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European Technical Assessment

ETA-16/0633
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 WM**
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	37 pages including 8 Annexes which form an integral part of this assessment. Annex No. 9 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 16/0633, version 01 issued on 28/02/2017

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 WM 100** or **TESOROMONT WM 200*** or **TESOROMONT WM 300*** Powder requiring addition of water 0.20 – 0.23 l/kg Use as adhesive and supplementary adhesive	4.0 (dry powder)	2 − 40
Thermal insulation product 1	**MW LAMELLA (TR80)** Factory made mineral wool (MW) See Annex No. 2	N/A	50 − 250
Thermal insulation product 2	**MW BOARD (TR15)** Factory made mineral wool (MW) See Annex No. 3	N/A	50 − 300
Thermal insulation product 3	**MW BOARD (TR10)** Factory made mineral wool (MW) See Annex No. 4	N/A	
Thermal insulation product 4	**MULTI-LAYERED MW BOARD (TR10)** Factory made multi-layered mineral wool (MW) See Annex No. 5	N/A	
Anchors	Plastic anchors See Annex No. 6	N/A	N/A
Base coat 1	**TESOROMONT WM 200** or **TESOROMONT WM 300*** Powder requiring addition of water 0.20 – 0.23 l/kg	4.0 (dry powder)	4.0 – 5.0
Reinforcement 1	Standard glass fibre mesh, one layer Embedded in base coat See Annex No. 7	0.14 – 0.16 (per layer)	< 1.0 (per layer)
Reinforcement 2	**SEMPRE 150** Standard glass fibre mesh, one layer Embedded in base coat See Annex No. 7		
Reinforcement 3	**AKE 145** Standard glass fibre mesh, one layer Embedded in base coat See Annex No. 7		
Reinforcement 4	**SEMPRE 165** Standard glass fibre mesh, one layer Embedded in base coat See Annex No. 7	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		

Use and variant	Component	Coverage [kg/m^2]	Thickness [mm]
Key coat 5	**DIAMANTE GRUNT** Use optionally with finishing coat 33 - 36 Ready-to-use liquid	0.15 (liquid)	< 0.2
Key coat 6	**MINERAL GRUNT** Use optionally with finishing coat 37 – 42 Ready-to-use liquid		
Key coat 7	**MULTIGRUNT** Use optionally with finishing coat 1 - 48 Ready-to-use liquid	0.13 (liquid)	
Key coat 8	**MARMARE GRUNT** Use optionally with finishing coat 43 - 48 Ready-to-use liquid	0.15 (liquid)	
Finishing coat 1	**TESORO** or **TESORO INVEST*** Floated structure, particle size: 1.5 mm, acrylate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 2	**TESORO** or **TESORO INVEST*** Floated structure, particle size: 2.0 mm, acrylate binder Ready-to-use paste		~ 2.0
Finishing coat 3	**TESORO** or **TESORO INVEST*** Floated structure, particle size: 2.5 mm, acrylate binder Ready-to-use paste		~ 2.5
Finishing coat 4	**TESORO** or **TESORO INVEST*** Floated structure, particle size: 3.0 mm, acrylate binder Ready-to-use paste		~ 3.0
Finishing coat 5	**TESORO** Ribbed structure, particle size: 1.5 mm, acrylate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 6	**TESORO** Ribbed structure, particle size: 2.0 mm, acrylate binder Ready-to-use paste		~ 2.0
Finishing coat 7	**TESORO** Ribbed structure, particle size: 2.5 mm, acrylate binder Ready-to-use paste		~ 2.5
Finishing coat 8	**TESORO** Ribbed structure, particle size: 3.0 mm, acrylate binder Ready-to-use paste		~ 3.0
Finishing coat 9	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Floated structure, particle size: 1.5 mm, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 10	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Floated structure, particle size: 2.0 mm, silicone binder Ready-to-use paste		~ 2.0
Finishing coat 11	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Floated structure, particle size: 2.5 mm, silicone binder Ready-to-use paste		~ 2.5

