

## European Technical Assessment

**ETA 15/0660  
of 29/02/2016**

### General Part

<b>Technical Assessment Body issuing the ETA:</b>	<b>Institute of Ceramics and Building Materials ICiMB</b>
<b>Trade name of the construction product</b>	Termo Organika <sup>®</sup> Thermal Insulation System
<b>Product family to which the construction product belongs</b>	External Thermal Insulation Composite Systems (ETICS) with rendering
<b>Manufacturer</b>	Termo Organika Sp. z o.o. B. Prusa 33 30-117 Kraków, POLAND
<b>Manufacturing plants</b>	Plant A, Plant G, Plant M, Plant P, Plant R, Plant S, Plant T
<b>This European Technical Assessment contains</b>	28 pages including 2 Annexes which form an integral part of this assessment.  Annexes: No 3 Control Plan and No 4 Identification of manufacturing plants contain confidential information and are not included in the European Technical Assessment when that assessment is publicly available.
<b>This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of</b>	Guideline for European Technical Approval ETAG 004 of External Thermal Insulation Composite Systems (ETICS) with rendering, version February 2013, used as European Assessment Document (EAD).

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

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## Specific part

### 1. Technical description of the product

This product Termo Organika® Thermal Insulation System is an ETICS (External Thermal Insulation Composite System with rendering) - a kit comprising components which are factory-produced by the owner/manufacturer or component suppliers. The ETICS manufacturer is ultimately responsible for all components of the ETICS specified in this ETA.

The ETICS kit comprises a prefabricated insulation product of expanded polystyrene (EPS) to be bonded onto a wall. The method of fixing and the relevant components are specified in Table 1. The insulation product is faced with a rendering system consisting of one or more layers (site applied), one of which contains reinforcement. The rendering is applied directly to the insulating panels, without any air gap or disconnecting layer.

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

Table 1.

	Components	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
	<b>Bonded ETICS; partially bonded with optional supplementary mechanical fixings. National application documents shall be taken into account.</b>		
Insulation materials with associated methods of fixing	<b>• Insulation product:</b> panels of expanded polystyrene (EPS) according to EN 13163 <i>Product characteristics - see Annex 1</i>	-	20 to 300
	<b>• Adhesives:</b> <b>- PU foam Termo Organika® TO-KPS</b> ready to use polyurethane foam applied by gun or applicator	80 to 100 ml/m <sup>2</sup>	-
	<b>- EPS adhesive Termo Organika® TO-KS</b> cement based powder requiring addition of 0,20-0,24 l/kg of water	4,0 to 5,0	-
	<b>- Universal adhesive Termo Organika® TO-KU</b> cement based powder requiring addition of 0,20-0,24 l/kg of water	4,0 to 5,0	-

Table 1. cont.

	Components	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
Insulation materials with associated methods of fixing	<ul style="list-style-type: none"> <li>• <b>Adhesives cont.:</b> <ul style="list-style-type: none"> <li>- <b>White universal adhesive Termo Organika® TO-KUB</b> cement based powder requiring addition of 0,20-0,24 l/kg of water</li> </ul> </li> </ul>	4,0 to 5,0	-
	<ul style="list-style-type: none"> <li>• <b>Supplementary mechanical fixings:</b> Plastic anchors covered by relevant ETA according to ETAG 014</li> </ul>	-	-
Base coats	<ul style="list-style-type: none"> <li>• <b>Universal adhesive Termo Organika® TO-KU</b> cement based powder requiring addition of 0,20-0,24 l/kg of water</li> </ul>	4,0 to 5,0	3,0 to 5,0
	<ul style="list-style-type: none"> <li>• <b>White universal adhesive Termo Organika® TO-KUB</b> cement based powder requiring addition of 0,20-0,24 l/kg of water</li> </ul>	4,0 to 5,0	3,0 to 5,0
Reinforcement	<ul style="list-style-type: none"> <li>• <b>Standard glass fibre meshes</b> <ul style="list-style-type: none"> <li>- <b>Termo Organika® TO-S145</b></li> <li>- <b>Termo Organika® TO-S170</b></li> </ul> </li> </ul> <i>Products characteristics - see Annex 2</i>	-	-
Primer	<ul style="list-style-type: none"> <li>• <b>Universal key coat Termo Organika® TO-GU</b> ready to use liquid to be used on the substrate</li> </ul>	0,05 to 0,20 l/m <sup>2</sup>	-
Key coats	<ul style="list-style-type: none"> <li>• <b>Contact key coat Termo Organika® TO-GS</b> ready to use thick liquid to be used with all finishing coats</li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	-
	<ul style="list-style-type: none"> <li>• <b>Polysilicate key coat Termo Organika® TO-GP</b> ready to use thick liquid to be used with polysilicate and silicate-silicone finishing coats</li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	-

Table 1. cont.

