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European Technical Assessment

ETA-17/1027 of 06/09/2024

General Part

Technical Assessment Body issuing the European Technical Assessment: Technical and Test Institute for Construction Prague	
Trade name of the construction product	**SEMPRE TERM ST**
Product family to which the construction product belongs	Product area code: 4 External Thermal Insulation Composite Systems (ETICS) with renderings
Manufacturer	SEMPRE Farby Sp. z o.o. ul. Gen. J. Kustronia 60 43-301 Bielsko-Biała, Poland www.semprefarby.pl
Manufacturing plant(s)	SEMPRE Farby Sp. z o.o. ul. Gen. J. Kustronia 60 43-301 Bielsko-Biała, Poland
This European Technical Assessment contains	33 pages including 6 Annexes which form an integral part of this assessment. Annex No. 7 Control Plan contains confidential information and is not included in the European Technical Assessment when that assessment is publicly disseminated.
This European Technical Assessment is issued in accordance with regulation (EU) No. 305/2011 on the basis of	European Assessment Document (EAD) 040083-00-0404 External Thermal Insulation Composite Systems (ETICS) with renderings
This version replaces	ETA-17/1027, version 03 issued on 27/05/2024

Specific Parts

1 Technical description of the product

1.1 Composition of the product (kit)

Table 1

Use and variant	Component	Coverage [kg/m²]	Thickness [mm]
Adhesive 1	**TESOROMONT START TS-100** Powder requiring addition of water 0.18 – 0.22 l/kg Use as adhesive	4.0 – 4.5 (dry powder)	2 – 40
Adhesive 2	**TESOROMONT UNIWERSALNY TU-200** Powder requiring addition of water 0.20 – 0.24 l/kg Use as adhesive and supplementary adhesive	4.0 – 4.5 (dry powder)	2 – 40
Thermal insulation product 1	**EPS BOARD (TR100)** Factory made expanded polystyrene (EPS) See Annex No. 2	N/A	50 – 300
Thermal insulation product 2	**EPS BOARD (TR80)** Factory made expanded polystyrene (EPS) See Annex No. 3		
Anchors	Plastic anchors See Annex No. 4	N/A	N/A
Base coat 1	**TESOROMONT UNIWERSALNY TU-200** Powder requiring addition of water 0.20 – 0.24 l/kg	4.0 – 5.0 (dry powder)	4 – 6
Reinforcement 1	**SEMPRE 150** Standard glass fibre mesh, one layer. Embedded in base coat See Annex No. 5	0.14 – 0.16 (per layer)	< 1.0 (per layer)
Reinforcement 2	**AKE 145** Standard glass fibre mesh, one layer. Embedded in base coat See Annex No. 5		
Reinforcement 3	Standard glass fibre mesh, one layer Embedded in base coat See Annex No. 5		
Reinforcement 4	**SEMPRE 165** Standard glass fibre mesh, one layer Embedded in base coat See Annex No. 5	0.15 – 0.18 (per layer)	< 1.0 (per layer)
Key coat 1	**TESORO GRUNT** Use optionally with finishing coat 1 - 8 Ready-to-use liquid	0.15 (liquid)	< 0.2
Key coat 2	**AZURO GRUNT** Use optionally with finishing coat 9 - 16 Ready-to-use liquid		
Key coat 3	**MARESIL GRUNT** Use optionally with finishing coat 17 - 24 Ready-to-use liquid		
Key coat 4	**PROGRESIL GRUNT** Use optionally with finishing coat 25 - 32 Ready-to-use liquid		
Key coat 5	**DIAMANTE GRUNT** Use optionally with finishing coat 33 - 36 Ready-to-use liquid		

Use and variant	Component	Coverage [kg/m²]	Thickness [mm]
Key coat 6	**MINERAL GRUNT** Use optionally with finishing coat 37 - 44 Ready-to-use liquid	0.15 (liquid)	< 0.2
Key coat 7	**MULTI GRUNT** Use optionally with finishing coat 1 - 51 Ready-to-use liquid	0.13 (liquid)	
Key coat 8	**BORDO ART G** Use optionally with finishing coat 45 Ready-to-use liquid	0.15 (liquid)	
Key coat 9	**MARMARE GRUNT** Use optionally with finishing coat 46 - 51 Ready-to-use liquid		
Finishing coat 1	**TESORO** or **TESORO INVEST*** Particle size 1.5 mm, floated structure, acrylate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 2	**TESORO** or **TESORO INVEST*** Particle size 2.0 mm, floated structure, acrylate binder Ready-to-use paste		~ 2.0
Finishing coat 3	**TESORO** or **TESORO INVEST*** Particle size 2.5 mm, floated structure, acrylate binder Ready-to-use paste		~ 2.5
Finishing coat 4	**TESORO** or **TESORO INVEST*** Particle size 3.0 mm, floated structure, acrylate binder Ready-to-use paste		~ 3.0
Finishing coat 5	**TESORO** Particle size 1.5 mm, ribbed structure, acrylate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 6	**TESORO** Particle size 2.0 mm, ribbed structure, acrylate binder Ready-to-use paste		~ 2.0
Finishing coat 7	**TESORO** Particle size 2.5 mm, ribbed structure, acrylate binder Ready-to-use paste		~ 2.5
Finishing coat 8	**TESORO** Particle size 3.0 mm, ribbed structure, acrylate binder Ready-to-use paste		~ 3.0
Finishing coat 9	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 1.5 mm, floated structure, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 10	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 2.0 mm, floated structure, silicone binder Ready-to-use paste		~ 2.0
Finishing coat 11	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 2.5 mm, floated structure, silicone binder Ready-to-use paste		~ 2.5

