

European Technical Assessment

ETA 16/0849
of 06/02/2017

General Part

**Technical Assessment Body
issuing the ETA:**

**Institute of Ceramics and Building
Materials ICiMB**

Trade name of the construction product

DRYVIT OUTSULATION E

**Product family to which the construction
product belongs**

External Thermal Insulation Composite
Systems (ETICS) with rendering

Manufacturer

DRYVIT SYSTEMS
USA (EUROPE) Sp. z o.o.
Krże Duże 7
96-325 Radziejowice, POLAND

Manufacturing plant

Krże Duże 7
96-325 Radziejowice, POLAND

**This European Technical Assessment
contains**

20 pages including 2 Annexes which form
an integral part of this assessment.

Annex: No 3 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, 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 DRYVIT OUTSULATION E is an ETICS (External Thermal Insulation Composite System with rendering) - a kit comprising components which are factory produced by the 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 ²)	Thickness (mm)
Bonded ETICS; fully or partially bonded with supplementary mechanical fixings. National application documents shall be taken into account.			
Insulation materials with associated methods of fixing	• Insulation product: panels of expanded polystyrene (EPS) according to EN 13163 <i>Product characteristics - see Annex 1</i>	-	20 to 350
	• Adhesives: - DRYHESIVE PLUS cement based powder requiring addition of 0,22-0,24 l/kg of water - GENESIS DM PLUS cement based powder requiring addition of 0,22-0,24 l/kg of water - GENESIS DM PLUS WHITE cement based powder requiring addition of 0,22-0,24 l/kg of water - GENESIS paste (acrylic binder) requiring addition of cement CEM I 32,5 R in proportion 1:1	3,5 to 4,0 (powder) 3,5 to 4,0 (powder) 3,5 to 4,0 (powder) 3,5 to 4,0 (ready paste)	- - - -
	• Supplementary mechanical fixings: Plastic anchors covered by relevant ETA according to ETAG 014	-	-

Table 1. cont.

	Components	Coverage (kg/m ²)	Thickness (mm)
Base coat	<ul style="list-style-type: none"> GENESIS paste (acrylic binder) requiring addition of cement CEM I 32,5R in proportion 1:1 	3,0 to 3,5 (ready paste)	2,0 to 3,0
Reinforce- ment	<ul style="list-style-type: none"> Standard glass fibre meshes <ul style="list-style-type: none"> - STANDARD PLUS 150 - STANDARD PLUS 160/SSA-1363 F+ - STANDARD PLUS 200 - PANZER 260 <i>Products characteristics - see Annex 2</i>	- - - -	- - - -
Key coat	<ul style="list-style-type: none"> COLOR PRIME/COLOR PRIME S ready to use liquid to be used obligatory with acrylic, silicone and siloxane finishing coats and optionally with SKIMIT ULTRA TEX PG ready to use liquid to be used obligatory with PMR and mosaic finishing coats applied by ULTRA TEX pattern DEMANDIT ready to use liquid, alternative for COLOR PRIME/COLOR PRIME S with SKIMIT 	0,20 to 0,30 0,35 to 0,40 0,35 to 0,40	- - -
Finishing coats	<ul style="list-style-type: none"> Mosaic finishing coats. Ready to use pastes - acrylic binder: Ameristone particles size: 0,8 to 2,5 mm Ameristone T/Terraneo particles size: 0,8 to 2,5 mm Stonemist particles size: 0,6 to 0,8 mm Stonemist T particles size: 0,6 to 0,8 mm Mosaic finishing coats applied by ULTRA TEX pattern. Ready to use pastes - acrylic binder: Ameristone particles size: 0,8 to 2,5 mm Ameristone T/Terraneo particles size: 0,8 to 2,5 mm 	3,9 to 4,5 3,0 to 3,5 2,8 to 3,5 2,6 to 3,3 3,9 to 4,5 3,0 to 3,5	Regulated by particles size

Table 1. cont.