	Components	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
Finishing coats	<ul style="list-style-type: none"> <li> <b>Polymer-mineral finishing coats.</b>            Dry cement based powders requiring addition of 0,20-0,24 l/kg of water   <b>Polymer-mineral finishing coat Termo Organika® TO-TM</b>            structure - particles size:            floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm            ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm         </li> </ul>	1,5 to 4,7 1,5 to 4,7	Regulated by particles size
	<ul style="list-style-type: none"> <li> <b>Acrylic finishing coats.</b> Ready to use pastes – acrylic binder:   <b>Acrylic finishing coat Termo Organika® TO-TA</b>            structure - particles size:            floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm            ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm         </li> </ul>	1,5 to 4,7 1,5 to 4,7	
	<ul style="list-style-type: none"> <li> <b>Acrylic finishing coat Termo Organika® TO-TAm for mechanical application</b>            structure - particles size:            floated - 1,5; 2,0 mm         </li> </ul>	1,8 to 2,7	
	<ul style="list-style-type: none"> <li> <b>Mosaic finishing coat (decorative) Termo Organika® TO-TD</b>            structure - particles size:            mosaic - 1,0; 1,2; 1,5; 2,0 mm         </li> </ul>	2,5 to 3,5	
	<ul style="list-style-type: none"> <li> <b>Silicone finishing coats.</b> Ready to use pastes – silicone-acrylic binder:   <b>Silicone finishing coat Gold Termo Organika® TO-TSG</b>            structure - particles size:            floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm            ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm         </li> </ul>	1,5 to 4,7 1,5 to 4,7	
	<ul style="list-style-type: none"> <li> <b>Silicone finishing coat Gold Termo Organika® TO-TSGm for mechanical application</b>            structure - particles size:            floated - 1,5; 2,0 mm         </li> </ul>	1,8 to 2,7	
	<ul style="list-style-type: none"> <li> <b>Silicone finishing coat Silver Termo Organika® TO-TSS</b>            structure - particles size:            floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm            ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm         </li> </ul>	1,5 to 4,7 1,5 to 4,7	

Table 1. cont.

	Components	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
Finishing coats	<p><b>Silicone finishing coat Silver Termo Organika® TO-TSSm for mechanical application</b> structure - particles size: floated - 1,5; 2,0 mm</p>	1,8 to 2,7	Regulated by particles size
	<p>• <b>Silicone-acrylic finishing coats (siloxane).</b> Ready to use pastes – siloxane-acrylic binder:</p> <p><b>Silicone-acrylic finishing coat Termo Organika® TO-TSA</b> structure - particles size: floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm</p>	1,5 to 4,7 1,5 to 4,7	
	<p><b>Silicone-acrylic finishing coat Termo Organika® TO-TSAm for mechanical application</b> structure - particles size: floated - 1,5; 2,0 mm</p>	1,8 to 2,7	
	<p>• <b>Silicone-silicate finishing coats.</b> Ready to use pastes – silicone-silicate-acrylic binder:</p> <p><b>Silicone-silicate finishing coat Termo Organika® TO-TSISI</b> structure - particles size: floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm</p>	1,5 to 4,7 1,5 to 4,7	
	<p><b>Silicone-silicate finishing coat Termo Organika® TO-TSISIm for mechanical application</b> structure - particles size: floated - 1,5; 2,0 mm</p>	1,8 to 2,7	
	<p>• <b>Polysilicate finishing coats.</b> Ready to use pastes – silicate-acrylic binder:</p> <p><b>Polysilicate finishing coat Termo Organika® TO-TP</b> structure - particles size: floated - 1,0; 1,5; 2,0; 2,5; 3,0 mm ribbed - 1,0; 1,5; 2,0; 2,5; 3,0 mm</p>	1,5 to 4,7 1,5 to 4,7	
	<p><b>Polysilicate finishing coat Termo Organika® TO-TPm for mechanical application</b> structure - particles size: floated - 1,5; 2,0 mm</p>	1,8 to 2,7	

Table 1. cont.

	Components	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
<b>Decorative coats (paints)</b>	<ul style="list-style-type: none"> <li>• <b>Acrylic decorative coat</b> <b>Termo Organika® TO-FA</b> ready to use pigmented liquid to be used optionally with:               <ul style="list-style-type: none"> <li>- Polymer-mineral finishing coat Termo Organika® TO-TM</li> <li>- Acrylic finishing coat Termo Organika® TO-TA</li> <li>- Acrylic finishing coat Termo Organika® TO-TAm</li> <li>- Silicone-acrylic finishing coat Termo Organika® TO-TSA</li> <li>- Silicone-acrylic finishing coat Termo Organika® TO-TSAm</li> <li>- Silicone finishing coat Silver Termo Organika® TO-TSS</li> <li>- Silicone finishing coat Silver Termo Organika® TO-TSSm</li> </ul> </li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	-
	<ul style="list-style-type: none"> <li>• <b>Silicone decorative coat Gold</b> <b>Termo Organika® TO-FSG</b> ready to use pigmented liquid to be used optionally with all finishing coats except Mosaic finishing coat Termo Organika® TO-TD</li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	
	<ul style="list-style-type: none"> <li>• <b>Silicone decorative coat Silver</b> <b>Termo Organika® TO-FSS</b> ready to use pigmented liquid to be used optionally with all finishing coats except Mosaic finishing coat Termo Organika® TO-TD</li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	

Table 1. cont.

