



## Designated according to The Construction Products (Amendment etc.) (EU Exit) Regulations 2020

UK Technical Assessment	UKTA-0836-22/6376 of 02/11/2022
Technical Assessment Body issuing the UK Technical Assessment:	British Board of Agrément
Trade name of the construction product:	TURBO, TURBO-S, TURBO-SA, TURBO-SO, TURBO-SO PROTECT, TURBO-SISI, TURBO-MAX PROTECT, TURBO-ECO PROTECT
Product family to which the construction product belongs:	Product Area Code: 04  External Thermal Insulation Composite Systems (ETICS) with rendering insulation product – expanded polystyrene (EPS)
Manufacturer:	EWI Pro Insulation Systems Ltd Unit 1&2 King Georges Trading Estate Davis Road Chessington, KT9 1TT
Manufacturing plant(s):	KREISEL – Technika Budowlana Sp z o.o.  Ul. Sz. Szeregów 23, 60-462 Poznań  Ul. Bory 41a, 42-504 Bedzin  Ul. 11 listopada 29, 97-225 Ujazd  Kaliska 141, 87-840 Lubień Kujawski Poland
This UK Technical Assessment contains:	xx pages including 4 Annexes
This UK Technical Assessment is issued in accordance with The Construction Products (Amendment etc.) (EU Exit) Regulations 2020 on the basis of:	UKAD 040083-00-0404: <i>External thermal insulation composite systems (ETICS) with renderings</i>

**Communication of this UK Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may be made with the written consent of the issuing British Board of Agrément. Any partial reproduction must be identified as such.**

## 1. Technical description of the product

This product is an EWIS (External Wall Insulation System) with rendering - a kit comprising components which are factory-produced by the manufacturer or component suppliers. The EWIS manufacturer is ultimately responsible for all components of the EWIS specified in this UKTA.

The EWIS kit comprises a prefabricated insulation product of expanded polystyrene (EPS) to be bonded or 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 or more layers (site applied), one of which contains reinforcement.

The rendering system is applied directly to the insulating boards, without any air gap or disconnecting layer.

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

Table 1: Composition of the EWIS

	Components	Coverage (kg.m <sup>-2</sup> )	Thickness (mm)
Insulation products with associated methods of fixing	<b>Bonded EWIS (fully or partially bonded) with or without supplementary anchors. National application documents shall be taken into account).</b>		
	<ul style="list-style-type: none"> <li>Insulation product: EPS according to EN 13163</li> </ul> <p>see 0 for product characteristics</p>	/	50 to 300
	Adhesives: min. bonded surface: 40 % <ul style="list-style-type: none"> <li>LEPSTYR 210 / LEPSTYR 210 EXTRA / LEPSTYR ELASTYCZNY 210</li> <li>(cement based powder requiring addition of water 0.25 l/kg)</li> <li>STYRLEP-B 225</li> <li>cement based powder requiring addition of water 0.28 l/kg</li> <li>STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220</li> <li>cement based powder requiring addition of water 0.25 l/kg</li> </ul>	4.0 to 5.0 dry matter	/

	Components	Coverage (kg.m <sup>-2</sup> )	Thickness (mm)
Insulation products with associated methods of fixing	<b>Mechanically fixed EWIS with anchors and supplementary adhesive (see Cl. 0 and 0 for possible associations EPS/anchors) National application documents shall be taken into account.</b>		
	<ul style="list-style-type: none"> <li>Insulation product: EPS according to EN 13163: 2012 see 0 for product characteristics</li> </ul>	/	50 - 300
	<ul style="list-style-type: none"> <li>Supplementary adhesives: min. bonded surface: 30 %</li> </ul>		
	<ul style="list-style-type: none"> <li>- LEPSTYR 210 / LEPSTYR 210 EXTRA / LEPSTYR ELASTYCZNY 210</li> <li>- (cement based powder requiring addition of water 0.25 l/kg)</li> <li>- STYRLEP-B 225</li> <li>- cement based powder requiring addition of water 0.28 l/kg</li> <li>- STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220</li> <li>- cement based powder requiring addition of water 0.25 l/kg</li> </ul>	4.0 to 5.0 dry matter	/
	<ul style="list-style-type: none"> <li>• Anchors see 0 for individual product characteristics.</li> <li>• In addition to the following list. Other anchors can be used provided that they comply with the requirements introduced in the 0.</li> </ul>		
	<ul style="list-style-type: none"> <li>- Ejotherm NT U plastic nailed-in anchors</li> <li>- Ejotherm STR U, STR U 2G plastic screw-in anchors</li> <li>- Ejotherm NTK U plastic nailed-in anchors</li> <li>- EJOT H1 eco, EJOT H4 eco plastic nailed-in anchors</li> <li>- EJOT H3 plastic nailed-in anchors</li> <li>- KOELNER KI-10, KI-10PA, KI-10M plastic nailed-in anchors</li> <li>- KOELNER KI-10N, KI-10NS plastic nailed-in anchors</li> <li>- KOELNER TFIX-8M plastic nailed-in anchors</li> <li>- KOELNER TFIX-8S a TFIX-8ST plastic screw-in anchors</li> <li>- KOELNER TFIX-8P plastic nailed-in anchors</li> </ul>	ETA-05/0009 ETA-04/0023 ETA-07/0026 ETA-11/0192 ETA-14/0130 ETA-07/0291 ETA 07/0221 ETA-07/0336 ETA-11/0144 ETA-13/0845	