	Components	Coverage (kg/m ²)	Thickness (mm)
Finishing coats	Stonemist particles size: 0,6 to 0,8 mm	2,8 to 3,5	Regulated by particles size
	Stonemist T particles size: 0,6 to 0,8 mm	2,6 to 3,3	
	• Acrylic finishing coats PMR. Ready to use pastes - acrylic binder:		
	Limestone PMR structure - max. particles size: ribbed - 0,6 mm	1,0 to 1,2	Regulated by particles size
	Freestyle PMR structure - max. particles size: floated - 0,6 mm (into any shaping)	1,2 to 2,0	1,2 to 2,0
	Sandblast PMR structure - max. particles size: floated - 1,2 mm	2,2 to 2,5	
	Sandpebble Fine PMR structure - max. particles size: floated - 1,2 mm	2,0 to 2,1	
	Sandpebble PMR structure - max. particles size: floated - 1,6 mm	2,6 to 2,8	
	Sandpebble 2 PMR structure - max. particles size: floated - 2,0 mm	3,3 to 3,8	
	Quarzputz PMR structure - max. particles size: ribbed - 2,0 mm	2,6 to 2,8	Regulated by particles size
	SKIMIT (smoothing coat) paste used with GENESIS or optionally with acrylic PMR finishing coats	0,8 to 1,0	
	• Acrylic finishing coats PMR applied by ULTRA TEX pattern. Ready to use pastes - acrylic binder:		
	Limestone PMR structure - max. particles size: ribbed - 0,6 mm	1,0 to 1,2	
	ULTRA TEX PMR/Custom Brick structure - max. particles size: floated - 0,6 mm	1,0 to 1,2	
	Sandpebble Fine PMR structure - max. particles size: floated - 1,2 mm	2,0 to 2,1	

Table 1. cont.

	Components	Coverage (kg/m ²)	Thickness (mm)
Finishing coats	Quarzputz PMR structure - max. particles size: ribbed - 2,0 mm	2,6 to 2,8	Regulated by particles size
	• Acrylic finishing coats FD PMR. Ready to use pastes - acrylic binder:		
	Freestyle FD PMR structure - max. particles size: floated - 0,6 mm	1,2 to 2,0	1,2 to 2,0
	Sandblast FD PMR structure - max. particles size: floated - 1,2 mm	2,2 to 2,5	
	Sandpebble Fine FD PMR structure - max. particles size: floated - 1,2 mm	2,0 to 2,1	
	Sandpebble FD PMR structure - max. particles size: floated - 1,6 mm	2,6 to 2,8	
	Quarzputz FD PMR structure - max. particles size: ribbed - 2,0 mm	2,6 to 2,8	
	• Acrylic finishing coats Weatherlastic. Ready to use pastes - acrylic binder:		
	Weatherlastic Adobe structure - max. particles size: floated - 0,3 mm	1,7 to 1,9	Regulated by particles size
	Weatherlastic Sandpebble Fine structure - max. particles size: floated - 1,2 mm	2,0 to 2,1	
	Weatherlastic Sandpebble structure - max. particles size: ribbed - 1,6 mm	2,6 to 2,8	
	Weatherlastic Quarzputz structure - max. particles size: floated - 2,0 mm	2,6 to 2,8	
	• Silicon finishing coats TR. Ready to use pastes - silicon and acrylic binder:		
	Limestone TR structure - max. particles size: ribbed - 0,6 mm	1,0 to 1,2	
	Freestyle TR structure - max. particles size: floated - 0,6 mm	1,2 to 2,0	1,2 to 2,0

Table 1. cont.