	Components	Coverage (kg/m <sup>2</sup> )	Thickness (mm)
Decorative coats (paints)	<ul style="list-style-type: none"> <li>• <b>Silicone-acrylic (siloxane) decorative coat Termo Organika® TO-FSA</b> ready to use pigmented liquid to be used optionally with:               <ul style="list-style-type: none"> <li>- Polymer-mineral finishing coat Termo Organika® TO-TM</li> <li>- Acrylic finishing coat Termo Organika® TO-TA</li> <li>- Acrylic finishing coat Termo Organika® TO-TAm</li> <li>- Silicone-acrylic finishing coat Termo Organika® TO-TSA</li> <li>- Silicone-acrylic finishing coat Termo Organika® TO-TSAm</li> <li>- Silicone finishing coat Silver Termo Organika® TO-TSS</li> <li>- Silicone finishing coat Silver Termo Organika® TO-TSSm</li> </ul> </li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	
	<ul style="list-style-type: none"> <li>• <b>Silicone-silicate decorative coat Termo Organika® TO-FSISI</b> ready to use pigmented liquid to be used optionally with:               <ul style="list-style-type: none"> <li>- Polymer-mineral finishing coat Termo Organika® TO-TM</li> <li>- Silicone-silicate finishing coat Termo Organika® TO-TSISI</li> <li>- Silicone-silicate finishing coat Termo Organika® TO-TSISIm</li> <li>- Polysilicate finishing coat Termo Organika® TO-TP</li> <li>- Polysilicate finishing coat Termo Organika® TO-TPm</li> </ul> </li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	-
	<ul style="list-style-type: none"> <li>• <b>Polysilicate decorative coat Termo Organika® TO-FP</b> ready to use pigmented liquid to be used optionally with:               <ul style="list-style-type: none"> <li>- Polymer-mineral finishing coat Termo Organika® TO-TM</li> <li>- Polysilicate finishing coat Termo Organika® TO-TP</li> <li>- Polysilicate finishing coat Termo Organika® TO-TPm</li> </ul> </li> </ul>	0,20 to 0,30 l/m <sup>2</sup>	
Ancillary materials	<ul style="list-style-type: none"> <li>• <b>Polyurethane foam</b>, ready to use</li> <li>• <b>Other according to ETAG 004</b> Remain under the ETA-holder responsibilities</li> </ul>		

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

This ETICS is intended for use as external insulation of buildings' walls. The walls are made of masonry (bricks, blocks, stones) or concrete (cast on site or as prefabricated panels).

The ETICS can be used on new or existing (retrofit) vertical walls. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation.

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

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

The provisions made in this European Technical Assessment are based on an assumed working life of the ETICS of at least 25 years, provided that the requirements for the packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met. The indication given on the working life cannot be interpreted as a guarantee given by the manufacturer or the Technical Assessment Body, but should only be regarded as a means for choosing the appropriate products in relation to the expected, economically reasonable working life of the works.

Design, installation, maintenance and repair of ETICS shall be done in accordance with principles introduced in chapter 7 of ETAG 004, used as EAD, and shall be in conformity with Member States' legislation requirements.

The instructions regarding packaging, transport, storage and installation of ETICS are specified in the manufacturer's technical documentation.



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

The performances of ETICS related to the Basic Requirements were determined in compliance with ETAG 004.

The performances of the kit as described in this chapter are valid provided that the components of the kit comply with Annexes 1÷2.

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

##### 3.1.1. Reaction to fire (ETAG 004: clause 5.1.2.1, EN 13501-1)

Table 2.

Configuration	Max. organic content / Max. heat of combustion	Flame retardant content	Euroclass acc. to EN 13501-1
<b>Termo Organika® Thermal Insulation System</b>			
Primer	10,0 % / -	No flame retardant	B-s1, d0
Adhesive	100 % / -		
EPS panels* density ≤ 25 kg/m <sup>3</sup>	- / -		
Base coat	1,5 % / -		
Glass fibre mesh	- / 1,93 MJ/m <sup>2</sup>		
Key coat	15,0 % / -		
Finishing coat	20,0 % / 12,1 MJ/m <sup>2</sup>		
Decorative coat	30,0 % / 2,7 MJ/m <sup>2</sup>		
*flame retardant content in quantity ensuring Euroclass E according to EN 13501-1			

Note: European reference fire scenario has not been laid down for facades. In some Member States, the classification of ETICS according to EN 13501-1 might not be sufficient for the use in facades. An additional assessment of ETICS according to national provisions might be necessary to comply with Member State regulations, until the existing European classification system has been completed.