	Components	Coverage (kg.m <sup>-2</sup> )	Thickness (mm)
Insulation products with associated methods of fixing	- WKRET-MET LFN ø 10, LFM ø 10 plastic nailed-in anchors	ETA-06/0105	
	- WKRET - MET LFN ø 8, LFM ø 8 plastic nailed-in anchors	ETA-06/0080	
	- WKRET-MET LTX ø 10, LMX ø 10 plastic nailed-in anchors	ETA-08/0172	
	- WKRET-MET LTX ø 8, LMX ø 8 plastic nailed-in anchors	ETA-09/0001	
	- FIXPLUG ø 8, FIXPLUG ø 10 plastic nailed-in anchors	ETA-11/0231	
	- WKTHERM ø 8 plastic screw-in anchors	ETA-11/0232	
	- Klimas Wkret-med screw-in plug eco-drive, eco-drive S plastic screw-in anchors	ETA-13/0107	
	- WKTHERM S plastic nailed-in anchors	ETA-13/0724	
	- KEW TSD 8 plastic nailed-in anchors	ETA-04/0030	
	- KEW TSD, TSDL plastic screw-in anchors	ETA-08/0314	
	- KEW TSD-V plastic nailed-in anchors	ETA-08/0315	
	- KEW TSDL-V plastic nailed-in anchors	ETA-12/0148	
	- KEW TSD-V KN plastic nailed-in anchors	ETA-13/0075	
	- fischer TERMOZ 8U, 8UZ plastic screw-in anchors	ETA-02/0019	
	- fischer TERMOZ 8N, 8NZ plastic screw-in anchors	ETA-03/0019	
	- Hilti-Dämmstoff-Befestigungselement XI-FV plastic gun nailed-in anchors	ETA-03/0004	
	- Hilti SX-FV plastic screw-in anchors	ETA-03/0005	
	- Hilti SD-FV8 plastic nailed-in anchors	ETA-03/0028	
	- Hilti WDVS-Schlagdübel SDK-FV 8 plastic nailed-in anchors	ETA-07/0302	
	- Hilti WDVS- Schraubdübel D-FV, D-FV T plastic screw-in anchors	ETA-05/0039	

	Components	Coverage (kg.m <sup>-2</sup> )	Thickness (mm)
Base coat	<ul style="list-style-type: none"> <li>• STYRLEP 220/ STYRLEP 220 EXTRA/ STYRLEP ELASTYCZNY 220 cement based powder requiring addition of water 0.25 l/kg</li> <li>• STYRLEP-B 225 cement based powder requiring addition of water 0.28 l/kg</li> </ul>	<p>4.0 - 5.0 dry matter</p> <p>for double reinforcement: 6.0 - 7.0 dry matter</p>	<p>3 - 5</p> <p>for double reinforcement: 5</p>
Reinforcement	<ul style="list-style-type: none"> <li>• Standard mesh applied in one or two layers see 0 for product characteristics: <ul style="list-style-type: none"> <li>- R 117 A101 / AKE 145</li> <li>- R 131 A101 / AKE 160</li> <li>- R 167 A101</li> <li>- REDNET CB330 NOVA</li> <li>- SSA-1363-4 SM</li> </ul> </li> <li>• Armour mesh applied in a single layer see 0 for product characteristics: <ul style="list-style-type: none"> <li>- REDNET CB330 NOVA</li> </ul> </li> </ul>	<p>/</p> <p>/</p> <p>/</p> <p>/</p> <p>/</p> <p>/</p>	<p>/</p> <p>/</p> <p>/</p> <p>/</p> <p>/</p> <p>/</p>
Key coat	<ul style="list-style-type: none"> <li>• Key coats shall always be used with STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220</li> <li>• For STYRLEP-B 225 is use of the key coat voluntary. <ul style="list-style-type: none"> <li>TYNKOLIT-T 330 <ul style="list-style-type: none"> <li>- to be used with mineral and acrylic binder finishing coats</li> <li>- pigmented ready to use liquid</li> </ul> </li> <li>TYNKOLIT-SA 331 <ul style="list-style-type: none"> <li>- to be used with silicate binder finishing coats</li> <li>- pigmented ready to use liquid</li> </ul> </li> <li>TYNKOLIT-SO 332 <ul style="list-style-type: none"> <li>- to be used with silicone binder finishing coats</li> <li>- pigmented ready to use liquid</li> </ul> </li> <li>TYNKOLIT-SISI 333 <ul style="list-style-type: none"> <li>- to be used with silicate-silicone binder finishing coats</li> <li>- pigmented ready to use liquid</li> </ul> </li> <li>TYNKOLIT-U 340 <ul style="list-style-type: none"> <li>- for all finishing coats listed in ETA</li> <li>- pigmented ready to use liquid</li> </ul> </li> </ul> </li> </ul>	<p>0.2 – 0.3</p>	<p>/</p>

	<b>Components</b>	<b>Coverage (kg.m<sup>-2</sup>)</b>	<b>Thickness (mm)</b>
Finishing coats	<ul style="list-style-type: none"> <li>• Powder requiring addition of 0.25 l/kg of water - mineral binder:               <ul style="list-style-type: none"> <li>- POZTYNK-SZ 062 Kornputz (max. particle size 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- POZTYNK-SZ 061 Kratzputz (max. particle size 1.0; 2.0; 3.0 mm)</li> </ul> </li> </ul>	<p>2.1 – 4.3 regulated by particle size</p> <p>2.0 – 4.1 regulated by particle size</p>	1.0 – 3.0 regulated by particle size
	<ul style="list-style-type: none"> <li>• Ready to use paste - acrylic binder:               <ul style="list-style-type: none"> <li>- AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> </ul> </li> </ul>	<p>0.9 – 5.0 regulated by particle size</p> <p>0.9 – 3.7 regulated by particle size</p>	
	<ul style="list-style-type: none"> <li>• Ready to use paste - silicone binder:               <ul style="list-style-type: none"> <li>- SILIKOTYNK 030 Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- SILIKOTYNK 030 Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- SILIKON Protect 031 Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- SILIKON Protect 031 Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> </ul> </li> </ul>	<p>0.9 – 5.0 regulated by particle size</p> <p>1.0 – 3.7 regulated by particle size</p> <p>0.9 – 5.0 regulated by particle size</p> <p>0.9 – 3.7 regulated by particle size</p>	0.5 – 3.0 regulated by particle size
	<ul style="list-style-type: none"> <li>• Ready to use paste – silicate binder:               <ul style="list-style-type: none"> <li>- SILIKATYNK 020 Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- SILIKATYNK 020 Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> </ul> </li> </ul>	<p>0.9 – 5.0 regulated by particle size</p> <p>0.9 – 3.7 regulated by particle size</p>	
	<ul style="list-style-type: none"> <li>• Ready to use paste – silicate and silicone binder:               <ul style="list-style-type: none"> <li>- SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> </ul> </li> </ul>	<p>0.9 – 5.0 regulated by particle size</p> <p>0.9 – 3.7 regulated by particle size</p>	

