmasse AKS	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	MW lamella	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
Meffert Klebe und Spachtelmasse weiß	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	MW lamella	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa
Meffert Klebe und Spachtelmasse leicht	Concrete	≥ 0.25 MPa	≥ 0.08 MPa	≥ 0.25 MPa
	MW lamella	≥ 0.08 MPa	≥ 0.03 MPa	≥ 0.08 MPa

#### Bonded surface:

With a bonded surface of 50 % the formula given in clause 6.1.4.1.3 of ETAG 004 is fulfilled and the use as bonded ETICS is possible.

### 3.4.3 Bond strength after ageing (ETAG 004 - clause 5.1.7.1)

<b>Rendering system:</b> Both base coats with finishing coat indicated hereafter	Meffert Mineralischer Edelkratzputz D	≥ 0.08 MPa
	Meffert Mineralischer Kratzputz / Kratzputz leicht, Meffert Mineralischer Reibputz, Meffert Mineralischer Strukturputz	
	Meffert Silikat Kratzputz / Reibputz	
	Meffert Siliconharz Kratzputz / Reibputz	

### 3.4.4 Fixing strength (displacement test) (ETAG 004 – clause 5.1.4.2)

Test not required therefore no limitation of ETICS length required.

### 3.4.5 Wind load resistance (ETAG 004 – clause 5.1.4.3)

The following failure loads only apply to the listed combination of component characteristics and the characteristics of the insulation product given in annex 1.

#### 3.4.5.1 Safety in use of mechanically fixed ETICS using profiles

Failure loads – Table 1

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 loads [N/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: 1200 Average: 1250

Failure loads – Table 2

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 loads [N/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: 2200 Average: 2400

3.4.5.2 Safety in use of mechanically fixed ETICS using anchors

Failure loads – Table 3

Apply to all anchors listed in the clause 1.2 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 loads [N]	Anchors not placed at the panel joints (Static Foam Block Test)	R <sub>panel</sub>	Minimal:	650
			Average:	740
	Anchors placed at the panel joints (Static Foam Block Test)	R <sub>joint</sub>	Minimal:	590
			Average:	610
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	R <sub>panel</sub>	Minimal:	640
			Average:	690
	Anchors not placed at the panel joints (Pull-through test, wet conditions)	R <sub>panel</sub>		
	- series 2*		Minimal:	360
			Average:	390
	- series 3*		Minimal:	410
			Average:	450

\* according to ETAG 004 clause 5.2.4.1.2 test method (2)

Failure loads – Table 4

Apply to all anchors listed in the clause 1.2 mounted on the insulation panels surface				
Characteristics of the <b>MW panels</b>	Thickness		≥ 80 mm	
	<b>Tensile strength perpendicular to the faces</b>		<b>≥ 5.0 kPa</b>	
Plate diameter of anchor			≥ Ø 90 mm	≥ Ø 140 mm
Failure loads [N]	Anchors not placed at the panel joints (Static Foam Block Test)	R <sub>panel</sub>	Minimal: 480 Average: 490	Minimal: 560 Average: 690
	Anchors placed at the panel joints (Static Foam Block Test)	R <sub>joint</sub>	Minimal: 380 Average: 390	Minimal: 440 Average: 540
	Anchors not placed at the panel joints (Pull-through test, dry conditions)	R <sub>panel</sub>	Minimal: 540 Average: 610	npd
	Anchors not placed at the panel joints (Pull-through test, wet conditions) - series 2*	R <sub>panel</sub>	Minimal: 400 Average: 460	npd
* according to ETAG 004 clause 5.2.4.1.2 test method (2)				

Failure loads – Table 5

Apply to all anchors listed in clause 1.2 mounted on the insulation panels surface				
Characteristics of the MW lamella		Thickness		≥ 60 mm
		Tensile strength perpendicular to the faces		≥ 80 kPa
Plate diameter of anchor				≥ Ø 140 mm
Failure loads [N]	Anchors placed at the panel joints (Pull-through test, dry condition)	R <sub>joint</sub>	Minimal: 620 Average: 660	
	Anchors placed at the panel joints (Pull-through test, wet condition)	R <sub>joint</sub>	Minimal: 510 Average: 570	
	Anchors placed at the panel joints (Static Foam Block Test)	R <sub>joint</sub>	Minimal: 710	