Use and variant	Component	Coverage [kg/m²]	Thickness [mm]
Finishing coat 12	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 3.0 mm, floated structure, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 3.0
Finishing coat 13	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 1.5 mm, ribbed structure, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 14	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 2.0 mm, ribbed structure, silicone binder Ready-to-use paste		~ 2.0
Finishing coat 15	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 2.5 mm, ribbed structure, silicone binder Ready-to-use paste		~ 2.5
Finishing coat 16	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Particle size 3.0 mm, ribbed structure, silicone binder Ready-to-use paste		~ 3.0
Finishing coat 17	**MARESIL** Particle size 1.5 mm, floated structure, polysilicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 18	**MARESIL** Particle size 2.0 mm, floated structure, polysilicate binder Ready-to-use paste		~ 2.0
Finishing coat 19	**MARESIL** Particle size 2.5 mm, floated structure, polysilicate binder Ready-to-use paste		~ 2.5
Finishing coat 20	**MARESIL** Particle size 3.0 mm, floated structure, polysilicate binder Ready-to-use paste		~ 3.0
Finishing coat 21	**MARESIL** Particle size 1.5 mm, ribbed structure, polysilicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 22	**MARESIL** Particle size 2.0 mm, ribbed structure, polysilicate binder Ready-to-use paste		~ 2.0
Finishing coat 23	**MARESIL** Particle size 2.5 mm, ribbed structure, polysilicate binder Ready-to-use paste		~ 2.5
Finishing coat 24	**MARESIL** Particle size 3.0 mm, ribbed structure, polysilicate binder Ready-to-use paste		~ 3.0
Finishing coat 25	**PROGRESIL** Particle size 1.5 mm, floated structure, silicone-silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 26	**PROGRESIL** Particle size 2.0 mm, floated structure, silicone-silicate binder Ready-to-use paste		~ 2.0

Use and variant	Component	Coverage [kg/m²]	Thickness [mm]
Finishing coat 27	**PROGRESIL** Particle size 2.5 mm, floated structure, silicone-silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 2.5
Finishing coat 28	**PROGRESIL** Particle size 3.0 mm, floated structure, silicone-silicate binder Ready-to-use paste		~ 3.0
Finishing coat 29	**PROGRESIL** Particle size 1.5 mm, ribbed structure, silicone-silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 30	**PROGRESIL** Particle size 2.0 mm, ribbed structure, silicone-silicate binder Ready-to-use paste		~ 2.0
Finishing coat 31	**PROGRESIL** Particle size 2.5 mm, ribbed structure, silicone-silicate binder Ready-to-use paste		~ 2.5
Finishing coat 32	**PROGRESIL** Particle size 3.0 mm, ribbed structure, silicone-silicate binder Ready-to-use paste		~ 3.0
Finishing coat 33	**DIAMANTE** Particle size 1.5 mm, floated structure, silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 34	**DIAMANTE** Particle size 2.0 mm, floated structure, silicate binder Ready-to-use paste		~ 2.0
Finishing coat 35	**DIAMANTE** Particle size 2.5 mm, floated structure, silicate binder Ready-to-use paste		~ 2.5
Finishing coat 36	**DIAMANTE** Particle size 3.0 mm, floated structure, silicate binder Ready-to-use paste		~ 3.0
Finishing coat 37	**TESORO MINERAL TM-300** Particle size 1.5 mm, floated structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg	2.0 – 4.5 (dry powder)	~ 1.5
Finishing coat 38	**TESORO MINERAL TM-300** Particle size 2.0 mm, floated structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 2.0
Finishing coat 39	**TESORO MINERAL TM-300** Particle size 2.5 mm, floated structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 2.5
Finishing coat 40	**TESORO MINERAL TM-300** Particle size 3.0 mm, floated structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 3.0
Finishing coat 41	**TESORO MINERAL TM-300** Particle size 1.5 mm, ribbed structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg	2.0 – 4.5 (dry powder)	~ 1.5
Finishing coat 42	**TESORO MINERAL TM-300** Particle size 2.0 mm, ribbed structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 2.0
Finishing coat 43	**TESORO MINERAL TM-300** Particle size 2.5 mm, ribbed structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 2.5

Use and variant	Component	Coverage [kg/m²]	Thickness [mm]
Finishing coat 44	**TESORO MINERAL TM-300** Particle size 3.0 mm, ribbed structure, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg	2.0 – 4.5 (dry powder)	~ 3.0
Finishing coat 45	**BORDO ART T** Particle size 1.0 mm, ribbed structure, mineral binder Powder requiring addition of water 0.22 – 0.26 l/kg	6.0 – 10.0 (dry powder)	~ 4.0 – 5.0
Finishing coat 46	**MARMARE** Particle size 0.8 mm, floated structure, acrylate binder Ready-to-use paste (mosaic)	2.0 (paste)	~ 0.8
Finishing coat 47	**MARMARE** Particle size 1.0 mm, floated structure, acrylate binder Ready-to-use paste (mosaic)	2.5 (paste)	~ 1.0
Finishing coat 48	**MARMARE** Particle size 1.5 mm, floated structure, acrylate binder Ready-to-use paste (mosaic)	4.0 (paste)	~ 1.5
Finishing coat 49	**MARMARE STONE** Particle size 0.8 mm, floated structure, acrylate binder Ready-to-use paste (mosaic)	2.0 (paste)	~ 0.8
Finishing coat 50	**MARMARE STONE** Particle size 1.0 mm, floated structure, acrylate binder Ready-to-use paste (mosaic)	2.5 (paste)	~ 1.0
Finishing coat 51	**MARMARE STONE** Particle size 1.5 mm, floated structure, acrylate binder Ready-to-use paste (mosaic)	4.0 (paste)	~ 1.5
Decorative coat 1	**MARESIL GRUNT F** Use optionally with finishing coat 37 – 44 Ready-to-use liquid	0.10 – 0.20 (liquid)	< 0.2
Decorative coat 2	**MARESIL FARBA** Use optionally with finishing coat 37 - 44 Ready-to-use liquid	0.17 – 0.25 (liquid)	
Decorative coat 3	**SEMPRE GRUNT GP** Use optionally with finishing coat 45 Ready-to-use liquid	0.20 (liquid)	
Decorative coat 4	**BORDO ART L** Use optionally with finishing coat 45 Ready-to-use liquid	0.30 (liquid)	