Use and variant	Component	Coverage [kg/m^2]	Thickness [mm]
Finishing coat 12	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Floated structure, particle size: 3.0 mm, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 3.0
Finishing coat 13	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Ribbed structure, particle size: 1.5 mm, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 14	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Ribbed structure, particle size: 2.0 mm, silicone binder Ready-to-use paste		~ 2.0
Finishing coat 15	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Ribbed structure, particle size: 2.5 mm, silicone binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 2.5
Finishing coat 16	**AZURO** or **AZURO Invest*** or **AZURO Premium Nanotechnology*** Ribbed structure, particle size: 3.0 mm, silicone binder Ready-to-use paste		~ 3.0
Finishing coat 17	**MARESIL** Floated structure, particle size: 1.5 mm, polysilicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 18	**MARESIL** Floated structure, particle size: 2.0 mm, polysilicate binder Ready-to-use paste		~ 2.0
Finishing coat 19	**MARESIL** Floated structure, particle size: 2.5 mm, polysilicate binder Ready-to-use paste		~ 2.5
Finishing coat 20	**MARESIL** Floated structure, particle size: 3.0 mm, polysilicate binder Ready-to-use paste		~ 3.0
Finishing coat 21	**MARESIL** Ribbed structure, particle size: 1.5 mm, polysilicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 22	**MARESIL** Ribbed structure, particle size: 2.0 mm, polysilicate binder Ready-to-use paste		~ 2.0
Finishing coat 23	**MARESIL** Ribbed structure, particle size: 2.5 mm, polysilicate binder Ready-to-use paste		~ 2.5
Finishing coat 24	**MARESIL** Ribbed structure, particle size: 3.0 mm, polysilicate binder Ready-to-use paste		~ 3.0

Use and variant	Component	Coverage [kg/m^2]	Thickness [mm]
Finishing coat 25	**PROGRESIL** Floated structure, particle size: 1.5 mm, silicone-silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 26	**PROGRESIL** Floated structure, particle size: 2.0 mm, silicone-silicate binder Ready-to-use paste		~ 2.0
Finishing coat 27	**PROGRESIL** Floated structure, particle size: 2.5 mm, silicone-silicate binder Ready-to-use paste		~ 2.5
Finishing coat 28	**PROGRESIL** Floated structure, particle size: 3.0 mm, silicone-silicate binder Ready-to-use paste		~ 3.0
Finishing coat 29	**PROGRESIL** Ribbed structure, particle size: 1.5 mm, silicone-silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 30	**PROGRESIL** Ribbed structure, particle size: 2.0 mm, silicone-silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 2.0
Finishing coat 31	**PROGRESIL** Ribbed structure, particle size: 2.5 mm, silicone-silicate binder Ready-to-use paste		~ 2.5
Finishing coat 32	**PROGRESIL** Ribbed structure, particle size: 3.0 mm, silicone-silicate binder Ready-to-use paste		~ 3.0
Finishing coat 33	**DIAMANTE** Floated structure, particle size: 1.5 mm, silicate binder Ready-to-use paste	2.3 – 4.5 (paste)	~ 1.5
Finishing coat 34	**DIAMANTE** Floated structure, particle size: 2.0 mm, silicate binder Ready-to-use paste		~ 2.0
Finishing coat 35	**DIAMANTE** Floated structure, particle size: 2.5 mm, silicate binder Ready-to-use paste		~ 2.5
Finishing coat 36	**DIAMANTE** Floated structure, particle size: 3.0 mm, silicate binder Ready-to-use paste		~ 3.0
Finishing coat 37	**TESORO MINERAL TM-300** Floated structure, particle size: 1.5 mm, 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** Floated structure, particle size: 2.0 mm, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 2.0
Finishing coat 39	**TESORO MINERAL TM-300** Floated structure, particle size: 3.0 mm, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 3.0
Finishing coat 40	**TESORO MINERAL TM-300** Ribbed structure, particle size: 1.5 mm, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg	2.0 – 4.5 (dry powder)	~ 1.5