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

##### 3.2.1. Water absorption (ETAG 004: clause 5.1.3.1)

- Base coat Universal adhesive Termo Organika® TO-KU:
  - Water absorption after 1 hour < 1 kg/m<sup>2</sup>;
  - Water absorption after 24 hours < 0,5 kg/m<sup>2</sup>.

- Base coat White universal adhesive Termo Organika® TO-KUB:
  - Water absorption after 1 hour < 1 kg/m<sup>2</sup>;
  - Water absorption after 24 hours < 0,5 kg/m<sup>2</sup>.
- Rendering system: Tables 3 and 4.

Table 3.

		Water absorption after 24 hours	
		<0,5 kg/m <sup>2</sup>	≥0,5 kg/m <sup>2</sup>
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	X	-
	Acrylic finishing coat Termo Organika® TO-TA	X	-
	Acrylic finishing coat Termo Organika® TO-TAm	X	-
	Silicone finishing coat Gold Termo Organika® TO-TSG	X	-
	Silicone finishing coat Gold Termo Organika® TO-TSGm	X	-
	Silicone finishing coat Silver Termo Organika® TO-TSS	-	X
	Silicone finishing coat Silver Termo Organika® TO-TSSm	-	X
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	-	X
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	-	X
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	-	X
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	-	X
	Polysilicate finishing coat Termo Organika® TO-TP	X	-
	Polysilicate finishing coat Termo Organika® TO-TPm	X	-
	Mosaic finishing coat Termo Organika® TO-TD	X	-

Table 4.

		Water absorption after 24 hours	
		<0,5 kg/m <sup>2</sup>	≥0,5 kg/m <sup>2</sup>
<b>Rendering system:</b>  Base coat <u>White universal adhesive</u> <u>Termo Organika®</u> <u>TO-KUB</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	x	-
	Acrylic finishing coat Termo Organika® TO-TA	x	-
	Acrylic finishing coat Termo Organika® TO-TAm	x	-
	Silicone finishing coat Gold Termo Organika® TO-TSG	x	-
	Silicone finishing coat Gold Termo Organika® TO-TSGm	x	-
	Silicone finishing coat Silver Termo Organika® TO-TSS	x	-
	Silicone finishing coat Silver Termo Organika® TO-TSSm	x	-
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	x	-
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	x	-
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	x	-
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	x	-
	Polysilicate finishing coat Termo Organika® TO-TP	x	-
	Polysilicate finishing coat Termo Organika® TO-TPm	x	-
	Mosaic finishing coat Termo Organika® TO-TD	x	-

### 3.2.2. Watertightness (ETAG 004: clause 5.1.3.2)

#### 3.2.2.1. Hygrothermal behaviour (ETAG 004: clause 5.1.3.2.1)

Pass (without defects).

### 3.2.2.2. Freeze-thaw behaviour (ETAG 004: clause 5.1.3.2.2)

ETICS is frost resistant according to water absorption test and freeze-thaw test.

### 3.2.3. Impact resistance (ETAG 004: clause 5.1.3.3)

Table 5.

		<b>Single layer of mesh Termo Organika® TO-S145</b>
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	Category III
	Acrylic finishing coat Termo Organika® TO-TA	Category II
	Acrylic finishing coat Termo Organika® TO-TAm	Category II
	Silicone finishing coat Gold Termo Organika® TO-TSG	Category III
	Silicone finishing coat Gold Termo Organika® TO-TSGm	Category III
	Silicone finishing coat Silver Termo Organika® TO-TSS	Category III
	Silicone finishing coat Silver Termo Organika® TO-TSSm	Category III
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	Category III
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	Category III
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	Category I
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	Category I
	Polysilicate finishing coat Termo Organika® TO-TP	Category III
	Polysilicate finishing coat Termo Organika® TO-TPm	Category III
Mosaic finishing coat Termo Organika® TO-TD	Category I	

Table 6.

		<b>Single layer of mesh Termo Organika® TO-S145</b>
<b>Rendering system:</b>  Base coat <u>White universal adhesive</u> <u>Termo Organika® TO-KUB</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	Category II
	Acrylic finishing coat Termo Organika® TO-TA	Category II
	Acrylic finishing coat Termo Organika® TO-TAm	Category II
	Silicone finishing coat Gold Termo Organika® TO-TSG	Category I
	Silicone finishing coat Gold Termo Organika® TO-TSGm	Category I
	Silicone finishing coat Silver Termo Organika® TO-TSS	Category III
	Silicone finishing coat Silver Termo Organika® TO-TSSm	Category III
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	Category III
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	Category III
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	Category III
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	Category III
	Polysilicate finishing coat Termo Organika® TO-TP	Category III
	Polysilicate finishing coat Termo Organika® TO-TPm	Category III
	Mosaic finishing coat Termo Organika® TO-TD	Category II

Table 7.