	Components	Coverage (kg.m <sup>-2</sup> )	Thickness (mm)
Finishing coats	- ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)	0.9 – 5.0 regulated by particle size	0.5 – 3.0 regulated by particle size
	- ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)	0.9 – 3.7 regulated by particle size	
	<ul style="list-style-type: none"> <li>• ready to use paste – silicone - polyurethane binder:</li> <li>- MAX PROTECT 042 Kornputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> <li>- MAX PROTECT 042 Kratzputz (particle size 0.5; 1.0; 1.5; 2.0; 3.0 mm)</li> </ul>	0.9 – 5.0 regulated by particle size  0.9 – 3.7 regulated by particle size	0.5 – 3.0 regulated by particle size
Protection coats for mineral finishing coats	<ul style="list-style-type: none"> <li>• One of the protection coats shall always be used with mineral binder finishing coats (POZTYNK SZ)</li> <li>- FARBA AKRYLOWA 001 ready to use liquid</li> <li>- FARBA SILIKATOWA 002 ready to use liquid</li> <li>- FARBA SILIKONOWA 003 ready to use liquid</li> <li>- FARBA SISI 004 ready to use liquid</li> <li>- FARBA NANOTECH 006 ready to use liquid</li> <li>- BIOFARBA 008 ready to use liquid</li> <li>- FARBA ECO 009 ready to use liquid</li> <li>- FARBA EGALIZACYJNA 005 ready to use liquid</li> </ul>	0.15 – 0.25 l/m <sup>2</sup> regulated by particle size	/
Ancillary materials	Remain under the manufacturer's responsibility		

## 2. Specification of the intended use(s) in accordance with the applicable UK Assessment Document (hereinafter UKAD)

### 2.1 Intended use

This EWIS is intended for use as external insulation of buildings' walls. The walls are constructed of masonry (bricks, blocks, stones) or concrete (cast on site or as prefabricated panels). The characteristics of the walls shall be verified prior to use of the EWIS, especially regarding conditions for reaction to fire classification and for fixing of the EWIS either by bonding or mechanically. The EWIS is designed to give the wall to which it is applied satisfactory thermal insulation.

The EWIS is made of non-loadbearing 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 EWIS 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 EWIS is not intended to ensure the airtightness of the building structure.

The choice of the method of fixing depends on the characteristics of the substrate, which may need preparation (see cl. 7.2.1 of the ETAG 004) and shall be done in accordance with the national instructions.

The EWIS belong to Category S/W2, according to EOTA Technical Report No 034.

## **2.2 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 EWIS 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 UKAD 040083-00-0404, which summarize how information introduced in the UKTA and related documents is intended to be used in the construction process and gives advice to all parties interested when normative documents are missing.

## **2.3 Packaging, 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(s) to ensure that this information is made known to the concerned people.

## **2.4 Use, maintenance and repair**

The finishing coat shall normally be maintained to fully preserve the EWIS performance.

Maintenance includes at least:

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

Necessary repairs should be performed as soon as the need has been identified.

It is important to be able to carry out maintenance as far as possible using readily available products and equipment, without spoiling appearance. Only products which are compatible with the EWIS shall be used.

The information on use, maintenance and repair is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer(s) to ensure that this information is made known to the concerned people.

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

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

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

Refer to BWR3



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

Table 2: Reaction to Fire

Configuration	Organic content / Heat of combustion	Flame retardant content	Euroclass according to EN 13501-1
Adhesive	max 0.66 MJ.kg <sup>-1</sup>	No flame retardant	
Boards of expanded polystyrene EPS Maximal density of 18 kg/m <sup>3</sup>	-	In quantity ensuring Euroclass E according to EN 13501-1	B – s1, d0
Base coat render	max 0.31 MJ.kg <sup>-1</sup>		
Glass fibre mesh	max 8.48 MJ.kg <sup>-1</sup>		
Finishing coats	max 2.27MJ.kg <sup>-1</sup>	No flame retardant	
Protection coat for the mineral finishing coats	max 5.34MJ.kg <sup>-1</sup>		

### 3.3 Health, hygiene and the environment (BWR 3)

#### 3.3.1 Water absorption

- Base coats STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220:  
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: see Table 3

Table 3

		Water absorption after 24 hours	
		< 0.5 kg.m <sup>-2</sup>	≥ 0.5 kg.m <sup>-2</sup>
Rendering system: Base coat STYRLEP 220/ STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220 + finishing coats as indicated here with adequate key coat:	POZTYNK - SZ 062 Kornputz POZTYNK - SZ 061 Kratzputz	FARBA AKRYLOWA 001	
		FARBA SILIKATOWA 002	
		FARBA SILIKONOWA 003/ FARBA SILIKONOWA 003 California/ FARBA NANOTECH 006/ BIOFARBA 008	X
		FARBA SISI 004	
		FARBA ECO 009	
		FARBA EGALIZACYJNA 005	
		AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz	X
	SILIKOTYNK 030 Kornputz SILIKOTYNK 030 Kratzputz	X	
	SILIKON Protect 031 Kornputz SILIKON Protect 031 Kratzputz	X	