Use and variant	Component	Coverage [kg/m^2]	Thickness [mm]
Finishing coat 41	**TESORO MINERAL TM-300** Ribbed structure, particle size: 2.0 mm, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg	2.0 – 4.5 (dry powder)	~ 2.0
Finishing coat 42	**TESORO MINERAL TM-300** Ribbed structure, particle size: 3.0 mm, mineral binder Powder requiring addition of water 0.24 – 0.28 l/kg		~ 3.0
Finishing coat 43	**MARMARE** Floated structure, particle size: 0.8 mm, acrylate binder Reade-to-use paste (mosaic)	2.0 (paste)	~ 0.8
Finishing coat 44	**MARMARE** Floated structure, particle size: 1.0 mm, acrylate binder Reade-to-use paste (mosaic)	2.5 (paste)	~ 1.0
Finishing coat 45	**MARMARE** Floated structure, particle size: 1.5 mm, acrylate binder Reade-to-use paste (mosaic)	4.0 (paste)	~ 1.5
Finishing coat 46	**MARMARE STONE** Floated structure, particle size: 0.8 mm, acrylate binder Reade-to-use paste (mosaic)	2.0 (paste)	~ 0.8
Finishing coat 47	**MARMARE STONE** Floated structure, particle size: 1.0 mm, acrylate binder Reade-to-use paste (mosaic)	2.5 (paste)	~ 1.0
Finishing coat 48	**MARMARE STONE** Floated structure, particle size: 1.5 mm, acrylate binder Reade-to-use paste (mosaic)	4.0 (paste)	~ 1.5
Decorative coat 1	**MARESIL GRUNT F** Use optionally with finishing coat 37 – 42 Ready-to-use liquid	0.10 – 0.20 l/m^2	< 0.2
Decorative coat 2	**MARESIL** Use optionally with finishing coat 37 – 42 Ready-to-use liquid (paint)	0.17 – 0.25 l/m^2	< 0.2

* 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** 100 % area covered by adhesive	**ADHESIVE 1** min 40 % area covered by supplementary adhesive
Thermal insulation product	Thermal insulation product 1	Thermal insulation product 2 - 4
Anchors	See Annex No. 6	See Annex No. 6

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 to Annex No. 5 for component characteristic)
Façade fire performance	Cl. 2.2.2	No performance assessed
Propensity to undergo continuous smouldering of ETICS	Cl. 2.2.3	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 to Annex No. 5 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 to Annex No. 5 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 – pull-through tests of fixings	Cl. 2.2.13.1	See cl. 3.3.4
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 to Annex No. 5 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 to Annex No. 5 for component characteristic)
Render strip tensile test	Cl. 2.2.17	See cl. 3.3.5

Essential characteristic	Assessment method (EAD clause)	Performance
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
Tensile strength of the glass fibre mesh	Cl. 2.2.21.1 Cl. 2.2.21.2	No performance assessed (See Annex No. 7 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: A2-s1, d0	
Component	**ETICS configuration**
Adhesive	**Adhesive 1**
Thermal insulation product	Thermal insulation product 1 to 4 **Max. apparent density (EN 1602): 103 kg/m^3**
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/m^2**
Key coat	In accordance with Table 1
Finishing coat	**Finishing coats 1 to 42**
Decorative coat	In accordance with Table 1

Table 5

Reaction to fire of ETICS: A2-s1, d0	
Component	**ETICS configuration requirements:**
Adhesive	**Adhesive 1**
Thermal insulation product	Thermal insulation product 1 to 4 **Max. apparent density (EN 1602): 103 kg/m^3**
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/m^2**
Key coat	In accordance with Table 1
Finishing coat	**Finishing coats 43 to 48**
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 WM 200 / TESOROMONT WM 300	**0.01**	**0.06**