		<b>Single layer of mesh Termo Organika® TO-S170</b>
<b>Rendering system:</b> Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	Category III
	Acrylic finishing coat Termo Organika® TO-TA	Category II
	Acrylic finishing coat Termo Organika® TO-TAm	Category II
	Silicone finishing coat Gold Termo Organika® TO-TSG	Category II
	Silicone finishing coat Gold Termo Organika® TO-TSGm	Category II
	Silicone finishing coat Silver Termo Organika® TO-TSS	Category II
	Silicone finishing coat Silver Termo Organika® TO-TSSm	Category II
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	Category II
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	Category II
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	Category I
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	Category I
	Polysilicate finishing coat Termo Organika® TO-TP	Category III <i>particles size: 1,0; 1,5 mm</i> Category II <i>particles size: 2,0; 2,5; 3,0 mm</i>
	Polysilicate finishing coat Termo Organika® TO-TPm	Category III <i>particles size: 1,5 mm</i> Category II <i>particles size: 2,0 mm</i>
	Mosaic finishing coat Termo Organika® TO-TD	Category I

Table 8.

		<b>Single layer of mesh Termo Organika® TO-S170</b>
<b>Rendering system:</b>  Base coat <u>White universal adhesive</u> <u>Termo Organika® TO-KUB</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	Category II
	Acrylic finishing coat Termo Organika® TO-TA	Category II
	Acrylic finishing coat Termo Organika® TO-TAm	Category II
	Silicone finishing coat Gold Termo Organika® TO-TSG	Category I
	Silicone finishing coat Gold Termo Organika® TO-TSGm	Category I
	Silicone finishing coat Silver Termo Organika® TO-TSS	Category III <i>particles size: 1,0; 1,5 mm</i> Category II <i>particles size: 2,0; 2,5; 3,0 mm</i>
	Silicone finishing coat Silver Termo Organika® TO-TSSm	Category III <i>particles size: 1,5 mm</i> Category II <i>particles size: 2,0 mm</i>
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	Category III <i>particles size: 1,0; 1,5 mm</i> Category II <i>particles size: 2,0; 2,5; 3,0 mm</i>
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	Category III <i>particles size: 1,5 mm</i> Category II <i>particles size: 2,0 mm</i>
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	Category II
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	Category II

Table 8. cont.

		<b>Single layer of mesh Termo Organika® TO-S170</b>
<b>Rendering system:</b>  Base coat <u>White universal adhesive</u> <u>Termo Organika® TO-KUB</u> + relevant key coat + finishing coat indicated hereafter:	Polysilicate finishing coat Termo Organika® TO-TP	Category II <i>particles size: 1,0; 1,5 mm</i> Category I <i>particles size: 2,0; 2,5; 3,0 mm</i>
	Polysilicate finishing coat Termo Organika® TO-TPm	Category II <i>particles size: 1,5 mm</i> Category I <i>particles size: 2,0 mm</i>
	Mosaic finishing coat Termo Organika® TO-TD	Category I

### 3.2.4. Water vapour permeability (ETAG 004: clause 5.1.3.4)

Table 9.

		<b>Equivalent air thickness <math>s_d</math></b>
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika® TO-KU</u> or <u>White universal adhesive</u> <u>Termo Organika® TO-KUB</u> + relevant key coat + finishing coat indicated hereafter + relevant decorative coat:	<u>Polymer-mineral finishing coat</u> <u>Termo Organika® TO-TM</u>	$\leq 2$ m, results:
	+ Acrylic decorative coat Termo Organika® TO-FA	0,20 m
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,18 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,19 m
	+ Silicone-acrylic decorative coat Termo Organika® TO-FSA	0,19 m
	+ Silicone-silicate decorative coat Termo Organika® TO-FSISI	0,17 m
	+ Polysilicate decorative coat Termo Organika® TO-FP	0,14 m



Table 9. cont.

		Equivalent air thickness sd
	<u>Acrylic finishing coat</u> <u>Termo Organika® TO-TA</u>	≤ 2 m, results:
	+ Acrylic decorative coat Termo Organika® TO-FA	0,27 m
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,30 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,25 m
	<u>Acrylic finishing coat</u> <u>Termo Organika® TO-TAm</u>	≤ 2 m, results:
	+ Acrylic decorative coat Termo Organika® TO-FA	0,27 m
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,30 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,25 m
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> or <u>White universal</u> <u>adhesive</u> <u>Termo Organika®</u> <u>TO-KUB</u> + relevant key coat + finishing coat indicated hereafter + relevant decorative coat:	<u>Silicone finishing coat Gold</u> <u>Termo Organika® TO-TSG</u>	≤ 2 m, results:
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,19 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,19 m
	<u>Silicone finishing coat Gold</u> <u>Termo Organika® TO-TSGm</u>	≤ 2 m, results:
+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,19 m	
+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,19 m	

Table 9. cont.