The failure loads of tables 2 and 3 specified above only apply to the following anchors with deep mounting under the given conditions of installation:

Anchor	Thickness of the MW panel [d]	Conditions of installation*
ejotherm STR U ejotherm STR U 2G (ETA-04/0023)	100 mm > d ≥ 80 mm	– Maximum installation depth of the anchor plate: 15 mm (≤ thickness of insulation cover) – Maximum depth of die: 5 mm
	≥ 100 mm	– Maximum installation depth of the anchor plate: 15 mm (≤ thickness of insulation cover) – Maximum depth of die: 20 mm
TERMOZ 8 SV (ETA-06/0180)	≥ 80 mm	– Maximum installation depth of the anchor plate: 15 mm (≤ thickness of insulation cover)
* according to the appropriate ETA of anchor		

### 3.4.6 Render strip tensile test (ETAG 004 - clause 5.5.4.1)

No performance assessed for the width of cracks.

### 3.5 Protection against noise (BWR 5)

For the protection against noise no performance was assessed for this product.

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

#### 3.6.1 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 6946:2007 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 devices (anchors profiles) increase the thermal transmittance  $U$ . This influence had to take into account according to EN ISO 6946:2007.

$$U_c = U + \Delta U$$

corrected thermal transmittance  $[W / (m^2 \cdot K)]$

$$\Delta U = \Delta U_{anchor} + \Delta U_{profile}$$

correction term for mechanical fixing devices (anchors, profiles)

$$\Delta U_{anchor} = \chi_p \cdot n$$

correction term for anchors

where: $n$	number of anchors per $m^2$
$\chi_p$	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 technical approval
$\chi_p = 0.004 \text{ W/K}$	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 with the head covered by plastic material, and for anchors with an air gap at the head of the screw
$\Delta U_{\text{profile}} = \Psi \cdot l$	correction term for profiles; $\Delta U_{\text{profile}}$ is determined in accordance with EN ISO 10211:2007
where: $\Psi$	length thermal transmittance value of the profile [ $\text{W}/(\text{m} \cdot \text{K})$ ]
$l$	length of profile per $m^2$ [ $\text{m}/m^2$ ]

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

According to the European Commission decision 97/556/EC amended by the European Commission decision 2001/596/EC, the assessment and verification of constancy of performance system (AVCP) applies suitable following table (see Annex V to Regulation (EU) No 305/2011).

Product	Intended use	Levels or classes (Reaction to fire)	Systems
"Meffert System A2 classic"	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 (EAD)

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 December 2018 by Deutsches Institut für Bautechnik

Dirk Brandenburger  
Head of Department

*beglaubigt:*  
Windhorst

**European Technical Assessment**  
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- Annex 7: Concordance list trade names foreign country

### Annex 1: Thermal insulation product characteristic

Factory-prefabricated panels and lamella made of mineral wool (MW) to EN 13162:2015 with the following designation code and the other properties having the description in the Table below shall be used, provided that the manufacturer and the trade name of the MW are deposited with the DIBt.