	SILIKATYNK 020 Kornputz SILIKATYNK 020 Kratzputz	X	
	SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz	X	
	ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz	X	
	MAX PROTECT 042 Kornputz MAX PROTECT 042 Kratzputz	X	

- Base coat STYRLEP-B 225  
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: See Table 4

Table 4		Water absorption after 24 hours		
		< 0.5 kg.m <sup>-2</sup>	≥ 0.5 kg.m <sup>-2</sup>	
Rendering system: Base coat STYRLEP-B 225 + finishing coats as indicated here with or without adequate key coat:	POZTYNK - SZ 062 Kornputz	FARBA AKRYLOWA 001	X	
		FARBA SILIKATOWA 002		
	POZTYNK - SZ 061 Kratzputz	FARBA SILIKONOWA 003/ FARBA SILIKONOWA 003 California/ FARBA NANOTECH 006		
		BIOFARBA 008		
		FARBA SISI 004		
		FARBA ECO 009		
		FARBA EGALIZACYJNA 005		
	AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz		X	
		SILIKOTYNK 030 Kornputz SILIKOTYNK 030 Kratzputz	X	
	SILIKON Protect 031 Kornputz SILIKON Protect 031 Kratzputz	X		
	SILIKATYNK 020 Kornputz SILIKATYNK 020 Kratzputz	X		
	SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz	X		
	ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz	X		
	MAX PROTECT 042 Kornputz MAX PROTECT 042 Kratzputz	X		

### 3.3.2 Watertightness

#### 3.3.2.1 Hygrothermal behaviour

Pass (without defects).

#### 3.3.2.2 Freeze-thaw behaviour

Freeze-thaw resistant - according to the water absorption test result.

### 3.3.3 Impact resistance

Table 5

Render coating: base coat <b>STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220 STYRLEP-B 225</b> + reinforcement and finishing coats listed hereafter:	Single standard mesh	Double standard mesh	Single armour layer
POZTYNK - SZ 062 Kornputz + all kinds of protection coats POZTYNK - SZ 061 Kratzputz + all kinds of protection coats	Category III	Category I	Category II
AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz	Category II	Category I	Category I
SILIKOTYNK 030 Kornputz SILIKOTYNK 030 Kratzputz			
SILIKON Protect 031 Kornputz SILIKON Protect 031 Kratzputz			
SILIKATYNK 020 Kornputz SILIKATYNK 020 Kratzputz	Category III	Category II	Category I
SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz	Category II	Category I	Category I
ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz	Category II	Category I	Category I
MAX PROTECT 042 Kornputz MAX PROTECT 042 Kratzputz	Category II	Category I	Category I

### 3.3.4 Water vapour permeability

Table 6

<b>Rendering system:</b> base coat <b>STYRLEP 220/ STYRLEP 220 EXTRA/ STYRLEP ELASTYCZNY 220</b> + reinforcement and finishing coats with adequate key coats indicated hereafter	Equivalent air layer thickness $s_d$	
	Single standard mesh	Double standard mesh or single armour mesh
POZTYNK - SZ 062 Kornputz + all kinds of protection coats POZTYNK - SZ 061 Kratzputz + all kinds of protection coats	$\leq 0.26$ m	$\leq 0.26$ m
AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz	$\leq 0.36$ m	$\leq 0.44$ m
SILIKOTYNK 030 Kornputz SILIKOTYNK 030 Kratzputz	$\leq 0.37$ m	$\leq 0.47$ m
SILIKON Protect 031 Kornputz SILIKON Protect 031 Kratzputz	$\leq 0.19$ m	$\leq 0.20$ m
SILIKATYNK 020 Kornputz SILIKATYNK 020 Kratzputz	$\leq 0.26$ m	$\leq 0.29$ m
SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz	$\leq 0.35$ m	$\leq 0.38$ m
ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz	$\leq 0.35$ m	$\leq 0.38$ m
MAX PROTECT 042 Kornputz MAX PROTECT 042 Kratzputz	$\leq 0.33$ m	$\leq 0.35$ m

Table 7

<b>Rendering system:</b> base coat <b>STYRLEP-B 225</b> + reinforcement and finishing coats with adequate key coats indicated hereafter	<b>Equivalent air layer thickness <math>s_d</math></b>	
	<b>Single standard mesh</b>	<b>Double standard mesh or single armour mesh</b>
POZTYNK - SZ 062 Kornputz + all kinds of protection coats POZTYNK - SZ 061 Kratzputz + all kinds of protection coats	$\leq 0.27$ m	$\leq 0.27$ m
AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz	$\leq 0.35$ m	$\leq 0.48$ m
SILIKOTYNK 030 Kornputz SILIKOTYNK 030 Kratzputz	$\leq 0.38$ m	$\leq 0.46$ m
SILIKON Protect 031 Kornputz SILIKON Protect 031 Kratzputz	$\leq 0.23$ m	$\leq 0.27$ m
SILIKATYNK 020 Kornputz SILIKATYNK 020 Kratzputz	$\leq 0.27$ m	$\leq 0.29$ m
SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz	$\leq 0.35$ m	$\leq 0.38$ m
ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz	$\leq 0.35$ m	$\leq 0.38$ m
MAX PROTECT 042 Kornputz MAX PROTECT 042 Kratzputz	$\leq 0.41$ m	$\leq 0.42$ m