		Equivalent air thickness sd
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> or <u>White universal adhesive</u> <u>Termo Organika®</u> <u>TO-KUB</u> + relevant key coat + finishing coat indicated hereafter + relevant decorative coat:	<u>Silicone finishing coat Silver</u> <u>Termo Organika® TO-TSS</u>	≤ 2 m, results:
	+ Acrylic decorative coat Termo Organika® TO-FA	0,21 m
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,20 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,20 m
	+ Silicone-acrylic decorative coat Termo Organika® TO-FSA	0,20 m
	<u>Silicone finishing coat Silver</u> <u>Termo Organika® TO-TSSm</u>	≤ 2 m, results:
	+ Acrylic decorative coat Termo Organika® TO-FA	0,21 m
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,20 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,20 m
	+ Silicone-acrylic decorative coat Termo Organika® TO-FSA	0,20 m
	<u>Silicone-acrylic finishing coat</u> <u>Termo Organika® TO-TSA</u>	≤ 2 m, results:
	+ Acrylic decorative coat Termo Organika® TO-FA	0,21 m
	+ Silicone decorative coat Gold Termo Organika® TO-FSG	0,20 m
	+ Silicone decorative coat Silver Termo Organika® TO-FSS	0,20 m
	+ Silicone-acrylic decorative coat Termo Organika® TO-FSA	0,20 m

Table 9. cont.

		Equivalent air thickness sd
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> or <u>White universal</u> <u>adhesive</u> <u>Termo Organika®</u> <u>TO-KUB</u> + relevant key coat + finishing coat indicated hereafter + relevant decorative coat:	<u>Silicone-acrylic finishing coat</u> <u>Termo Organika® TO-TSAm</u>  + Acrylic decorative coat Termo Organika® TO-FA  + Silicone decorative coat Gold Termo Organika® TO-FSG  + Silicone decorative coat Silver Termo Organika® TO-FSS  + Silicone-acrylic decorative coat Termo Organika® TO-FSA	≤ 2 m, results:  0,21 m  0,20 m  0,20 m  0,20 m
	<u>Silicone-silicate finishing coat</u> <u>Termo Organika® TO-TSISI</u>  + Silicone decorative coat Gold Termo Organika® TO-FSG  + Silicone decorative coat Silver Termo Organika® TO-FSS  + Silicone-silicate decorative coat Termo Organika® TO-FSISI	≤ 2 m, results:  0,19 m  0,20 m  0,20 m
	<u>Silicone-silicate finishing coat</u> <u>Termo Organika® TO-TSISIm</u>  + Silicone decorative coat Gold Termo Organika® TO-FSG  + Silicone decorative coat Silver Termo Organika® TO-FSS  + Silicone-silicate decorative coat Termo Organika® TO-FSISI	≤ 2 m, results:  0,19 m  0,20 m  0,20 m
	<u>Polysilicate finishing coat</u> <u>Termo Organika® TO-TP</u>  + Silicone decorative coat Gold Termo Organika® TO-FSG  + Silicone decorative coat Silver Termo Organika® TO-FSS  + Silicone-silicate decorative coat Termo Organika® TO-FSISI  + Polysilicate decorative coat Termo Organika® TO-FP	≤ 2 m, results:  0,21 m  0,21 m  0,22 m  0,22 m

		Equivalent air thickness sd
<b>Rendering system:</b>  Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> or <u>White universal</u> <u>adhesive</u> <u>Termo Organika®</u> <u>TO-KUB</u> + relevant key coat + finishing coat indicated hereafter + relevant decorative coat:	<u>Polysilicate finishing coat</u> <u>Termo Organika® TO-TPm</u>  + Silicone decorative coat Gold Termo Organika® TO-FSG  + Silicone decorative coat Silver Termo Organika® TO-FSS  + Silicone-silicate decorative coat Termo Organika® TO-FSISI  + Polysilicate decorative coat Termo Organika® TO-FP	≤ 2 m, results:  0,21 m  0,21 m  0,22 m  0,22 m
	<u>Mosaic finishing coat</u> <u>Termo Organika® TO-TD*</u>	≤ 2 m, result: 0,21 m

\*decorative coat not used

### 3.2.5. Release of dangerous substances (ETAG 004: clause 5.1.3.5, EOTA TR034)

No performance assessed.

Note: There may be requirements applicable to the ETICS falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Regulation (EU) No 305/2011, these requirements need to be complied with, when and where they apply.

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

#### 3.3.1. Bond strength between base coat and insulation product (ETAG 004: clause 5.1.4.1.1)

- Bond strength between base coat Universal adhesive  
Termo Organika® TO-KU and insulation product  $\geq 0,08$  MPa
- Bond strength between base coat White universal adhesive  
Termo Organika® TO-KUB and insulation product  $\geq 0,08$  MPa

### 3.3.2. Bond strength between adhesive and substrate (ETAG 004: clause 5.1.4.1.2)

Table 10.