* Alternative trade names of components

Types of the ETICS can be distinguished, depending on the fixing method of thermal insulation:

Table 2

Component	Type of ETICS	
	Bonded ETICS with supplementary anchors	**Mechanically fixed ETICS with anchors with supplementary adhesive**
Adhesive	**ADHESIVE 1** or **ADHESIVE 2** Min. 40 % area covered by adhesive	**ADHESIVE 1** or **ADHESIVE 2**
Thermal insulation product	**Thermal insulation product 1**	**Thermal insulation product 1 - 2**
Anchors	See Annex No. 4	See Annex No. 4

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

This product is an External Thermal Insulation Composite System (ETICS) with renderings (rendering system). The product is a kit, comprising from number of components.

The ETICS may include special fittings (e.g. base profiles, corner profiles ...) to treat details of ETICS (connections, apertures, corners, parapets, sills ...). Special fittings are not listed nor assessed in this ETA.

The ETICS is installed in accordance with Manufacturer´s installation instructions.

The ETICS may be used on new or existing (retrofit) vertical building walls. The walls can be made of masonry (bricks, blocks, stones, etc.) or concrete (cast on site or as prefabricated panels). The surface can be rendered or unrendered.

The ETICS is designed for use on vertical walls but can also be used on horizontal or inclined surfaces which are not exposed to precipitation.

The ETICS is a non-load-bearing construction element and it does not contribute directly to the stability of the wall on which it is installed.

The ETICS provides additional thermal insulation and protection from effect of weathering.

The provisions made in this ETA are based on an assumed intended working life of at least 25 years, provided that the ETICS installed and maintained properly. The indications given as to the working life of the construction product cannot be interpreted as a guarantee, but are regarded as means for expressing the expected economically reasonable working life of the product.

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advice his clients on the transport, storage, maintenance, replacement and repair of the product as he considers necessary.

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

Table 3

Essential characteristic	Assessment method (EAD clause)	Performance
Reaction to fire of ETICS	Cl. 2.2.1.1	See cl. 3.1.1
Reaction to fire of thermal insulation material	Cl. 2.2.1.2	No performance assessed (See Annex No. 2 - 3 for component characteristic)
Façade fire performance	Cl. 2.2.2	No performance assessed
Content, emission and/or release of dangerous substances – leachable substances	Cl. 2.2.4	No performance assessed
Water absorption of the base coat and the rendering system	Cl. 2.2.5.1	See cl. 3.2.1
Water absorption of the insulation product	Cl. 2.2.5.2	No performance assessed (See Annex No. 2 - 3 for component characteristic)
Water-tightness of the ETICS: hygrothermal behaviour	Cl. 2.2.6	See cl. 3.2.2
Water-tightness: freeze thaw performance	Cl. 2.2.7	See cl. 3.2.3
Impact resistance	Cl. 2.2.8	See cl. 3.2.4
Water vapour permeability of the rendering system (equivalent air thickness s_d)	Cl. 2.2.9.1	See cl. 3.2.5
Water vapour permeability of thermal insulation product (water-vapour resistance factor)	Cl. 2.2.9.2	No performance assessed (See Annex No. 2 - 3 for component characteristic)
Bond strength between the base coat and the thermal insulation product (mortar or paste)	Cl. 2.2.11.1	See cl. 3.3.1
Bond strength between the adhesive and the substrate	Cl. 2.2.11.2	See cl. 3.3.2
Bond strength between the adhesive and the thermal insulation product	Cl. 2.2.11.3	See cl. 3.3.3
Fixing strength (transverse displacement)	Cl. 2.2.12	No performance assessed
Wind load resistance of ETICS – static foam block test	Cl. 2.2.13.2	No performance assessed
Wind load resistance of ETICS – dynamic wind uplift test	Cl. 2.2.13.3	No performance assessed
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions	Cl. 2.2.14.1	No performance assessed (See Annex No. 2 - 3 for component characteristic)
Tensile test perpendicular to the faces of the thermal insulation product – in wet conditions	Cl. 2.2.14.2	No performance assessed
Shear strength and shear modulus of elasticity test of ETICS	Cl. 2.2.15	No performance assessed (See Annex No. 2 - 3 for component characteristic)
Render strip tensile test	Cl. 2.2.17	See cl. 3.3.5
Bond strength after ageing of finishing coat tested in the rig	Cl. 2.2.20.1	See cl. 3.3.6
Bond strength after ageing of finishing coat not tested in the rig	Cl. 2.2.20.2	See cl. 3.3.7

Essential characteristic	Assessment method (EAD clause)	Performance
Tensile strength of the glass fibre mesh	Cl. 2.2.21.1 Cl. 2.2.21.2	No performance assessed (See Annex No. 5 for component characteristic)
Airborne sound insulation of ETICS	Cl. 2.2.22.1	No performance assessed
Dynamic stiffness of the thermal insulation product	Cl. 2.2.22.2	No performance assessed
Air flow resistance of the thermal insulation product	Cl. 2.2.22.3	No performance assessed
Thermal resistance and thermal transmittance of ETICS	Cl. 2.2.23	See cl. 3.3.8
Thermal resistance of the thermal insulation product	Cl. 2.2.23.1	No performance assessed

Table 4 – Table 21 lay down assessments of essential characteristics of specific combinations of ETICS components.

Any combination of components not meeting the criteria of Table 4 – Table 21 is assessed as "No performance assessed" in regard to the relevant essential characteristic.