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 and Decorative coat**		
TESOROMONT WM 200 / TESOROMONT WM 300	**TESORO / TESORO INVEST**	In accordance with Table 1	**0.05**	**0.27**
	AZURO		**0.04**	**0.23**
	MARESIL		**0.06**	**0.33**
	PREGRESIL		**0.05**	**0.27**
	DIAMANTE		**0.07**	**0.40**
	TESORO MINERAL TM-300		**0.06**	**0.30**
	MARMARE		**0.28**	**1.18**
	MARMARE STONE		**0.32**	**1.17**

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 42: 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 43 to 48:**

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**
Insulation	**Base coat**	**Finishing coat**	**Reinforcement and key coat and decorative coat**			
Thermal insulation product 3 and 4	**TESOROMONT WM 200 / TESOROMONT WM 300**	**TESORO / TESORO INVEST** (floated structure)	Reinforcement in accordance with Table 1 Key coat: **TESORO GRUNT** No decorative coat	**No – 3 J** **Yes – 10 J**	**15 – 3 J** **43 – 10 J**	**II**
		AZURO (floated structure)	Reinforcement in accordance with Table 1 Key coat: **AZURO GRUNT** No decorative coat	**No – 3 J** **Yes – 10 J**	**13 – 3 J** **42 – 10 J**	**II**
		DIAMANTE (floated structure)	Reinforcement in accordance with Table 1 Key coat: **DIAMANTE GRUNT** No decorative coat	**No – 3 J** **Yes – 10 J**	**No – 3 J** **31 – 10 J**	**II**
		TESORO MINERAL TM-300 (floated structure)	Reinforcement in accordance with Table 1 Key coat: **MINERAL GRUNT** Decorative coat in accordance with Table 1	**No – 3 J** **Yes – 10 J**	**15 – 3 J** **40 – 10 J**	**II**

Table 11

Impact resistance (products tested after immersion in water)						
ETICS configuration requirements:				**Cracks**	**Max. impact diameter [mm]**	**Impact resistance category**
Insulation	**Base coat**	**Finishing coat**	**Reinforcement and key coat and decorative coat**			
Thermal insulation product 1 to 4	**TESOROMONT WM 200 / TESOROMONT WM 300**	**TESORO / TESORO INVEST** (all structures)	In accordance with Table 1	**Yes – 3 J** **Yes – 10 J**	**34 – 3 J** **51 – 10 J**	**III**
		AZURO (all structures)		**Yes – 3 J** **Yes – 10 J**	**29 – 3 J** **46 – 10 J**	**III**
		MARESIL (all structures)		**Yes – 3 J** **Yes – 10 J**	**36 – 3 J** **55 – 10 J**	**III**
		PROGRESIL (all structures)		**Yes – 3 J** **Yes – 10 J**	**31 – 3 J** **53 – 10 J**	**III**
		DIAMANTE (all structures)		**Yes – 3 J** **Yes – 10 J**	**32 – 3 J** **53 – 10 J**	**III**
		TESORO MINERAL TM-300 (all structures)		**Yes – 3 J** **Yes – 10 J**	**28 – 3 J** **48 – 10 J**	**III**
		MARMARE (floated structure)	Reinforcement: **SEMPRE 165** Key coat: **MARMARE GRUNT** No decorative coat	**Yes – 3 J** **Yes – 10 J**	**24 – 3 J** **35 – 10 J**	**III**
		MARMARE STONE (floated structure)		**Yes – 3 J** **Yes – 10 J**	**24 – 3 J** **41 – 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 WM 200 / **TESOROMONT WM 300** Max. thickness 5.0 mm	**TESORO** Max. thickness 3.0 mm	**TESORO GRUNT**	**0.8**
		MULTIGRUNT	**0.7**
	AZURO Max. thickness 3.0 mm	**AZURO GRUNT**	**0.8**
	MARESIL Max. thickness 3.0 mm	**MARESIL GRUNT**	**0.2**
	PROGRESIL Max. thickness 3.0 mm	**PROGRESIL GRUNT**	**0.8**
	DIAMANTE Max. thickness 3.0 mm	**DIAMANTE GRUNT**	**0.3**
	TESORO MINERAL TM-300 Max. thickness 3.0 mm	**MINERAL GRUNT** + **MARESIL GRUNT F** + **MARESIL**	**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**
MW LAMELLA (TR ≥ 130 kPa)	**TESOROMONT WM 200** / **TESOROMONT WM 300**	Initial state (dry condition)	In the insulation product	**125**	**130**
MW BOARD		After hygrothermal cycles	In the insulation product	**4**	**5**