Table 8

<b>Rendering system:</b> base coat <b>STYRLEP-B 225</b> + reinforcement and finishing coats without key coats indicated hereafter	<b>Equivalent air layer thickness <math>s_d</math></b>	
	<b>Single standard mesh</b>	<b>Double standard mesh or single armour mesh</b>
POZTYNK - SZ 062 Kornputz + all kinds of protection coats POZTYNK - SZ 061 Kratzputz + all kinds of protection coats	≤ 0.22 m	≤ 0.22 m
AKRYTYNK 010 Kornputz/ AKRYTYNK 010 California Kornputz AKRYTYNK 010 Kratzputz/ AKRYTYNK 010 California Kratzputz	≤ 0.35 m	≤ 0.45 m
SILIKOTYNK 030 Kornputz SILIKOTYNK 030 Kratzputz	≤ 0.35 m	≤ 0.45 m
SILIKON Protect 031 Kornputz SILIKON Protect 031 Kratzputz	≤ 0.22 m	≤ 0.27 m
SILIKATYNK 020 Kornputz SILIKATYNK 020 Kratzputz	≤ 0.26 m	≤ 0.27 m
SISITYNK 040 Kornputz/ SISITYNK 040 California Kornputz SISITYNK 040 Kratzputz/ SISITYNK 040 California Kratzputz	≤ 0.27 m	≤ 0.29 m
ECO TYNK 022 ECO PROTECT Kornputz/ ECO TYNK 022 ECO PROTECT California Kornputz ECO TYNK 022 ECO PROTECT Kratzputz/ ECO TYNK 022 ECO PROTECT California Kratzputz	≤ 0.27 m	≤ 0.29 m
MAX PROTECT 042 Kornputz MAX PROTECT 042 Kratzputz	≤ 0.36 m	≤ 0.38 m

### 3.3.5 Release of dangerous substances

Kit not assessed according to EOTA TR 034.

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

#### 3.4.1 Bond strength between base coat and insulation product

- STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220
- STYRLEP-B 225
- Initial state: bond strength  $\geq 0.080$  MPa and a cohesive failure in the insulation product
- After hygrothermal cycles: bond strength  $\geq 0.080$  MPa and a cohesive failure in the insulation product
- After freeze-thaw cycles: test not required (see Cl. 0 of this ETA)

#### 3.4.2 Bond strength between adhesive and substrate / insulation product

Table 9		Initial state	48 hrs. immersion in water + 2 hrs. 23°C/50% RH	48 hrs. immersion in water + 7 days 23°C/50% RH
LEPSTYR 210/ LEPSTYR 210 EXTRA/ LEPSTYR ELASTYCZNY 210	Concrete	$\geq 0.25$ MPa	$\geq 0.08$ MPa	$\geq 0.25$ MPa
STYRLEP-B 225, STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220	Expanded polystyrene (EPS)	$\geq 0.08$ MPa	$\geq 0.03$ MPa	$\geq 0.08$ MPa

#### 3.4.3 Bond strength after ageing

- After ageing by hygrothermal cycles: bond strength  $\geq 0.080$  MPa and a cohesive failure in the insulation product
- After 7 days of immersion in water and 7 days of drying:  $\geq 0.008$  MPa and cohesive failure in an insulation product
- After freeze-thaw cycles: test not required (see Cl. 0 of this ETA)

#### 3.4.4 Fixing strength

Test not required (no limitation of EWIS length).



3.4.5 Wind load resistance

Table 10

Anchor description	Trade name		See 0		Hilti D 8-FV (ETA 07/0288)
			Surface assembly	Countersunk assembly	Special assembly
	Plate diameter (mm)		60 or more	60 or more	60 or more
EPS	Thickness (mm)		≥ 50	≥ 100	≥ 100
	Tensile strength perpendicular to faces (kPa)		≥ 100	≥ 100	≥ 100
Maximal load	Anchors placed at the body of the insulation product	R <sub>panel</sub>	min. value: <b>0.42 kN</b>  mean value: <b>0.44 kN</b>	min. value: <b>0.53 kN</b>  mean value: <b>0.55 kN</b>	min. value: <b>0.50 kN</b>  mean value: <b>0.51 kN</b>
	Anchors placed at joints of the insulation product	R <sub>joint</sub>	min. value: <b>0.40 kN</b>  mean value: <b>0.42 kN</b>	min. value: <b>0.45 kN</b>  mean value: <b>0.48 kN</b>	min. value: <b>0.41 kN</b>  mean value: <b>0.44 N</b>

### 3.4.6 Render strip tensile test

- Base coat: **STYRLEP 220 / STYRLEP 220 EXTRA / STYRLEP ELASTYCZNY 220**

No performance assessed for glass fibre mesh **SSA-1363-4 SM**.

Table 11

		Glass fibre mesh <b>R 117 A101 / AKE 145</b> (manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.)				
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$				
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	$\leq 0.05/1$	$\leq 0.10/2$	$\leq 0.10/4$	$\leq 0.15/11$
	Sample No. 2	-	-	$\leq 0.05/3$	$\leq 0.10/6$	$\leq 0.15/11$
	Sample No. 3	-	-	$\leq 0.05/2$	$\leq 0.10/5$	$\leq 0.15/9$
Weft	Sample No. 1	-	-	$\leq 0.05/3$	$\leq 0.10/7$	$\leq 0.15/12$
	Sample No. 2	-	-	$\leq 0.05/3$	$\leq 0.10/8$	$\leq 0.15/13$
	Sample No. 3	-	-	$\leq 0.05/4$	$\leq 0.10/8$	$\leq 0.15/11$