3.1 Safety in case of fire (BWR 2)

3.1.1 Reaction to fire of ETICS

Table 4

Reaction to fire of ETICS: B-s2, d0	
Component	**ETICS configuration**
Adhesive	In accordance with Table 1
Thermal insulation product	Thermal insulation product 1 or 2 **Max. apparent density (EN 1602): 15.4 kg/m³**
Anchors	In accordance with Table 1
Base coat	**Base coat 1** in thickness of min. 4 mm
Reinforcement	In accordance with Table 1 **Provided reinforcement has max. heat of combustion 1.13 MJ/m²**
Key coat	In accordance with Table 1
Finishing coat	**Finishing coats 1 to 45**
Decorative coat	In accordance with Table 1

Table 5

Reaction to fire of ETICS: B-s2, d0	
Component	**ETICS configuration**
Adhesive	In accordance with Table 1
Thermal insulation product	Thermal insulation product 1 or 2 **Max. apparent density (EN 1602): 15.4 kg/m³**
Anchors	In accordance with Table 1
Base coat	**Base coat 1** in thickness of min. 4 mm
Reinforcement	In accordance with Table 1 **Provided reinforcement has max. heat of combustion 0.98 MJ/m²**
Key coat	In accordance with Table 1
Finishing coat	**Finishing coats 46 to 51**
Decorative coat	In accordance with Table 1

3.2 Hygiene, health and the environment (BWR 3)

3.2.1 Water absorption of the base coat and the rendering system

Table 6

Water absorption of the reinforced base coat		
ETICS configuration requirements:	**After 1 h [kg/m²]**	**After 24 h [kg/m²]**
TESOROMONT UNIWERSALNY TU-200	**0.03**	**0.23**

Table 7

Water absorption of the complete rendering				
ETICS configuration requirements:			**After 1 h [kg/m²]**	**After 24 h [kg/m²]**
Base coat	**Finishing coat**	**Key coat Decorative coat**		
TESOROMONT UNIWERSALNY TU-200	**TESORO / TESORO INVEST**	In accordance with Table 1	**0.13**	**0.41**
	AZURO / AZURO Invest / AZURO Premium Nanotechnology		**0.02**	**0.15**
	MARESIL		**0.15**	**0.45**
	PROGRESIL		**0.07**	**0.43**
	DIAMANTE		**0.12**	**0.48**
	TESORO MINERAL TM-300		**0.03**	**0.21**
	BORDO ART T		**0.04**	**0.13**
	MARMARE		**0.21**	**0.58**
	MARMARE STONE		**0.25**	**0.75**

3.2.2 Water-tightness of the ETICS: hygrothermal behaviour

Table 8

Water-tightness of the ETICS: hygrothermal behaviour
Hygrothermal cycles have been performed on products tested in the hygrothermal rig. The ETICS passed the test and is assessed as **resistant to hygrothermal cycles**.

3.2.3 Water-tightness: freeze thaw performance

Table 9

Water-tightness: freeze thaw performance
Applies to finishing coats 1 to 45: The ETICS is **freeze-thaw resistant**, because the water absorption of both, reinforced base coat and the rendering system, are less than 0.5 kg/m^2 after 24 hours. **No performance assessed applies to finishing coats 46 to 51.**

3.2.4 Impact resistance

Table 10

Impact resistance (products tested after hygrothermal cycles on the rig)					
ETICS configuration requirements:			Cracks	Max. impact diameter [mm]	Impact resistance category
Thermal insulation product and base coat	Finishing coat	Reinforcement and key coat and decorative coat			
EPS BOARD (TR80) + TESOROMONT UNIWERSALNY TU-200	TESORO / TESORO INVEST	In accordance with Table 1	Yes – 3 J Yes – 10 J	45 – 3 J 63 – 10 J	III
	AZURO / AZURO Invest / AZURO Premium Nanotechnology		Yes – 3 J Yes – 10 J	52 – 3 J 69 – 10 J	III
	MARESIL		Yes – 3 J Yes – 10 J	23 – 3 J 67 – 10 J	III
	PROGRESIL		Yes – 3 J Yes – 10 J	24 – 3 J 45 – 10 J	III
	DIAMANTE		Yes – 3 J Yes – 10 J	55 – 3 J 71 – 10 J	III
	BORDO ART T		Yes – 3 J Yes – 10 J	33 – 3 J 103 – 10 J	III

Table 11

Impact resistance (products tested after hygrothermal cycles NOT on the rig)					
ETICS configuration requirements:			Cracks	Max. impact diameter [mm]	Impact resistance category
Thermal insulation product and base coat	Finishing coat	Reinforcement and key coat and decorative coat			
EPS BOARD + TESOROMONT UNIWERSALNY TU-200	TESORO / TESORO INVEST	In accordance with Table 1	Yes – 3 J Yes – 10 J	24 – 3 J 82 – 10 J	III
	AZURO / AZURO Invest / AZURO Premium Nanotechnology		Yes – 3 J Yes – 10 J	26 – 3 J 70 – 10 J	III
	MARESIL		Yes – 3 J Yes – 10 J	26 – 3 J 72 – 10 J	III
	PROGRESIL		Yes – 3 J Yes – 10 J	30 – 3 J 65 – 10 J	III
	DIAMANTE		Yes – 3 J Yes – 10 J	25 – 3 J 81 – 10 J	III
	TESORO MINERAL TM-300		Yes – 3 J Yes – 10 J	29 – 3 J 80 – 10 J	III
	BORDO ART T		Yes – 3 J Yes – 10 J	16 – 3 J 37 – 10 J	II
	MARMARE		Yes – 3 J Yes – 10 J	29 – 3 J 54 – 10 J	III
	MARMARE STONE		Yes – 3 J Yes – 10 J	26 – 3 J 54 – 10 J	III