MW – EN 13162 – T5 – DS(T+) – WS – WL(P) – MU1

Description and characteristics	MW panel***	MW panel	MW lamella
Reaction to fire; EN 13501-1:2007	Class A1		
Gross heat of combustion [MJ/kg]; EN ISO 1716:2010	PCS ≤ 1.1		
Thermal resistance [(m² · K)/W]	Defined in the CE marking in reference to EN 13162:2008		
Tensile strength perpendicular to the faces [kPa]; EN 1607:2013 - in dry conditions*	$\sigma_{mt} \geq 14$	$\sigma_{mt} \geq 5$	$\sigma_{mt} \geq 80$
- in wet conditions** Average value - series 2 - series 3	$\geq 33 \%$ of average value in dry conditions $\geq 50 \%$ of average value in dry conditions		
Compressive strength* [kPa]; EN 826:2013	$\sigma_m \geq 40$	$\sigma_m \geq 4$	$\sigma_m \geq 40$
Apparent density [kg/m³]; EN 1602:2013	$120 \leq \rho_a \leq 150$	$100 \leq \rho_a \leq 150$	$80 \leq \rho_a \leq 150$
Shear strength* [kPa]; EN 12090:2013	$20 \leq f_{tk} \leq 100$	$6 \leq f_{tk} \leq 100$	$20 \leq f_{tk} \leq 100$
Shear modulus [MPa]; EN 12090:2013	$1.0 \leq G_m \leq 2.0$	$0.3 \leq G_m \leq 2.0$	$1.0 \leq G_m \leq 2.0$
* Minimal value of all single values ** According to ETAG 004 clause 5.2.4.1.2 test method (2) *** Thermal insulation materials for mechanically fixed ETICS with profiles must circumferentially at the edges, 24 mm from the inner surface, get an approx. 3 mm wide and 13 to 18 mm deep groove cut-in at the factory.			

## Annex 2: Anchors

All anchors with ETA according to EAD330196-01-0604<sup>1</sup> with characteristics having the description below shall be used in the mechanically fixed ETICS:

- plate diameter of anchor  $\geq 60$  mm resp.  $\geq 90$  mm or  $\geq 140$  mm
- plate stiffness  $\geq 0.3$  kN/mm
- load resistance of the anchor plate  $\geq 1.0$  kN

These characteristics and the characteristic tension resistance of the anchors shall be taken from the corresponding ETA.

The anchors listed in the Table in clause 1.2 with reference to the respective ETA shall be used in the mechanically fixed ETICS with profiles for fixing the horizontal profiles.

Trade name	ETA-number
WS 8 L	ETA-02/0019
ejotherm SDK U	ETA-04/0023
SDF-K plus	ETA-04/0064
ejotherm NK U	ETA-05/0009

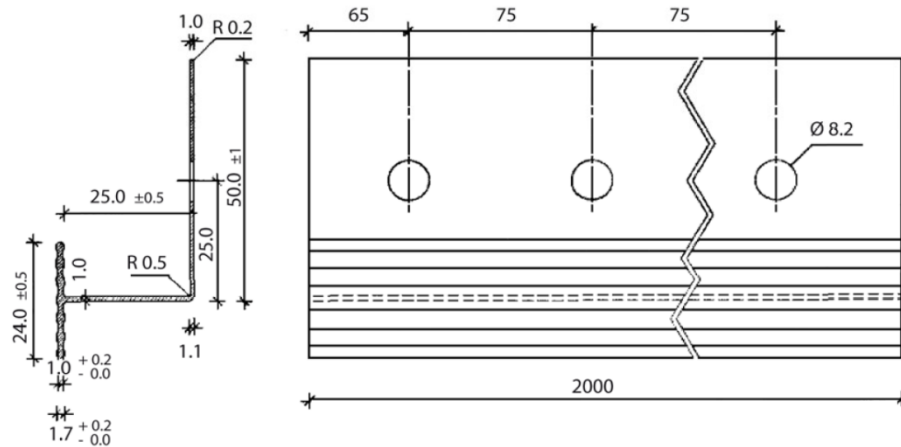


### Annex 3: Profiles

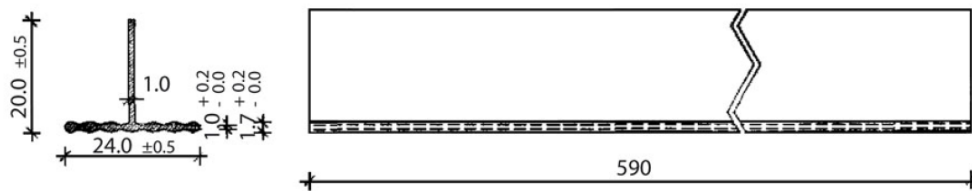
Aluminium (Al) profiles, EN AW-6060 T66 to EN 755-2:2008 are to be used in the mechanically fixed ETICS with profiles.

The Pull-through resistance of fixings from profiles is  $\geq 500$  N.