	Components	Coverage (kg/m ²)	Thickness (mm)
Finishing coats	Sandblast TR structure - max. particles size: floated - 1,2 mm	2,2 to 2,5	Regulated by particles size
	Sandpebble Fine TR structure - max. particles size: floated - 1,2 mm	2,0 to 2,1	
	Sandpebble TR structure - max. particles size: floated - 1,6 mm	2,6 to 2,8	
	Sandpebble 2 TR structure - max. particles size: floated - 2,0 mm	3,3 to 3,8	
	Quarzputz TR structure - max. particles size: ribbed - 2,0 mm	2,6 to 2,8	
	• Siloxane finishing coats HDP. Ready to use pastes - siloxane and acrylic binder:		1,2 to 2,0
	Limestone HDP structure - max. particles size: ribbed - 0,6 mm	1,0 to 1,2	
	Freestyle HDP structure - max. particles size: floated - 0,6 mm	1,2 to 2,0	
	Sandblast HDP structure - max. particles size: floated - 1,2 mm	2,2 to 2,5	
	Sandpebble Fine HDP structure - max. particles size: floated - 1,2 mm	2,0 to 2,1	
Decorative coats	Sandpebble HDP structure - max. particles size: floated - 1,6 mm	2,6 to 2,8	Regulated by particles size
	Quarzputz HDP structure - max. particles size: ribbed - 2,0 mm	2,6 to 2,8	
	• TUSCAN GLAZE ready to use pigmented liquid to be used optionally with PMR finishing coats	0,15 to 0,20	-
	• ART GLAZE ready to use pigmented liquid to be used optionally with PMR finishing coats plus SKIMIT and optionally with DEMANDIT	0,10 to 0,20	-

Table 1. cont.

	Components	Coverage (kg/m ²)	Thickness (mm)
Decorative coats	<ul style="list-style-type: none"> • DEMANDIT ready to use pigmented liquid to be used as a second layer with SKIMIT 	0,35 to 0,40	-
	<ul style="list-style-type: none"> • DEMANDIT METALLIC/REFLECTIT ready to use pigmented liquid to be used obligatory with SKIMIT and COLOR PRIME/COLOR PRIME S systems or optionally with DEMANDIT 	0,35 to 0,40	-
Ancillary materials	<ul style="list-style-type: none"> • ULTRA TEX patterns Covered with glue cardboard forms for single use, ready to use to obtain brick or stone design effect, providing joint of 1 mm width and joints surface area less than 30% per 1 m² • According to ETAG 004 Remain under the manufacturer's responsibility 		

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 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. heat of combustion	Flame retardant content	Euroclass acc. to EN 13501-1
DRYVIT OUTSULATION E			
Adhesive	15,76 MJ/m ²	No flame retardant	C-s2, d0
EPS panels* density ≤ 20 kg/m ³	-		
Base coat	13,79 MJ/m ²		
Glass fibre mesh (excluding PANZER 260)	1,09 MJ/m ²		
Key coat	2,36 MJ/m ²		
Finishing coat (excluding SKIMIT)	10,05 MJ/m ²		
Adhesive	15,76 MJ/m ²	No flame retardant	B-s1, d0
EPS panels* density ≤ 20 kg/m ³	-		
Base coat	13,79 MJ/m ²		
Glass fibre mesh (excluding PANZER 260)	1,09 MJ/m ²		
Finishing coat SKIMIT	1,71 MJ/m ²		
Key coat	2,36 MJ/m ²		
Decorative coat	8,95 MJ/m ²		
Remaining configurations including components: - PANZER 260 - TUSCAN GLAZE - ART GLAZE	-	-	No performance assessed

*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 GENESIS:
 - Water absorption after 1 hour < 1 kg/m²;
 - Water absorption after 24 hours < 0,5 kg/m².
- Rendering system: Tables 3 ÷ 5.

Table 3.

		Water absorption after 24 hours	
		<0,5 kg/m ²	≥0,5 kg/m ²
Rendering system: Base coat <u>GENESIS</u> + key coat COLOR PRIME/COLOR PRIME S + finishing coat indicated hereafter:	Mosaic finishing coats	x	-
	Acrylic finishing coats PMR	x	-
	Acrylic finishing coats FD PMR	x	-
	Acrylic finishing coats Weatherlastic	x	-
	Silicone finishing coats TR	x	-
	Siloxane finishing coats HDP	x	-

Table 4.

		Water absorption after 24 hours	
		<0,5 kg/m ²	≥0,5 kg/m ²
Rendering system: Base coat <u>GENESIS</u> + key coat ULTRA TEX PG + finishing coat applied by ULTRA TEX pattern indicated hereafter:	Mosaic finishing coats	x	-
	Acrylic finishing coats PMR	x	-

Table 5.