3.2.5 Water vapour permeability of the rendering system (equivalent air thickness s_d)

Table 12

Water vapour permeability of the rendering system (equivalent air thickness s_d)			
ETICS configuration requirements:			Equivalent air thickness s_d [m]
Base coat	Finishing coat	Key coat and decorative coat	
TESOROMONT UNIWERSALNY TU-200 Max. thickness 6 mm	TESORO / TESORO INVEST Max. thickness 3.0 mm	TESORO GRUNT	0.9
		MULTI GRUNT	0.9
	AZURO / AZURO Invest / AZURO Premium Nanotechnology Max. thickness 3.0 mm	AZURO GRUNT	0.8
		MULTI GRUNT	0.8
	MARESIL Max. thickness 3.0 mm	MARESIL GRUNT	0.3
		MULTI GRUNT	0.4
	PROGRESIL Max. thickness 3.0 mm	PROGRESIL GRUNT	0.9
		MULTI GRUNT	0.8
	DIAMANTE Max. thickness 3.0 mm	DIAMANTE GRUNT	0.3
		MULTI GRUNT	0.4
	TESORO MINERAL TM-300 Max. thickness 3.0 mm	MINERAL GRUNT + MARESIL GRUNT F + MARESIL FARBA	0.3
		MULTI GRUNT + MARESIL GRUNT F + MARESIL FARBA	0.4
	BORDO ART T Max. thickness 5.0 mm	BORDO ART G + SEMPRE GRUNT GP + BORDO ART L	0.5
		MULTI GRUNT + SEMPRE GRUNT GP + BORDO ART L	0.6
	MARMARE Max. thickness 1.5 mm	No key coat No decorative coat	0.3
	MARMARE STONE Max. thickness 1.5 mm	No key coat No decorative coat	0.3

3.3 Safety and accessibility in use (BWR 4)

3.3.1 Bond strength between the base coat and the thermal insulation product (mortar or paste)

Table 13

Bond strength between the base coat and the thermal insulation product (mortar or paste)					
ETICS configuration requirements:		Conditioning before the test	Rupture type	Bond strength [kPa]	
Insulation product	Base coat			Min.	Mean
EPS BOARD (TR ≥ 105 kPa)	**TESOROMONT UNIWERSALNY TU-200**	Initial state (dry condition)	In the insulation product	**98**	**105**
EPS BOARD (TR ≥ 114 kPa)		After hygrothermal cycles	In between the insulation product and the base coat	**104**	**114**
EPS BOARD (TR ≥ 104 kPa)		Initial state (dry condition)	In the insulation product	**102**	**104**
EPS BOARD (TR ≥ 107 kPa)		After hygrothermal cycles	In between the insulation product and the base coat	**94**	**107**

3.3.2 Bond strength between the adhesive and the substrate

Table 14

Bond strength between the adhesive and the substrate					
ETICS configuration requirements:		**Conditioning before the test**	**Rupture type**	**Bond strength [kPa]**	
Substrate	**Adhesive (and tested thickness)**			**Min.**	**Mean**
Concrete	**TESOROMONT START TS-100**	Initial state (dry condition)	In between the concrete and the adhesive	**509**	**609**
		2 days immersion and 2 hours drying	In the adhesive	**207**	**243**
		2 days immersion and min. 7 days drying	In the adhesive	**1961**	**2319**
	TESOROMONT UNIWERSALNY TU-200	Initial state (dry condition)	In between the concrete and the adhesive	**983**	**1095**
		2 days immersion and 2 hours drying	In the adhesive	**387**	**483**
		2 days immersion and min. 7 days drying	In the adhesive	**1250**	**1769**

3.3.3 Bond strength between the adhesive and the thermal insulation product

Table 15

Bond strength between the adhesive and the thermal insulation product					
ETICS configuration requirements:		**Conditioning before the test**	**Rupture type**	**Bond strength [kPa]**	
Insulation product	**Adhesive (and tested thickness)**			**Min.**	**Mean**
EPS BOARD (TR ≥ 110 kPa)	**TESOROMONT START TS-100** (5.0 mm)	Initial state (dry condition)	In the insulation product	**102**	**110**
EPS BOARD (TR ≥ 109 kPa)		2 days immersion and 2 hours drying	In the insulation product	**104**	**109**
EPS BOARD (TR ≥ 100 kPa)		2 days immersion and min. 7 days drying	In the insulation product	**93**	**98**
EPS BOARD (TR ≥ 106 kPa)	**TESOROMONT UNIWERSALNY TU-200** (5.0 mm)	Initial state (dry condition)	In the insulation product	**96**	**106**
EPS BOARD (TR ≥ 105 kPa)		2 days immersion and 2 hours drying	In the insulation product	**101**	**105**
EPS BOARD (TR ≥ 100 kPa)		2 days immersion and min. 7 days drying	In the insulation product	**80**	**100**
EPS BOARD (TR ≥ 114 kPa)	**TESOROMONT START TS-100** (5.0 mm)	Initial state (dry condition)	In the insulation product	**109**	**114**
EPS BOARD (TR ≥ 95 kPa)		2 days immersion and 2 hours drying	In between the insulation product and the adhesive	**82**	**95**
EPS BOARD (TR ≥ 97 kPa)		2 days immersion and min. 7 days drying	In the insulation product	**87**	**97**
EPS BOARD (TR ≥ 109 kPa)	**TESOROMONT UNIWERSALNY TU-200** (5.0 mm)	Initial state (dry condition)	In the insulation product	**98**	**109**
EPS BOARD (TR ≥ 105 kPa)		2 days immersion and 2 hours drying	In the insulation product	**96**	**105**
EPS BOARD (TR ≥ 100 kPa)		2 days immersion and min. 7 days drying	In the insulation product	**88**	**100**