	Initial state	48 h immersion in water + 2 hours 23°C/50% RH	48 h immersion in water + 7 days 23°C/50% RH
EPS adhesive Termo Organika® TO-KS	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
Universal adhesive Termo Organika® TO-KU			
White universal adhesive Termo Organika® TO-KUB			

### 3.3.3. Bond strength between adhesive and insulation product (ETAG 004: clause 5.1.4.1.3)

Table 11.

	Initial state	48 h immersion in water + 2 hours 23°C/50% RH	48 h immersion in water + 7 days 23°C/50% RH
EPS adhesive Termo Organika® TO-KS*	≥ 0,08 MPa	≥ 0,03 MPa	≥ 0,08 MPa
Universal adhesive Termo Organika® TO-KU*			
White universal adhesive Termo Organika® TO-KUB*			
* minimal bonded surface area S: 38 %			

### 3.3.4. Bond strength of foam adhesive (ETAG 004: paragraf 5.1.4.1.4)

- Bond strength between PU foam Termo Organika® TO-KPS and insulation product ≥ 0,08 MPa  
Minimal bonded surface area S: 33 %

### 3.3.5. Bond strength after aging (ETAG 004: clause 5.1.7.1)

Table 12.

		After hygrothermal cycles
<b>Rendering system:</b> Base coat <u>Universal adhesive</u> <u>Termo Organika®</u> <u>TO-KU</u> or <u>White universal adhesive</u> <u>Termo Organika®</u> <u>TO-KUB</u> + relevant key coat + finishing coat indicated hereafter:	Polymer-mineral finishing coat Termo Organika® TO-TM	≥ 0,08 MPa
	Acrylic finishing coat Termo Organika® TO-TA	≥ 0,08 MPa
	Acrylic finishing coat Termo Organika® TO-TAm	≥ 0,08 MPa
	Silicone finishing coat Gold Termo Organika® TO-TSG	≥ 0,08 MPa
	Silicone finishing coat Gold Termo Organika® TO-TSGm	≥ 0,08 MPa
	Silicone finishing coat Silver Termo Organika® TO-TSS	≥ 0,08 MPa
	Silicone finishing coat Silver Termo Organika® TO-TSSm	≥ 0,08 MPa
	Silicone-acrylic finishing coat Termo Organika® TO-TSA	≥ 0,08 MPa
	Silicone-acrylic finishing coat Termo Organika® TO-TSAm	≥ 0,08 MPa
	Silicone-silicate finishing coat Termo Organika® TO-TSISI	≥ 0,08 MPa
	Silicone-silicate finishing coat Termo Organika® TO-TSISIm	≥ 0,08 MPa
	Polysilicate finishing coat Termo Organika® TO-TP	≥ 0,08 MPa
	Polysilicate finishing coat Termo Organika® TO-TPm	≥ 0,08 MPa
Mosaic finishing coat Termo Organika® TO-TD	≥ 0,08 MPa	

### 3.3.6. Render strip tensile test (ETAG 004: clause 5.5.4.1)

No performance assessed.

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

#### 3.4.1. Airborne sound insulation (ETAG 004: clause 5.1.5.1)

No performance assessed.

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

#### 3.5.1. Thermal resistance (ETAG 004: clause 5.1.6.1)

The thermal transmittance of the substrate wall covered by the ETICS is calculated in accordance with the standard EN ISO 6946:

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

where:

- $\chi_p \cdot n$  has only to be taken into account if it is greater than 0,04 W/(m<sup>2</sup>·K)
- $U_c$ : global (corrected) thermal transmittance of the covered wall (W/ (m<sup>2</sup>·K))
- $n$ : number of anchors (through insulation product) per 1 m<sup>2</sup>
- $\chi_p$ : 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:
- = 0,002 W/K for anchors with a stainless steel screw covered by plastic anchors and for anchors with an air gap at the head of the screw ( $\chi_p \cdot n$  negligible for  $n < 20$ )
  - = 0,004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material ( $\chi_p \cdot n$  negligible for  $n < 10$ )
  - = negligible for anchors with plastic nails (reinforced or not with glass fibres)
- $U$ : thermal transmittance of the current part of the covered wall (excluding thermal bridges) (W/ (m<sup>2</sup>·K)) determined as follows:

$$U = \frac{1}{R_i + R_{render} + R_{substrate} + R_{se} + R_{si}}$$

where:

- $R_i$ : thermal resistance of the insulation product (according to declaration in reference to EN 13163) in (m<sup>2</sup>·K)/W
- $R_{render}$ : thermal resistance of the render (about 0,02 in (m<sup>2</sup>·K)/W or determined by test according to EN 12667 or EN 12664)
- $R_{substrate}$ : thermal resistance of the substrate of the building (concrete, brick) in (m<sup>2</sup>·K)/W
- $R_{se}$ : external superficial thermal resistance in (m<sup>2</sup>·K)/W
- $R_{si}$ : internal superficial thermal resistance in (m<sup>2</sup>·K)/W

The value of thermal resistance of each insulation product shall be given in the manufacturer's documentation along with the possible range of thicknesses. In addition, the point thermal conductivity of anchors shall be given when anchors are used in the ETICS.