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 WM 100** / **TESOROMONT WM 200** / **TESOROMONT WM 300** (5 - 10 mm)	Initial state (dry condition)	In the adhesive	**637**	**673**
		2 days immersion and 2 hours drying	In the adhesive	**209**	**221**
		2 days immersion and min. 7 days drying	In the adhesive	**1139**	**1156**

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**
MW LAMELLA (TR ≥ 131 kPa)	**TESOROMONT WM 100** / **TESOROMONT WM 200** / **TESOROMONT WM 300** (5 - 10 mm)	Initial state (dry condition)	In the insulation product	**126**	**131**
		2 days immersion and 2 hours drying	In the insulation product	**85**	**90**
		2 days immersion and min. 7 days drying	In the insulation product	**117**	**123**

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

Table 16

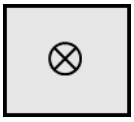
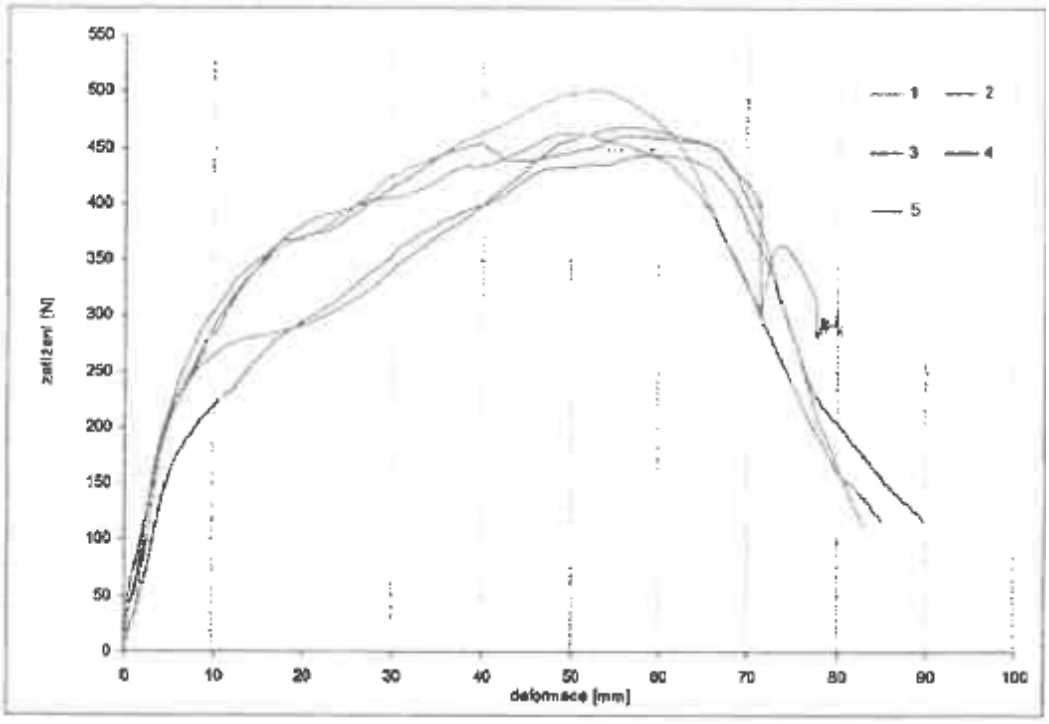
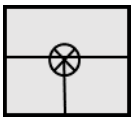
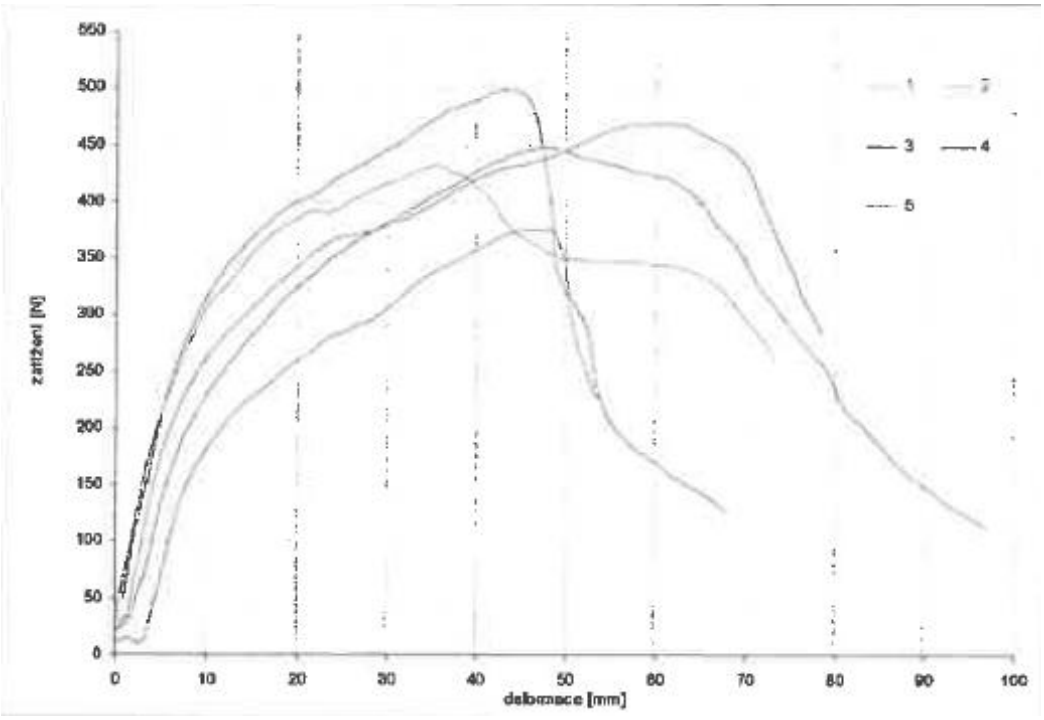
Wind load resistance of ETICS					
Assessed by means of: pull-through tests of fixings					
ETICS configuration requirements:		**Tested position**	**Test conditions**	**Failure load per fixing [kN]**	