3.3.4 Wind load resistance of ETICS – pull-through tests of fixings

Table 16

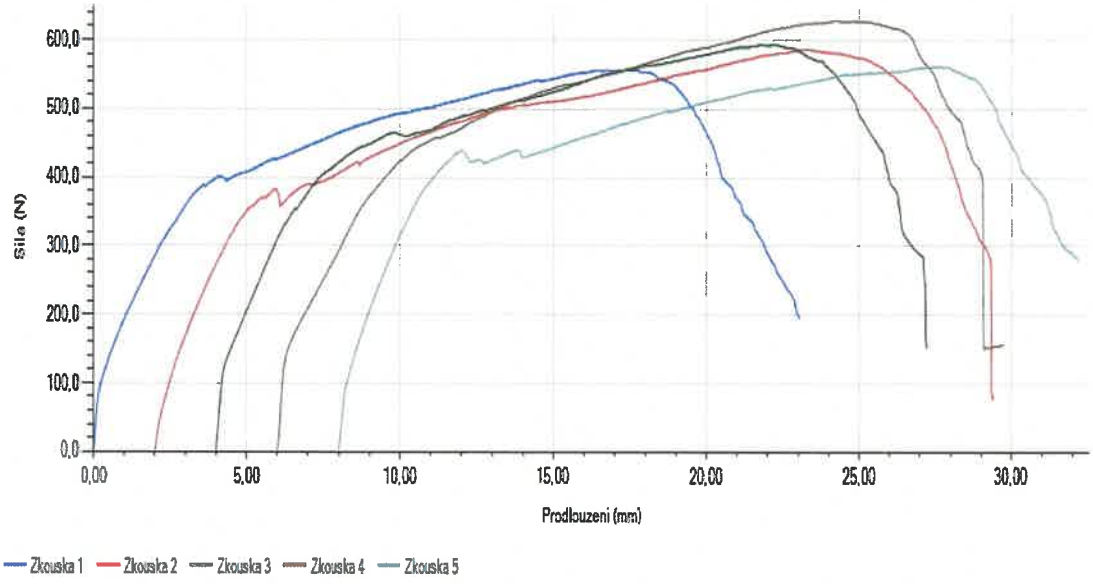
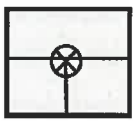
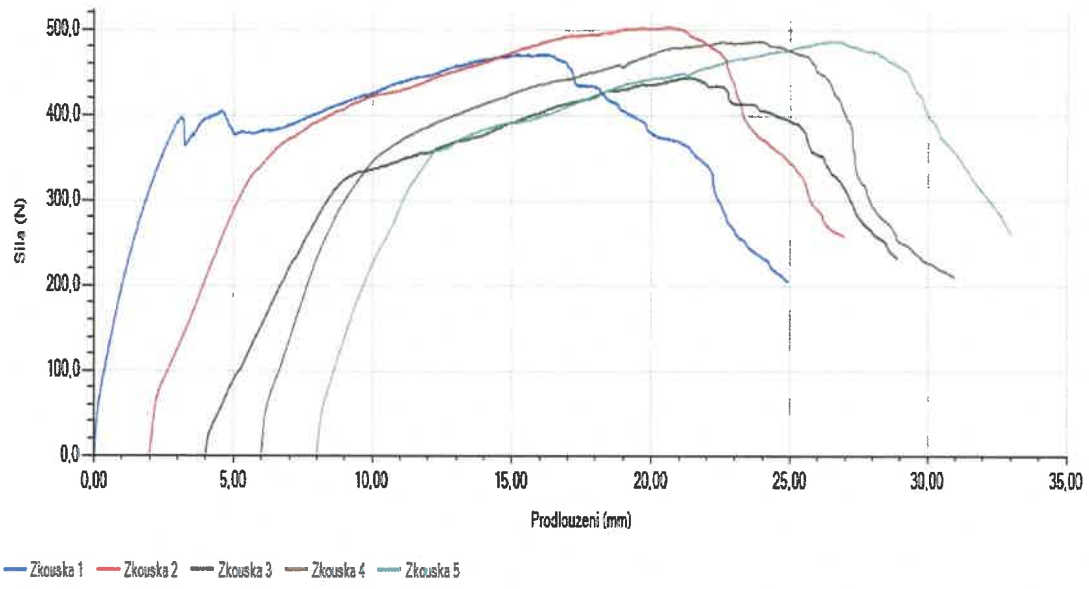
Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		Tested position	Test conditions	Failure load per fixing [kN]	
Insulation product	Fixing			Individual	Mean
Insulation product 1 or 2 Thickness: ≥ 50 mm or ≥ 70 mm for countersunk assembly Tensile strength in dry condition: ≥ 116 kPa	Surface assembly or countersunk assembly with Anchors in accordance with Annex No. 4 Plate diameter: ≥ 60 mm Plate stiffness: ≥ 0.3 kN/mm	R_{panel} 	Dry condition 23 °C and 50 % relative humidity of air	**0.557** **0.587** **0.593** **0.629** **0.562**	**0.586**
Load / displacement graph:					
					

Table 17

Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		**Tested position**	**Test conditions**	**Failure load per fixing [kN]**	
Insulation product	**Fixing**			**Individual**	**Mean**
Insulation product 1 or 2 Thickness: ≥ 50 mm or ≥ 70 mm for countersunk assembly Tensile strength in dry condition: ≥ 116 kPa	Surface assembly or countersunk assembly with Anchors in accordance with Annex No. 4 Plate diameter: ≥ 60 mm Plate stiffness: ≥ 0.3 kN/mm	R_{joint} 	Dry condition 23 °C and 50 % relative humidity of air	**0.471** **0.503** **0.445** **0.487** **0.487**	**0.479**
Load / displacement graph:					



3.3.5 Render strip tensile test

Table 18

Render strip tensile test					
ETICS configuration requirements:		w_{rk} of the flat side of the test specimen [mm]		w_{rk} of the patterned side of the test specimen [mm]	
Base coat	Reinforcement	Warp direction	Weft direction	Warp direction	Weft direction
TESOROMONT UNIWERSALNY TU-200	SEMPRE 150	0.05	0.05	0.05	0.10
	AKE 145	0.05	0.05	0.05	0.10

3.3.6 Bond strength after ageing of finishing coat tested in the rig

Table 19

Bond strength after ageing of finishing coat tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat Decorative coat		Individual	Mean
EPS BOARD (TR ≥ 115 kPa)	TESOROMONT UNIWERSALNY TU-200	TESORO	In accordance with Table 1	In the insulation product	115	115
					117	
					103	
					129	
					111	
EPS BOARD (TR ≥ 107 kPa)		AZURO		In the insulation product	114	107
					91	
					121	
					104	
					103	
EPS BOARD (TR ≥ 113 kPa)		DIAMANTE		In the insulation product	112	113
					109	
					90	
					129	
					124	