Table 12

		Glass fibre mesh <b>R 131 A101 / AKE 160</b> (manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.)				
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$				
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	$\leq 0.05/3$	$\leq 0.10/5$	$\leq 0.15/9$
	Sample No. 2	-	-	$\leq 0.05/2$	$\leq 0.10/5$	$\leq 0.15/11$
	Sample No. 3	-	-	$\leq 0.05/2$	$\leq 0.10/6$	$\leq 0.15/12$
Weft	Sample No. 1	-	-	$\leq 0.05/4$	$\leq 0.10/8$	$\leq 0.15/12$
	Sample No. 2	-	-	$\leq 0.05/3$	$\leq 0.10/6$	$\leq 0.15/13$
	Sample No. 3	-	-	$\leq 0.05/4$	$\leq 0.05/6$	$\leq 0.10/12$

Table 13

		Glass fibre mesh <b>167 A101</b> (manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.)				
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$				
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	$\leq 0.05/3$	$\leq 0.10/7$	$\leq 0.15/11$
	Sample No. 2	-	-	$\leq 0.05/4$	$\leq 0.05/9$	$\leq 0.10/10$
	Sample No. 3	-	-	$\leq 0.05/3$	$\leq 0.10/7$	$\leq 0.15/12$
Weft	Sample No. 1	-	-	-	$\leq 0.05/5$	$\leq 0.10/12$
	Sample No. 2	-	-	-	$\leq 0.05/6$	$\leq 0.10/14$
	Sample No. 3	-	-	-	$\leq 0.05/5$	$\leq 0.10/14$

Table 14

		Glass fibre mesh <b>REDNET CB330 NOVA</b> (manufacturer: ASGLATEX Ohorn GmbH)					
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$					
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 1.5 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	-	$\leq 0.05/2$	$\leq 0.05/6$	$\leq 0.05/5$ $\leq 0.10/2$ $\leq 0.15/1$
	Sample No. 2	-	-	-	$\leq 0.05/1$	$\leq 0.05/5$ $\leq 0.10/1$ $\leq 0.15/1$	$\leq 0.05/5$ $\leq 0.10/2$ $\leq 0.15/2$
	Sample No. 3	-	-	-	$\leq 0.05/1$	$\leq 0.05/5$ $\leq 0.10/2$	$\leq 0.05/5$ $\leq 0.10/3$ $\leq 0.15/2$
Weft	Sample No. 1	-	-	-	-	$\leq 0.05/7$	$\leq 0.05/10$ $\leq 0.10/2$
	Sample No. 2	-	-	-	-	$\leq 0.05/5$	$\leq 0.05/7$ $\leq 0.10/3$
	Sample No. 3	-	-	-	-	$\leq 0.05/6$	$\leq 0.05/8$ $\leq 0.10/2$

The characteristic crack width  $W_{rk}$  [mm] at a render strain value of 0.8%, determined with simple Method II.

Table 15	Characteristic width of cracks $W_{rk}$ [mm] at render strain value of 0.8%	
	Warp direction	Weft direction
<b>R 117 A101 / AKE 145</b>	0.141	0.050
<b>R 131 A101 / AKE 160</b>	0.050	0.050
<b>R 167 A101</b>	0.050	0.000
<b>REDNET CB330 NOVA</b>	0.000	0.000

The width of cracks in reinforced base coat at 2% elongation is equal or lower than 0.15 mm.

- Base coat **STYRLEP-B 225**

No performance assessed for glass fibre mesh **SSA-1363-4 SM**.

Table 16		Glass fibre mesh <b>R 117 A101 / AKE 145</b> (manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.)				
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$				
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	$\leq 0.05/4$	$\leq 0.10/6$	$\leq 0.15/8$
	Sample No. 2	-	-	$\leq 0.05/5$	$\leq 0.10/6$	$\leq 0.15/10$
	Sample No. 3	-	-	$\leq 0.05/3$	$\leq 0.10/5$	$\leq 0.15/9$
Weft	Sample No. 1	-	$\leq 0.05/3$	$\leq 0.10/6$	$\leq 0.15/9$	$\leq 0.20/12$
	Sample No. 2	-	$\leq 0.05/3$	$\leq 0.10/7$	$\leq 0.15/8$	$\leq 0.20/13$
	Sample No. 3	-	$\leq 0.05/3$	$\leq 0.10/6$	$\leq 0.15/9$	$\leq 0.20/12$

Table 17

		Glass fibre mesh <b>R 131 A101 / AKE 160</b> (manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.)				
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$				
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	$\leq 0.05/4$	$\leq 0.10/8$	$\leq 0.15/12$
	Sample No. 2	-	-	$\leq 0.05/3$	$\leq 0.10/9$	$\leq 0.15/14$
	Sample No. 3	-	-	$\leq 0.05/3$	$\leq 0.10/7$	$\leq 0.15/12$
Weft	Sample No. 1	-	-	$\leq 0.05/5$	$\leq 0.10/8$	$\leq 0.15/11$
	Sample No. 2	-	-	$\leq 0.05/5$	$\leq 0.10/9$	$\leq 0.15/14$
	Sample No. 3	-	-	$\leq 0.05/4$	$\leq 0.10/9$	$\leq 0.15/13$

Table 18

		Glass fibre mesh <b>167 A101</b> (manufacturer: SAINT-GOBAIN ADFORS CZ s.r.o.)				
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$				
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	-	$\leq 0.05/7$	$\leq 0.10/10$
	Sample No. 2	-	-	-	$\leq 0.05/9$	$\leq 0.10/12$
	Sample No. 3	-	-	-	$\leq 0.05/8$	$\leq 0.10/11$
Weft	Sample No. 1	-	-	-	$\leq 0.05/7$	$\leq 0.10/13$
	Sample No. 2	-	-	-	$\leq 0.05/6$	$\leq 0.10/15$
	Sample No. 3	-	-	-	$\leq 0.05/9$	$\leq 0.10/14$