Insulation product	**Fixing**			**Individual**	**Mean**
Insulation product 1 to 4 (MW) Thickness: ≥ 100 mm or ≥ 120 mm for countersunk assembly Tensile strength in dry condition: ≥ 10.7 kPa	Surface assembly or countersunk assembly (countersunk assembly only with single layer insulation product) with Anchors in accordance with Annex No. 6 Plate diameter: ≥ 60 mm Plate stiffness: ≥ 0.6 kN/mm	R_{panel} 	Dry condition 23 °C and 50 % relative humidity of air	**0.461** **0.444** **0.463** **0.469** **0.501**	**0.468**
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 to 4 (MW) Thickness: ≥ 100 mm or ≥ 120 mm for countersunk assembly Tensile strength in dry condition: ≥ 10.7 kPa	Surface assembly or countersunk assembly (countersunk assembly only with single layer insulation product) with Anchors in accordance with Annex No. 6 Plate diameter: ≥ 60 mm Plate stiffness: ≥ 0.6 kN/mm	R_{joint} 	Dry condition 23 °C and 50 % relative humidity of air	**0.499** **0.447** **0.374** **0.469** **0.431**	**0.444**
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 WM 200 / TESOROMONT WM 300	SEMPRE 150	0.05	0.05	0.05	0.05
	AKE 145	0.05	0.05	0.05	0.05