Bond strength after ageing of finishing coat tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat Decorative coat		Individual	Mean
EPS BOARD (TR ≥ 131 kPa)	**TESOROMONT UNIWERSALNY TU-200**	**BORDO ART T**	In accordance with Table 1	In the insulation product	**132**	**131**
					128	
					151	
					132	
					113	
EPS BOARD (TR ≥ 99 kPa)		**MARESIL**		In the insulation product	**74**	**99**
					97	
					94	
					107	
					121	
EPS BOARD (TR ≥ 109 kPa)		**PROGRESIL**		In the insulation product	**110**	**109**
					131	
					103	
					109	
					94	

3.3.7 Bond strength after ageing of finishing coat NOT tested in the rig

Table 20

Bond strength after ageing of finishing coat NOT tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat Decorative coat		Individual	Mean
EPS BOARD (TR ≥ 116 kPa)	TESOROMONT UNIWERSALNY TU-200	TESORO	In accordance with Table 1	In the insulation product	112	116
					128	
					131	
					97	
					111	
EPS BOARD (TR ≥ 138 kPa)		AZURO		In the insulation product	126	138
					148	
					123	
					139	
					152	
EPS BOARD (TR ≥ 120 kPa)		DIAMANTE		In the insulation product	100	120
					129	
					123	
					128	
					121	
EPS BOARD (TR ≥ 129 kPa)		BORDO ART T		In the insulation product	140	129
					121	
					131	
					124	
					128	
EPS BOARD (TR ≥ 123 kPa)		MARESIL		In the insulation product	104	123
					156	
					116	
					135	
					134	
EPS BOARD (TR ≥ 113 kPa)		PROGRESIL		In the insulation product	125	113
					121	
					103	
					103	
					115	

Bond strength after ageing of finishing coat NOT tested in the rig						
ETICS configuration requirements:				Rupture type	Bond strength [kPa]	
Insulation product	Base coat	Finishing coat	Key coat Decorative coat		Individual	Mean
EPS BOARD (TR ≥ 117 kPa)	TESOROMONT UNIWERSALNY TU-200	TESORO MINERAL TM 300	In accordance with Table 1	In the insulation product	133	117
					118	
					116	
					106	
					113	
EPS BOARD (TR ≥ 128 kPa)		TESORO MINERAL TM 300			126	128
					126	
					137	
					134	
					115	
EPS BOARD (TR ≥ 155 kPa)		MARMARE			154	155
					155	
					153	
					161	
					151	
EPS BOARD (TR ≥ 158 kPa)		MARMARE STONE			157	158
					153	
					159	
					152	
					169	

3.3.8 Thermal resistance and thermal transmittance of ETICS

Table 21

Thermal resistance and thermal transmittance of ETICS (R_{ETICS})	
Thermal resistance	[(m²·K)/W]
R_{render}	0.02
R_{ETICS}	≥ 1.00
See Annex No. 1 for information on calculation of thermal transmittance of ETICS In order to meet criteria of EAD 040083-00-0404, the R_{ETICS} calculated in line with Annex No. 1 has to be min. 1.0 (m²·K)/W.	

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

The applicable AVCP system is 2+ for any use except for uses subject to regulations on reaction to fire. For uses subject to regulations on reaction to fire the applicable AVCP systems regarding reaction to fire are 1 or 2+ depending on the conditions defined hereafter.

According to the Decision 97/556/EC as amended by Decision 2001/596/EC of the European Commission the systems of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table apply.

Table 22

Product	Intended uses	Class(es) (reaction to fire)	Systems of assessment and verification of constancy of performance
External thermal insulation composite system/kits with rendering (ETICS)	in external wall subject to fire regulations	**A**(1) – **B**(1) – **C**(1)	**1**
		A(2) – **B**(2) – **C**(2) **A** (without testing) **D – E – F**	**2+**
	in external wall not subject to fire regulations	any	**2+**
(1) Materials for which the reaction to fire performance is susceptible to change during the production process (2) Materials for which the reaction to fire performance is not susceptible to change during the production process			

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD: 040083-00-0404

The manufacturer and the Technical and Test Institute for Construction Prague have agreed on a Control Plan which is deposited at the Technical and Test Institute for Construction Prague and it accompanies the ETA. The Control Plan specifies the type and frequency of checks/tests conducted on raw materials, manufactured and subcontracted components.

The manufacturer has defined special techniques of installation that shall always be followed.

Installation shall be done by qualified personnel trained in the special installation techniques defined by the manufacturer.

Notified body has to carry out the initial inspection of the manufacturing plant and of factory production control. Notified body also carries out continuous surveillance, assessment and evaluation of factory production control at least once per year.

Issued in Prague on 06/09/2024

by

Ing. Jiří Studnička, Ph.D.

Head of the Technical Assessment Body (TAB)

Annexes:

Annex No. 1	Thermal transmittance of ETICS
Annex No. 2	Thermal insulation product 1 – expanded polystyrene (EPS)
Annex No. 3	Thermal insulation product 2 – expanded polystyrene (EPS)
Annex No. 4	Mechanical fixing device – anchors
Annex No. 5	Reinforcement – glass fibre mesh
Annex No. 6	Alternative trade names of the components as defined by the manufacturer

Annex No. 1 Thermal transmittance of ETICS

$$U_c = U + \Delta U \; [W/m^2 \cdot K]$$

U_c is corrected thermal transmittance of the entire wall, including thermal bridges.

U is thermal transmittance of the entire wall, including ETICS, without thermal bridges.