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



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



#### Annex 4: Reinforcement (glass fibre mesh)

Characteristics (alkali resistance): Pass

	Description	Residual strength after ageing [N/mm]	Relative residual strength after ageing, of the strength in the as- delivered state [%]
Meffert Glasgewebe grob	Alkali- and slide-resistant glass fibre mesh with mass per unit area of about 200 g/m <sup>2</sup> and mesh size of about 6.0 mm x 6.0 mm	≥ 20	≥ 50
Meffert Glasgewebe fein	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	≥ 20	≥ 50

## **Annex 5: Manufacturing plants**

### **Manufacturing plant Germany:**

Tex-Color Farbwerke GmbH & Co. KG  
Heckerstieg 4  
99085 Erfurt

### **Manufacturing plant Hungary:**

Meffert Hungária Kft  
Rákoczi u. 6  
2651 Rétság

**Annex 6: Concordance list trade names Germany**

Trade name Components	Meffert System A2 classic	ProfiTec Therm	DinoTherm	DinoTherm
<b>Adhesive</b>	Meffert Klebe und Spachtelmasse grau	P 1000 Klebe- und Spachtelmasse grau	Klebe- und Spachtelmasse grau	AK-Grau
	Meffert Klebe- und Spachtelmasse AKS	P 1020 Universal Allroundmörtel 4in1	Klebe- und Spachtelmasse AKS	AKS-Faser
	Meffert Klebe und Spachtelmasse weiß	P 1005 Klebe- und Spachtelmasse weiß	Klebe- und Spachtelmasse weiß	AK-Weiß
	Meffert Klebe und Spachtelmasse leicht	P 1010 Klebe- und Spachtelmasse leicht	Klebe- und Spachtelmasse leicht	AK-Leicht
	Meffert Klebe und Spachtelmasse AKS	P 1020 Universal Allroundmörtel 4in1	Klebe- und Spachtelmasse AKS	AKS-Faser
<b>Base coat</b>	Meffert Klebe und Spachtelmasse weiß	P 1005 Klebe- und Spachtelmasse weiß	Klebe- und Spachtelmasse weiß	AK-Weiß
	Meffert Klebe und Spachtelmasse grau	P 1000 Klebe- und Spachtelmasse grau	Klebe- und Spachtelmasse grau	AK-Grau
	Meffert Klebe und Spachtelmasse leicht	P 1010 Klebe- und Spachtelmasse leicht	Klebe- und Spachtelmasse leicht	AK-Leicht
	Meffert Glasgewebe grob	P 1505 Armierungsgewebe grob	Glasgewebe grob	Armierungsgewebe grob
<b>Glass fibre mesh</b>	Meffert Glasgewebe fein	P 1500 Armierungsgewebe fein	Glasgewebe fein	Armierungsgewebe fein
<b>Key coat</b>	Meffert Putzgrund	P 823 Putzgrund	Putzgrund grob	Quarzgrund LF
	<b>Meffert Mineralischer</b>			
<b>Mineral finishing coat</b>	Kratzputz/Kratzputz leicht	P 1702 Kratzputz / P 1722 Leichtputz	Mineralica / Mineralica Bella	Mineralputz K / Mineralputz K leicht
	Reibputz	P 1712 Rillenputz	Rillo	Mineralputz R
	Strukturputz	P 1740 Filz- und Faschenputz	Struktura	Filz- und Faschenputz
	<b>Meffert Silikat</b>			
<b>Organic finishing coat</b>	Reibputz	P 471 Silikat Fassadenputz R	DinoSil Reibputz außen	Silikat Fassadenputz R
	Kratzputz	P 476 Silikat Fassadenputz K	DinoSil Kratzputz außen	Silikat Fassadenputz K
	<b>Meffert Siliconharz</b>			
	Reibputz	P 431 Silicon Fassadenputz R	Silicon Reibputz	Silicon Fassadenputz R
	Kratzputz	P 436 Silicon Fassadenputz K	Silicon Kratzputz	Silicon Fassadenputz K