		Water absorption after 24 hours	
		<0,5 kg/m ²	≥0,5 kg/m ²
Rendering system: Base coat <u>GENESIS</u> + finishing coat + decorative coat indicated hereafter:	SKIMIT + COLOR PRIME/ COLOR PRIME S + DEMANDIT METALLIC/REFLECTIT	x	-
	SKIMIT + DEMANDIT	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.

3.2.3. Impact resistance (ETAG 004: clause 5.1.3.3)

Table 6.

		Single layer of standard mesh	
		STANDARD PLUS 150	Other meshes listed in Annex 2
Rendering system: Base coat <u>GENESIS</u> + key coat COLOR PRIME/COLOR PRIME S + finishing coat indicated hereafter:	Mosaic finishing coats	Category I	Category I
	Acrylic finishing coats PMR	Category II	Category I
	Acrylic finishing coats FD PMR	Category III	Category III
	Acrylic finishing coats Weatherlastic	Category II	Category II
	Silicone finishing coats TR	Category II	Category II
	Siloxane finishing coats HDP	Category III	Category II

Table 7.

		Single layer of standard mesh	
		STANDARD PLUS 150	Other meshes listed in Annex 2
Rendering system: Base coat <u>GENESIS</u> + key coat ULTRA TEX PG + finishing coat applied by ULTRA TEX pattern indicated hereafter:	Mosaic finishing coats	Category II	Category II
	Acrylic finishing coats PMR	Category II	Category I

Table 8.

		Single layer of standard mesh	
		STANDARD PLUS 150	Other meshes listed in Annex 2
Rendering system: Base coat <u>GENESIS</u> + finishing coat + decorative coat indicated hereafter	SKIMIT + COLOR PRIME/ COLOR PRIME S + DEMANDIT METALLIC/REFLECTIT	Category III	Category III
	SKIMIT + DEMANDIT	Category II	Category II

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

Table 9.

		Equivalent air thickness s_d
Rendering system: Base coat <u>GENESIS</u> + key coat COLOR PRIME/COLOR PRIME S + finishing coat indicated hereafter + relevant decorative coat:	Mosaic finishing coats*	≤ 2 m, result: 0,43 m
	Acrylic finishing coats PMR + - TUSCAN GLAZE - SKIMIT + ART GLAZE	≤ 2 m, results: 0,49 m 0,46 m
	Acrylic finishing coats FD PMR*	≤ 2 m, result: 0,48 m
	Acrylic finishing coats Weatherlastic*	≤ 2 m, result: 0,51 m
	Silicone finishing coats TR*	≤ 2 m, result: 0,45 m
	Siloxane finishing coats HDP*	≤ 2 m, result: 0,41 m

*decorative coat not used

Table 10.

		Equivalent air thickness s_d
Rendering system: Base coat <u>GENESIS</u> + key coat ULTRA TEX PG + finishing coat applied by ULTRA TEX pattern indicated hereafter:	Mosaic finishing coats	≤ 2 m, result: 0,50 m
	Acrylic finishing coats PMR	≤ 2 m, result: 0,55 m

Table 11.

		Equivalent air thickness s_d
Rendering system: Base coat <u>GENESIS</u> + finishing coat indicated hereafter + decorative coat indicated hereafter:	SKIMIT + COLOR PRIME/ COLOR PRIME S + DEMANDIT METALLIC/REFLECTIT	≤ 2 m, result: 0,46 m
	SKIMIT + DEMANDIT + DEMANDIT METALLIC/REFLECTIT	≤ 2 m, result: 0,49 m
	SKIMIT + DEMANDIT + ART GLAZE	≤ 2 m, result: 0,43 m

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)

Initial state and after hygrothermal cycles:

- Bond strength between base coat GENESIS 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 12.