Table 19

		Glass fibre mesh <b>REDNET CB330 NOVA</b> (manufacturer: ASGLATEX Ohorn GmbH)					
		Crack width $W_{typ}$ [mm]/ number of cracks at relative elongation $\epsilon$					
Load direction		$\epsilon = 0.3 \%$	$\epsilon = 0.5 \%$	$\epsilon = 0.8 \%$	$\epsilon = 1.0 \%$	$\epsilon = 1.5 \%$	$\epsilon = 2.0 \%$
Warp	Sample No. 1	-	-	-	$\leq 0.05/1$	$\leq 0.05/4$	$\leq 0.05/4$ $\leq 0.10/1$
	Sample No. 2	-	-	-	-	$\leq 0.05/3$	$\leq 0.05/5$
	Sample No. 3	-	-	-	$\leq 0.05/1$	$\leq 0.05/4$	$\leq 0.05/5$ $\leq 0.10/1$
Weft	Sample No. 1	-	-	-	-	-	$\leq 0.05/3$
	Sample No. 2	-	-	-	-	-	$\leq 0.05/2$
	Sample No. 3	-	-	-	-	-	$\leq 0.05/3$

The characteristic crack width  $W_{rk}$  [mm] at a render strain value of 0.8%, determined with simple Method II.

Table 20

	Characteristic width of cracks $W_{rk}$ [mm] at render strain value of 0.8%	
	Warp direction	Weft direction
<b>R 117 A101 / AKE 145</b>	0.050	0.100
<b>R 131 A101 / AKE 160</b>	0.050	0.050
<b>R 167 A101</b>	0.000	0.000
<b>REDNET CB330 NOVA</b>	0.000	0.000

The width of cracks in reinforced base coat at 2% elongation is equal or lower than 0.20 mm.

### 3.5 Protection against noise (BWR 5)

No performance assessed.

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

0.44.1 Thermal resistance

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

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

Where:

- $\chi_p \times n$  has only to be considered 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 elsewhere:  
 = 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  
 ( $\chi_p \times n$  negligible for  $n < 20$ )  
 = 0.004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material  
 ( $\chi_p \times n$  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:

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

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 rendering system (about 0.02 in (m<sup>2</sup>.K).W<sup>-1</sup>) 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<sup>-1</sup>

$R_{se}$  external superficial thermal resistance in (m<sup>2</sup>.K).W<sup>-1</sup>

$R_{si}$  internal superficial thermal resistance in (m<sup>2</sup>.K).W<sup>-1</sup>

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 EWIS.

### 3.7 Sustainable use of natural resources (BWR 7)

No performance assessed.

## 4. Assessment and verification of constancy of performance (hereinafter AVCP) system applied

According to UKAD 040083-00-0404 and Annex V of the Construction Products Regulation (Regulation (EU) 305/2011 as bought into UK law and amended, the system of assessment and verification of constancy of performance 1 and 2+ applies (see Table 22).

Table 11

Product(s)	Intended use(s)	Level(s) or class(es) (Reaction to fire)	System(s)
External thermal insulation composite systems/kits (EWIS) 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 UKAD**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with the British Board of Agrément and made available to the UK Approved Bodies involved in the conformity attestation process.

##### **5.1 UKCA marking for the product/ system must contain the following information:**

- Identification number of the Approved Body
- Name/address of the manufacturer of the product/ system
- Marking with intention of clarification of intended use
- Date of marking
- Number of certificate of constancy of performance
- UKTA number.



On behalf of the British Board of Agrément



Date of Issue: 2 November 2022

**Hardy Giesler**  
Chief Executive Officer



**British Board of Agrément,**  
1<sup>st</sup> Floor Building 3  
Hatters Lane  
Croxley Park  
Watford  
WD18 8YG

## **ANNEXES**

Those annexes apply to the product described in the main body of the UK Technical Assessment.

Annex 1	Insulation product characteristics
Annex 2	Anchors, description of individual product characteristics contained in the UKTA
Annex 3	Description of glass fibre mesh
Annex 4	Alternative trade names of the components

## ANNEX 1: Insulation product characteristics

Description and characteristics		Regulation	Declared characteristics of EPS boards	
			Class, level according to EN 13163	Value
Reaction to fire		EN 13501-1+A1	E	Apparent density $\leq 18 \text{ kg/m}^3$
Thermal resistance		EN 12667	Defined in CE mark in accordance with EN 13163	
Thickness		EN 823	T(1)	$\pm 1 \text{ mm}$
Length		EN 822	L(2)	$\pm 2 \text{ mm}$
Width			W(2)	$\pm 2 \text{ mm}$
Squareness		EN 824	S(2)	$\pm 2 \text{ mm/m}$
Flatness		EN 825	P(3)	3 mm
Surface		UKAD 040083-00-0404	Cut surface (homogenous, without coating)	
Dimensional stability	Under defined temperature and humidity conditions	EN 1604	DS(70,-)2	2%
	Under constant laboratory conditions	EN 1603	DS(N)2	0.2%
Short term water absorption at partial immersion		EN 1609	---	$< 1 \text{ kg/m}^2$
Diffusion factor ( $\mu$ )		EN 13163	MU 20 – 40 MU 30 – 70	20 - 70
Tensile strength perpendicular to the faces of insulation product		EN 1607	TR100	$\geq 100 \text{ kPa}$
Shear strength		EN 12090	SS20	$\geq 20 \text{ kPa}$
Shear modulus of elasticity			GM1000	$\geq 1000 \text{ kPa}$

**Note:** Classes and levels for individual characteristics comply with EN 13163:2012+A1:2015. Only insulation products of the same or better declared characteristics, as stated in the table above, can be used in this EWIS.

Reaction to fire E has to be proved for every insulation product also at 10 mm products thickness.