**Annex 7: Concordance list trade names foreign country**

Trade name Components	D	PL	CR	LT
	Meffert System A2 classic	PROFITHERM	ProfiTec Therm	Düfa Therm
<b>Adhesive</b>	Meffert Klebe und Spachtelmasse grau	PROFITHERM Baukleber	ProfiTec Klebe- und Spachtelmasse grau / Düfa Klebemörtel 1000 (Stavebni lepidlo OK 1000)	Düfa Baukleber
	Meffert Klebe und Spachtelmasse AKS	PROFITHERM Universalkleber II / II S	ProfiTec Universal Allroundmörtel 4 in 1 / Düfa Klebe- und Spachtelmasse A/B (Lepici sterkova hmota A/B)	Düfa Universalkleber
	Meffert Klebe und Spachtelmasse weiß	PROFITHERM Baukleber weiß	ProfiTec Klebe- und Spachtelmasse weiss	Düfa Universalkleber weiss (nicht im Programm, Name neu vergeben)
	Meffert Klebe und Spachtelmasse leicht	PROFITHERM Baukleber leicht	ProfiTec Klebe und Spachtelmasse leicht	Düfa Klebe und Spachtelmasse leicht
<b>Base coat</b>	Meffert Klebe und Spachtelmasse AKS	PROFITHERM Universalkleber II / II S	ProfiTec Universal Allroundmörtel 4 in 1 / Düfa Klebe- und Spachtelmasse A/B (Lepici sterkova hmota A/B)	Düfa Universalkleber
	Meffert Klebe und Spachtelmasse weiß	PROFITHERM Baukleber weiß	ProfiTec Klebe- und Spachtelmasse weiss	Düfa Universalkleber weiss (nicht im Programm, Name neu vergeben)
	Meffert Klebe und Spachtelmasse grau	PROFITHERM Baukleber	ProfiTec Klebe- und Spachtelmasse grau / Düfa Klebemörtel 1000 (Stavebni lepidlo OK 1000)	Düfa Baukleber
	Meffert Klebe und Spachtelmasse leicht	PROFITHERM Baukleber leicht	ProfiTec Klebe und Spachtelmasse leicht	Düfa Klebe und Spachtelmasse leicht
<b>Glass fibre mesh</b>	Meffert Glasgewebe grob	PROFITHERM Glasseidengewebe grob	Düfa Skotextilni sitovina R132	Düfa Glasseidengewebe grob
	Meffert Glasgewebe fein	PROFITHERM Glasseidengewebe fein	Düfa Skotextilni sitovina R131	Düfa Glasseidengewebe fein
<b>Key coat</b>	Meffert Putzgrund	PROFITHERM ProfiTec Unigrund	ProfiTec Putzgrund / Unigrund / Düfa OMITKOVA PENETRACE KOMFORT KOM4	Düfa Quarzgrund
	<b>Meffert Mineralischer</b>	<b>PROFITHERM ProfiTec Mineralischer</b>	<b>ProfiTec Mineralischer</b>	<b>DÜFA THERM Mineralischer</b>
<b>Mineral finishing coat</b>	Kratzputz/Kratzputz leicht	Kratzputz/Kratzputz leicht	Kratzputz / Kratzputz leicht / SANAYER DUO	Kratzputz/Kratzputz leicht
	Reibputz	Reibputz	Reibputz / SANAYER DUO	Reibputz
	Strukturputz	Strukturputz	-----	Strukturputz
	<b>Meffert Silikat</b>	<b>PROFITHERM ProfiTec Silikat</b>	<b>Silikat</b>	<b>DÜFA THERM Silikat</b>
<b>Organic finishing coat</b>	Reibputz	Fassadenputz R	ProfiTec Fassadenputz R	Silikat Reibputz
	Kratzputz	Fassadenputz K	ProfiTec Fassadenputz K	Silikat Kratzputz
	<b>Meffert Siliconharz</b>	<b>PROFITHERM ProfiTec Silicon/Siloxan</b>	<b>Silikon/Siloxan</b>	<b>DÜFA THERM Silicon/Siloxan</b>
	Reibputz	Fassadenputz R	ProfiTec Fassadenputz R	Reibputz
	Kratzputz	Fassadenputz K	ProfiTec Fassadenputz K	Kratzputz