	Initial state	48 h immersion in water + 2 hours 23°C/50% RH	48 h immersion in water + 7 days 23°C/50% RH
DRYHESIVE PLUS	≥ 0,25 MPa	≥ 0,08 MPa	≥ 0,25 MPa
GENESIS DM PLUS			
GENESIS DM PLUS WHITE			
GENESIS			

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

Table 13.

	Initial state	48 h immersion in water + 2 hours 23°C/50% RH	48 h immersion in water + 7 days 23°C/50% RH
DRYHESIVE PLUS minimal bonded surface area S: 38 %	≥ 0,08 MPa	≥ 0,03 MPa	≥ 0,08 MPa
GENESIS DM PLUS minimal bonded surface area S: 30%			
GENESIS DM PLUS WHITE minimal bonded surface area S: 27 %			
GENESIS minimal bonded surface area S: 30 %			

3.3.4. Bond strength after ageing (ETAG 004: clause 5.1.7.1)

Table 14.

	After hygrothermal cycles
Rendering system: Base coat <u>GENESIS</u> + key coat COLOR PRIME/COLOR PRIME S + finishing coat indicated hereafter:	Mosaic finishing coats
	Acrylic finishing coats PMR
	Acrylic finishing coats FD PMR
	Acrylic finishing coats Weatherlastic
	Silicone finishing coats TR
	Siloxane finishing coats HDP
	≥ 0,08 MPa
	≥ 0,08 MPa
	≥ 0,08 MPa
	≥ 0,08 MPa
	≥ 0,08 MPa
	≥ 0,08 MPa

Table 15.

		After hygrothermal cycles
Rendering system: Base coat <u>GENESIS</u> + key coat ULTRA TEX PG + finishing coat applied by ULTRA TEX pattern indicated hereafter:	Mosaic finishing coats	≥ 0,08 MPa
	Acrylic finishing coats PMR	≥ 0,08 MPa

Table 16.

		After hygrothermal cycles
Rendering system: Base coat <u>GENESIS</u> + finishing coat + decorative coat indicated hereafter:	SKIMIT + COLOR PRIME/ COLOR PRIME S + DEMANDIT METALLIC/REFLECTIT	≥ 0,08 MPa
	SKIMIT + DEMANDIT	≥ 0,08 MPa

3.3.5. 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/(m²·K)

U_c : global (corrected) thermal transmittance of the covered wall (W/ (m²·K))

n : number of anchors (through insulation product) per 1 m²

- χ_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/ (m²·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 (m²·K)/W
- R_{render} : thermal resistance of the render (about 0,02 in (m²·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 (m²·K)/W
- R_{se} : external superficial thermal resistance in (m²·K)/W
- R_{si} : internal superficial thermal resistance in (m²·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 17.

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 ⁽¹⁾ , A2 ⁽¹⁾ , B ⁽¹⁾ , C ⁽¹⁾	1
		A1 ⁽²⁾ , A2 ⁽²⁾ , B ⁽²⁾ , C ⁽²⁾ , D, E, (A1 to E) ⁽³⁾ , 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 06.02.2017

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

		Panels of expanded polystyrene EPS
Reaction to fire / EN 13501-1		Euroclass – E max. density: 20 kg/m ³
Thermal resistance		Defined in the CE marking in reference to EN 13163 (m ² ·K)/W
Thickness / EN 823		± 1 mm [EN 13163 - T(1)]
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		5 mm* [EN 13163 - P(5)]
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]
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]
Shear strength / EN 12090 - EN 13163		≥ 35 kPa

*better performances are allowed

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
STANDARD PLUS 150	Mass per unit area: 150 g/m ² Mesh size: 3,6 x 4,3 mm	≥ 20	≥ 50
STANDARD PLUS 160/SSA-1363 F+	Mass per unit area: 160 g/m ² Mesh size: 3,6 x 3,8 mm	≥ 20	≥ 50
STANDARD PLUS 200	Mass per unit area: 200 g/m ² Mesh size: 4,1 x 3,5 mm	≥ 20	≥ 50
PANZER 260*	Mass per unit area: 260 g/m ² Mesh size: 6,9 x 6,8 mm	≥ 20	≥ 50

*used with one of STANDARD PLUS meshes