**ANNEX 2: Anchors, description of individual product characteristics contained in the UKTA**

Trade name	Plate diameter (mm)	Characteristic pull-out resistance	Plate stiffness (kN/mm)	Load at plate rupture (kN)
<b>Surface assembly</b>				
Ejotharm NT U	60	See ETA-05/0009	0.60	2.43
Ejotharm STR U, STR U 2G	60	See ETA-04/0023	0.60	2.08
Ejotharm NTK U	60	See ETA-07/0026	0.50	1.44
EJOT H1 eco, EJOT H4 eco	60	See ETA-11/0192	0.60	1.40
EJOT H3	60	See ETA-14/0130	0.60	1.25
KOELNER KI-10, KI-10PA	60	See ETA-07/0291	0.39	0.81
KOELNER KI-10M	60	See ETA-07/0291	0.45	0.85
KOELNER KI-10N, KI-10NS	60	See ETA 07/0221	0.50	1.23
KOELNER TFIX-8M	60	See ETA-07/0336	1.00	1.75
KOELNER TFIX-8S a TFIX-8ST	60	See ETA-11/0144	0.60	2.04
KOELNER TFIX-8P	60	See ETA-13/0845	0.30	1.38
WKRET - MET LFN $\varnothing$ 10	60	See ETA-06/0105	0.70	1.36
WKRET - MET LFM $\varnothing$ 10	60	See ETA-06/0105	0.70	1.21
WKRET - MET LFN $\varnothing$ 8	60	See ETA-06/0080	0.50	1.28
WKRET - MET LFM $\varnothing$ 8	60	See ETA-06/0080	0.50	1.26
WKRET - MET LTX $\varnothing$ 10	60	See ETA-08/0172	0.40	1.64
WKRET - MET LMX $\varnothing$ 10	60	See ETA-08/0172	0.40	1.64
WKRET - MET LTX $\varnothing$ 8	60	See ETA-09/0001	0.50	1.53
WKRET - MET LMX $\varnothing$ 8	60	See ETA-09/0001	0.50	1.53
FIXPLUG $\varnothing$ 8	60	See ETA-11/0231	0.60	1.70
FIXPLUG $\varnothing$ 10	60	See ETA-11/0231	0.60	1.50
WKTHERM $\varnothing$ 8	60	See ETA-11/0232	0.60	4.30
Klimas Wkret-med screw-in plug eco-drive	60	See ETA-13/0107	0.60	2.80
WKTHERM S	60	See ETA-13/0724	0.60	4.30
KEW TSD 8	60	See ETA-04/0030	0.60	1.60

Trade name	Plate diameter (mm)	Characteristic pull-out resistance	Plate stiffness (kN/mm)	Load at plate rupture (kN)
KEW TSBD	60	See ETA-08/0314	1.60	2.22
KEW TSBDL	60	See ETA-08/0314	1.60	2.22
KEW TSD-V	60	See ETA-08/0315	1.20	1.75
KEW TSDL-V	60	See ETA-12/0148	1.20	1.75
KEW TSD-V KN	60	See ETA-13/0075	1.20	1.75
fischer TERMOZ 8U	60	See ETA-02/0019	0.50	2.45
fischer TERMOZ 8UZ	60	See ETA-02/0019	0.50	0.54
fischer TERMOZ 8N	60	See ETA-03/0019	0.50	1.34
fischer TERMOZ 8NZ	60	See ETA-03/0019	0.50	1.43
Hilti-Dämmstoff-Befestigungselement XI-FV	60	See ETA-03/0004	0.40	1.60
Hilti SX-FV	60	See ETA-03/0005	0.70	1.73
Hilti SD-FV 8	60	See ETA-03/0028	0.30	1.55
Hilti WDVS-Schlagdübel SDK-FV 8	60	See ETA-07/0302	0.50	1.48
Hilti WDVS- Schraubdübel D-FV, D-FV T	60	See ETA-05/0039	0.80	1.93
<b>Countersunk assembly</b>				
Ejotherm STR U 2G	60	see ETA-04/0023	0.60	2.08
KOELNER TFIX-8ST	60	See ETA-11/0144	0.60	2.04
Klimas Wkret-med screw-in plug eco-drive	60	See ETA-13/0107	0.60	2.80
Klimas Wkret-med screw-in plug eco-drive S	60	See ETA-13/0107	0.60	2.80
KEW TSBD	60	See ETA-08/0314	1.60	2.22
KEW TSBDL	60	See ETA-08/0314	1.60	2.22

In addition to this list, anchors with UKTA according to UKAD 330196-00-0604 can be used provided that such anchors meet the following requirements:

	<b>Requirements</b>	
Plate diameter	≥ 60 mm	
Plate stiffness	Surface assembly:	≥ 0.3 kN/mm
	Countersunk assembly:	≥ 0.6 kN/mm
Rupture force of anchor's plate	≥ Higher of figures $R_{panel}$ and $R_{joint}$ in relevant table in Cl. 0	

**ANNEX 3: Description of glass fibre mesh**

	Description	Strength after ageing	
	Standard fibre mesh applied in one or two layers with aperture size	Absolute strength after ageing (N/mm)	Relative residual strength after ageing, of the strength in the as-delivered state (%)
<b>R117 A101 / AKE 145</b>	4.0 x 4.5 mm	≥ 20	≥ 50
<b>R 131 A101 / AKE 160</b>	3.5 x 3.8 mm		
<b>R 167 A101</b>	6.0 x 7.0 mm		
<b>SSA-1363-4 SM</b>	4.0 x 5.0 mm		

	Description	Strength after ageing	
	Armour fibre mesh applied in one layer with aperture size	Absolute strength after ageing (N/mm)	Relative residual strength after ageing, of the strength in the as-delivered state (%)
<b>REDNET CB330 NOVA</b>	6.0 x 5.0 mm	≥ 20	≥ 40



**British Board of Agrément,**  
1<sup>st</sup> Floor Building 3  
Hatters Lane  
Croxley Park  
Watford  
WD18 8YG