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**
MW BOARD	**TESOROMONT WM 200 / TESOROMONT WM 300**	**TESORO MINERAL TM-300**	In accordance with Table 1	In the insulation product	**4**	**5**
				In the insulation product	**5**	
				In the insulation product	**5**	
				In the insulation product	**4**	
				In the insulation product	**5**	
		AZURO	In accordance with Table 1	In the insulation product	**5**	**5**
				In the insulation product	**4**	
				In the insulation product	**4**	
				In the insulation product	**5**	
				In the insulation product	**5**	
		TESORO	In accordance with Table 1	In the insulation product	**4**	**4**
				In the insulation product	**4**	
				In the insulation product	**4**	
				In the insulation product	**5**	
				In the insulation product	**4**	
		DIAMANTE	In accordance with Table 1	In the insulation product	**4**	**4**
				In the insulation product	**4**	
				In the insulation product	**5**	
				In the insulation product	**4**	
				In the insulation product	**4**	

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
MW BOARD	TESOROMONT WM 200 / TESOROMONT WM 300	MARESIL	In accordance with Table 1	In the insulation product	7	8
				In the insulation product	7	
				In the insulation product	8	
				In the insulation product	9	
				In the insulation product	8	
		PROGRESIL	In accordance with Table 1	In the insulation product	9	8
				In the insulation product	8	
				In the insulation product	7	
				In the insulation product	8	
				In the insulation product	9	

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**
MW LAMELLA (TR ≥ 132 kPa)	**TESOROMONT WM 200 / TESOROMONT WM 300**	**TESORO**	In accordance with Table 1	In the insulation product	**126**	**128**
				In the insulation product	**132**	
				In the insulation product	**132**	
				In the insulation product	**131**	
				In the insulation product	**127**	
		AZURO	In accordance with Table 1	In the insulation product	**125**	**129**
				In the insulation product	**124**	
				In the insulation product	**135**	
				In the insulation product	**132**	
				In the insulation product	**128**	
		MARESIL	In accordance with Table 1	In the insulation product	**124**	**128**
				In the insulation product	**132**	
				In the insulation product	**131**	
				In the insulation product	**128**	
				In the insulation product	**124**	
		PROGRESIL	In accordance with Table 1	In the insulation product	**128**	**128**
				In the insulation product	**122**	
				In the insulation product	**124**	
				In the insulation product	**131**	
				In the insulation product	**135**	

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**
MW LAMELLA (TR ≥ 132 kPa)	**TESOROMONT WM 200** / **TESOROMONT WM 300**	**DIAMANTE**	In accordance with Table 1	In the insulation product	**132**	**132**
				In the insulation product	**130**	
				In the insulation product	**134**	
				In the insulation product	**134**	
				In the insulation product	**131**	
		TESORO MINERAL TM-300	In accordance with Table 1	In the insulation product	**130**	**126**
				In the insulation product	**128**	
				In the insulation product	**125**	
				In the insulation product	**123**	
				In the insulation product	**126**	

3.3.8 Thermal resistance and thermal transmittance of ETICS

Table 21

Thermal resistance and thermal transmittance of ETICS (R_{ETICS})	
Thermal resistance	**[(m^2·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 (m^2·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 – mineral wool lamellas (MW)
Annex No. 3	Thermal insulation product 2 – mineral wool boards (MW) TR15
Annex No. 4	Thermal insulation product 3 – mineral wool boards (MW) TR10
Annex No. 5	Thermal insulation product 4 – multi-layered mineral wool boards (MW) TR10
Annex No. 6	Mechanical fixing device – anchors
Annex No. 7	Reinforcement – glass fibre mesh
Annex No. 8	Alternative trade names of the components as defined by the manufacturer

Annex No. 1 Thermal transmittance of ETICS

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

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.