ΔU is correction term of the thermal transmittance for mechanical fixing devices.

$$U = \frac{1}{R_{ETICS} + R_{substrate} + R_{se} + R_{si}} \; [W/m^2 \cdot K]$$

$$R_{ETICS} = R_{insulation} + R_{render} \; [m^2 \cdot K/W]$$

Where: $R_{insulation}$ = insulation thickness / thermal conductivity coefficient [m²·K/W]
R_{render} = 0.02 [m²·K/W]

$R_{substrate}$ thermal resistance of the substrate wall [m²·K/W].

R_{se} external surface thermal resistance [m²·K/W].

R_{si} internal surface thermal resistance [m²·K/W].

$$\Delta U = \chi_P \times n + \sum \Psi i \times l_i \; [m^2 \cdot K/W]$$

Where: χ_P is point thermal transmittance value of the anchor [W/K]. Specified by the ETA for anchors or as follows:

0.002 [W/K]	For anchors with a plastic screw/nail, stainless steel screw/nail with the head covered by at least 15 mm plastic material, or with a minimum 15 mm air gap at the head of the screw/nail.
0.004 [W/K]	For anchors with a galvanized carbon steel screw/nail with the head covered by at least 15 mm plastic material or a minimum 15 mm air gap at the head of the screw /nail.
0.008 [W/K]	For all other anchors (the worst case).

n is number of anchors per m². In case n is more than 16, the U_c calculation does not apply.

Ψ_i is linear thermal transmittance value of the profile [W/m·K].

l_i is length of the profile per m².

The influence of thermal bridges can also be calculated as described in EN ISO 10211. If there are more than 16 pcs of anchors per m² the declared χ_P shall not be used. The EN ISO 10211 calculation shall be used in such case.

Annex No. 2 Thermal insulation product 1 – expanded polystyrene (EPS)

Factory made expanded polystyrene (EPS)	
Generic type: **EPS BOARD (TR100)**	
Requirements:	
Harmonized technical specification:	EN 13163
Content of graphite:	No
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	No
Max. thermal conductivity coefficient λ_D:	max. 0.065 W/(m·K)
Short-term water absorption:	max. 1.0 kg/m²
Length:	L(2)
Width:	W(2)
Thickness:	T(2)
Squareness in the direction of length and width:	S(5)
Flatness:	P(5)
Dimensional stability:	DS(70,–)1 DS(N)2
Reaction to fire of thermal insulation material:	E
Water vapour permeability of thermal insulation product (water-vapour resistance factor) μ:	20 – 70 [-]
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 100 kPa
Shear strength:	min. 20 kPa
Shear modulus:	min. 1000 kPa

Annex No. 3 Thermal insulation product 2 – expanded polystyrene (EPS)

Factory made expanded polystyrene (EPS)	
Generic type: **EPS BOARD (TR80)**	
Requirements:	
Harmonized technical specification:	EN 13163
Content of graphite:	No
Composite insulation product:	No
Multi-layered insulation product	No
Facing:	No
Coating:	No
Max. thermal conductivity coefficient λ_D:	max. 0.065 W/(m·K)
Short-term water absorption:	max. 1.0 kg/m^2
Length:	L(2)
Width:	W(2)
Thickness:	T(2)
Squareness in the direction of length and width:	S(5)
Flatness:	P(5)
Dimensional stability:	DS(70,–)1 DS(N)2
Reaction to fire of thermal insulation material:	E
Water vapour permeability of thermal insulation product (water-vapour resistance factor) μ:	20 – 70 [-]
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 80 kPa

Annex No. 4 Mechanical fixing device – anchors

Plastic anchors for fixing external thermal insulation composite systems with rendering	
Generic type	
Requirements:	
Harmonized technical specification:	ETAG 014 or EAD 330196-00-0604 or EAD 330196-01-0604 or superseding harmonized technical specification
Setting:	to be screwed-in or nailed-in and: 1) to be installed flush with the insulation product with or without additional, flat, plate 2) to be installed countersunk (incision depth max. 20 mm) to the surface of the insulation product, without additional plate does not apply to multi-layered insulation products
Diameter of the anchor plate:	min. 60 mm
Load resistance of the anchor plate:	min. 0.59 kN
Plate stiffness:	min. 0.3 kN/mm
Material of the nail	plastics or metal

Annex No. 5 Reinforcement – glass fibre mesh

Standard glass fibre mesh	
Specific type: SEMPRE 150	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Mass per unit area	0.145 to 0.160 kg/m²
Mesh size:	in warp direction: 3.5 to 4.5 mm in weft direction: 4.0 to 5.0 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft direction: min. 50 %

Standard glass fibre mesh	
Specific type: AKE 145	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Mass per unit area	0.145 to 0.160 kg/m²
Mesh size:	in warp direction: 3.5 to 4.5 mm in weft direction: 4.0 to 5.0 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft direction: min. 50 %

Standard glass fibre mesh	
Generic type	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Mass per unit area	0.145 to 0.160 kg/m²
Mesh size:	in warp direction: 3.5 to 4.5 mm in weft direction: 4.0 to 5.0 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft direction: min. 50 %

Standard glass fibre mesh	
Specific type: SEMPRE 165	
Requirements:	
Harmonized technical specification:	040016-00-0404 or 040016-01-0404 or superseding harmonized technical specification
Heat of combustion	≤ 7.25 MJ/kg
Mass per unit area	0.155 to 0.171 kg/m²
Mesh size:	in warp direction: 3.1 to 4.7 mm in weft direction: 3.0 to 4.6 mm
Residual tensile strength retained after alkaline conditioning:	in warp direction: min. 20 N/mm in weft direction: min. 20 N/mm
Residual tensile strength after alkaline ageing	in warp direction: min. 50 % in weft direction: min. 50 %

Annex No. 6 Alternative trade names of the components as defined by the manufacturer

Product / trade name	Alternative trade name(s) of the component
SEMPRE 150	AKE 145
TESORO (applicable only to floated structure)	TESORO INVEST (applicable only to floated structure)
AZURO	AZURO Invest or AZURO Premium Nanotechnology