### 3.6. Sustainable use of natural resources (BWR 7)

No performance assessed.

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

According to the European Commission decision 97/556/EC amended by the European Commission decision 2001/596/EC, the AVCP systems (further described in Annex V to Regulation (EU) No 305/2011) 1 and 2+ apply.

Table 13.

Product(s)	Intended use(s)	Level(s) or class(es) (Reaction to fire)	System(s)
External thermal insulation composite systems/kits (ETICS) with rendering	in external wall subject to fire regulations	A1 <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+
	in external wall not subject to fire regulations	any	2+

- (1) Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material)
- (2) Products/materials not covered by footnote (1)
- (3) Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Classes A1 according to Commission Decision 96/603/EC)



**5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

The manufacturer shall exercise permanent control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures. The production control system shall ensure performance constancy of the product covered by this European Technical Assessment.

The manufacturer may only use materials stated in the technical documentation of this European Technical Assessment. The factory production control shall be performed in accordance with the Control Plan which is a confidential part of this European Technical Assessment. The Control Plan was developed as a part of factory production control system.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

Issued in Krakow on 29.02.2016

Signed by



Adam WITEK

Director of Institute of Ceramics and Building Materials

**Annexes:**

Annex No 1 – Insulation product characteristics

Annex No 2 – Glass fibre meshes characteristics

**Annex No 1 – Insulation product characteristics**

		EPS panels, produced by	
		Termo Organika Sp. z o.o.	Other manufacturers
Reaction to fire / EN 13501-1		Euroclass – E max. density: 25 kg/m <sup>3</sup>	
Thermal resistance		Defined in the CE marking in reference to EN 13163 (m <sup>2</sup> ·K)/W	
Thickness / EN 823		± 2 mm [EN 13163 - T(2)]	
Length / EN 822		± 2 mm [EN 13163 - L(2)]	
Width / EN 822		± 2 mm [EN 13163 - W(2)]	
Squareness / EN 824		± 5 mm/m [EN 13163 - S(5)]	
Flatness / EN 825		10 mm [EN 13163 - P(10)]	
Dimensional stability under specified conditions	EN 1603	± 0,2 % [EN 13163 - DS(N)2]	
	EN 1604	2 % [EN 13163 - DS(70,-)2]	
Bending strength / EN 12089		≥ 75 kPa [EN 13163 – BS75]	≥ 100 kPa [EN 13163 - BS100]
Water vapour permeability, diffusion factor (μ) / EN 12086 - EN 13163		20 to 40	
Tensile strength perpendicular to the faces in dry conditions / EN 1607		≥ 80 kPa [EN 13163 - TR80]	≥ 100 kPa [EN 13163 - TR100]
Shear strength / EN 12090 - EN 13163		≥ 35 kPa	≥ 50 kPa

**Annex No 2 – Glass fibre meshes characteristics**

Mesh trade name	Description	Alkalis resistance		
		Residual resistance after ageing (N/mm)	Relative residual resistance: % (after ageing) of the strength in the as delivered state	
<b>Termo Organika® TO-S145</b>	ASGLATEX 03-43	Mass per unit area: 145 g/m <sup>2</sup> ± 3 %; Mesh size: 4,0 x 5,0 mm	≥ 20	≥ 50
	117S Omfa	Mass per unit area: 145 g/m <sup>2</sup> - 0/+10 %; Mesh size: 4,5 x 3,0 mm	≥ 20	≥ 50
	TG-22	Mass per unit area: ≥ 145 g/m <sup>2</sup> ; Mesh size: 4,0 x 4,0 mm	≥ 20	≥ 50
	SSA-1363-150 SM0.5	Mass per unit area: 150 g/m <sup>2</sup> ± 5 %; Mesh size: 3,6 x 4,3 mm	≥ 20	≥ 50

**Annex No 2 – Glass fibre meshes characteristics cont.**

Mesh trade name	Description	Alkalis resistance		
		Residual resistance after ageing (N/mm)	Relative residual resistance: % (after ageing) of the strength in the as delivered state	
<b>Termo Organika® TO-S170</b>	ASGLATEX 03-1	Mass per unit area: 165 g/m <sup>2</sup> - 3/+10 %; Mesh size: 3,5 x 3,8 mm	≥ 20	≥ 50
	122 Omfa	Mass per unit area: 160 g/m <sup>2</sup> - 0/+10 %; Mesh size: 3,5 x 3,5 mm	≥ 20	≥ 50
	TG-15	Mass per unit area: 160 g/m <sup>2</sup> -5/+10 %; Mesh size: 3,5 x 3,5 mm	≥ 20	≥ 50
	SSA-1363-160 SM0.5	Mass per unit area: 160 g/m <sup>2</sup> ± 5 %; Mesh size: 3,6 x 3,8 mm	≥ 20	≥ 50