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

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

Where: $R_{insulation}$ = insulation thickness / thermal conductivity coefficient [m^2·K/W]

R_{render} = 0.02 [m^2·K/W]

$R_{substrate}$ thermal resistance of the substrate wall [m^2·K/W].

R_{se} external surface thermal resistance [m^2·K/W].

R_{si} internal surface thermal resistance [m^2·K/W].

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

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 m^2. 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 m^2.

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 m^2 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 – mineral wool lamellas (MW)

Mineral wool (MW)	
Generic type **Fibre orientation perpendicular to the faces of the panels (lamellas)**	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Perpendicular to the faces of the panel (lamellas)
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 W_p:	max. 1.0 kg/m^2
Long-term water absorption W_{lp}:	max. 3.0 kg/m^2
Length:	max. ± 2.0 %
Width:	max. ± 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) μ:	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 80 kPa
Shear strength:	min. 20 kPa
Shear modulus:	min. 1000 kPa

Annex No. 3 Thermal insulation product 2 – mineral wool boards (MW) TR15

Mineral wool (MW)	
Generic type **Fibre orientation longitudinal to the faces of the panels (boards)**	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Longitudinal to the faces of the panel (boards)
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 W_p:	max. 1.0 kg/m^2
Long-term water absorption W_{lp}:	max. 3.0 kg/m^2
Length:	max. ± 2.0 %
Width:	max. ± 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) μ:	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 15 kPa

Annex No. 4 Thermal insulation product 3 – mineral wool boards (MW) TR10

Mineral wool (MW)	
Generic type **Fibre orientation longitudinal to the faces of the panels (boards)**	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Longitudinal to the faces of the panel (boards)
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 W_p:	max. 1.0 kg/m^2
Long-term water absorption W_{lp}:	max. 3.0 kg/m^2
Length:	max. ± 2.0 %
Width:	max. ± 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) μ:	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 10 kPa

Annex No. 5 Thermal insulation product 4 – multi-layered mineral wool boards (MW) TR10

Mineral wool (MW)	
Generic type **Fibre orientation longitudinal to the faces of the panels (boards)**	
Requirements:	
Harmonized technical specification:	EN 13162
Direction of fibres:	Longitudinal to the faces of the panel (boards)
Composite insulation product:	No
Multi-layered insulation product	Yes
Facing:	No
Coating:	No
Max. thermal conductivity coefficient λ_D:	max. 0.065 W/(m·K)
Short-term water absorption W_p:	max. 1.0 kg/m^2
Long-term water absorption W_{lp}:	max. 3.0 kg/m^2
Length:	max. ± 2.0 %
Width:	max. ± 1.5 %
Thickness:	T5
Squareness:	max. 5 mm/m
Flatness:	max. 6 mm
Dimensional stability:	DS(70,90)
Reaction to fire of thermal insulation material:	A1
Water vapour permeability of thermal insulation product (water-vapour resistance factor) μ:	MU1
Tensile test perpendicular to the faces of the thermal insulation product – in dry conditions:	min. 10 kPa

Annex No. 6 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. 2.08 kN
Plate stiffness:	min. 0.6 kN/mm
Material of the nail	plastics or metal

Annex No. 7 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/m^2
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/m^2
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/m^2
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/m^2
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. 8 Alternative trade names of the components as defined by the manufacturer

Product / trade name	Alternative trade name(s) of the component
TESOROMONT WM 100	TESOROMONT WM 200
	TESOROMONT WM 300
SEMPRE 150	AKE 145
TESORO (applicable only to floated structure)	TESORO INVEST (applicable only to floated structure)
AZURO	AZURO Invest or AZURO Premium Nanotechnology