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NATIONAL TECHNICAL ASSESSMENT ITB-KOT-2020/1616 edition 1

This National Technical Assessment is issued pursuant to the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on domestic technical assessments (consolidated text: Journal of Laws of 2016, item 1968) by the Building Research Institute in Warsaw, at the request of the companies:

ATLAS sp. z o.o.
91-222 Łódź, ul. Św. Teresy 105

The Technical Assessment ITB-KOT-2020/16 edition 1 constitutes positive assessment of performance of the product listed below:

Set of products for external thermal insulation of building walls with the system **ATLAS ETICS**

Valid until:
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Director
of the Building Research Institute
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The document of the National Technical Assessment ITB-KOT-2020/16 edition 1 contains 36 pages, incl. 4 Attachments. The text of this document may be copied only in its entirety. Written agreement with the Building Research Institute is required in order to publish or disseminate parts of the text of the Technical Approval in any other form. Technical Assessment ITB-KOT-2020/16 edition 1 refers to products covered by Technical Approval ITB AT-15-9090/2016.

1. PRODUCT TECHNICAL DESCRIPTION

The subject of this ITB National Technical Assessment is a set of products for external thermal insulation of building walls with the ATLAS ETICS system.

The manufacturer of the set of products is Atlas sp. z o.o., 91-222 Łódź, ul. św. Teresy 105. Products included in the set are manufactured in processing plants in Poland.

Set of products ATLAS ETICS includes factory – made products (system components) manufactured by the set producer and/or its suppliers.

This National Technical Assessment includes products types set by the producer and resulting from performance listed in point 3 or mix of the system components.

Set of products ATLAS ETICS includes factory – made thermal insulation material – polystyrene boards (EPS), which is adhesively bonded to wall with supplementary mechanical fixing. The mode of thermal insulation fixing to the substrate and products included in the system are listed in Table 1. Thermal insulation material is top coated (top finish) with multiple layers installed on site where one of the layers contains a reinforcing mesh. The top coat is applied directly on the thermal insulation material, with no air gap or intermediate layers.

The set includes also supplementary materials, which are not a subject of this National Technical Assessment and should be used according to a producer's instruction.

The identification properties of products included in ATLAS ETICS ser are given in the Attachments A ÷ C.

Table 1

	Set components	Consumption [kg/m ²]	Thickness [mm]
Method of material fixing to thermal insulation	<p>Adhesively bonded system: Polystyrene boards fixed to the substrate with an adhesive mortar, bonded surface not less than 40%</p> <p>Adhesively bonded system with supplementary mechanical fixing: Polystyrene boards fixed to the substrate with an adhesive mortar, with supplementary mechanical fixing, bonded surface not less than 40%</p>		
Thermal insulation material	<ul style="list-style-type: none"> Polystyrene boards (EPS) acc. to the standard PN-EN 13163+A1:2015 (until transitional period for the norm PN-EN 13163+A2:2016) Surface dimensions: not more than 600 x 1200 mm Edges: straight, with no gaps Of minimum performance acc. to Attachment A 	-	20 ÷ 500
Adhesive mortars	<ul style="list-style-type: none"> ATLAS HOTER S Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> ATLAS HOTER U Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> ATLAS HOTER U WHITE Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	4.0 ÷ 5.0	-

	<ul style="list-style-type: none"> • ATLAS HOTER U2 Dry mix to be mixed with water before use, weight ratio 100 : (30 ÷ 32) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS HOTER U2-B Dry mix to be mixed with water before use, weight ratio 100 : (30 ÷ 32) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS STOPTER K-20 Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS STOPTER K-50 Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS GRAWIS S Dry mix to be mixed with water before use, weight ratio 100 : (22 ÷ 24) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS GRAWIS S PRO Dry mix to be mixed with water before use, weight ratio 100 : (22 ÷ 24) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS GRAWIS U Dry mix to be mixed with water before use, weight ratio 100 : (21 ÷ 23) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS GRAWIS U PRO Dry mix to be mixed with water before use, weight ratio 100 : (21 ÷ 23) 	4.0 ÷ 5.0	-
	<ul style="list-style-type: none"> • ATLAS ROKER U Dry mix to be mixed with water before use, weight ratio 100 : (22 ÷ 25) 	3.0 ÷ 6.5	-
Mechanical fixings	<ul style="list-style-type: none"> • Adhesively bonded system with supplementary mechanical fixing: fixings for thermal insulation, marketed in accordance to current regulations and intended use 	-	-
Fiberglass mesh	<ul style="list-style-type: none"> • ATLAS 150 Weave type: gauze Length: ≥ 50 m Performance: acc. to Attachment B • ATLAS 165 Weave type: gauze Length: ≥ 50 m Performance: acc. to Attachment B • SSA-1111-340-SM Weave type: gauze Length: ≥ 50 m Performance: acc. to Attachment B 	-	-
Adhesive mortars for reinforced layer	<ul style="list-style-type: none"> • ATLAS HOTER U Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> • ATLAS HOTER U WHITE Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> • ATLAS HOTER U2 Dry mix to be mixed with water before use, weight ratio 100 : (30 ÷ 32) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> • ATLAS HOTER U2-B Dry mix to be mixed with water before use, weight ratio 100 : (30 ÷ 32) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> • ATLAS STOPTER K-20 Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	3.0 ÷ 3.5	2.0 ÷ 5.0



	<ul style="list-style-type: none"> ATLAS STOPTER K-50 Dry mix to be mixed with water before use, weight ratio 100 : (20 ÷ 22) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> ATLAS GRAWIS U Dry mix to be mixed with water before use, weight ratio 100 : (21 ÷ 23) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> ATLAS GRAWIS U PRO Dry mix to be mixed with water before use, weight ratio 100 : (21 ÷ 23) 	3.0 ÷ 3.5	2.0 ÷ 5.0
	<ul style="list-style-type: none"> ATLAS ROKER U Dry mix to be mixed with water before use, weight ratio 100 : (22 ÷ 25) 	3.0 ÷ 6.5	4.0 ÷ 6.0
Adhesive mass for reinforced layer	<ul style="list-style-type: none"> ATLAS STOPTER K-100 Mass for application of reinforced layer beneath silicone and silicone-silicate rendering coats; Delivered ready-mixed. 	3.0 ÷ 5.5	2.0 ÷ 5.0
Priming masses	<ul style="list-style-type: none"> ATLAS CERPLAST Priming agent for priming reinforced layers beneath rendering coats, delivered ready-mixed. 	cca. 0.30	-
	<ul style="list-style-type: none"> ATLAS SILKAT ASX Priming agent for priming reinforced layers beneath rendering coats, delivered ready-mixed. 	cca. 0.30	-
	<ul style="list-style-type: none"> ATLAS SILKON ANX Priming agent for priming reinforced layers beneath rendering coats, delivered ready-mixed. 	cca. 0.30	-
Rendering coats	<ul style="list-style-type: none"> Mineral rendering coats: 		
	ATLAS CERMIT Dry mix to be mixed with water before use, weight ratio 100 : (18 ÷ 26) Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5; 2.0 and 3.0 mm Texture "rustic", aggregate grain size: 1.5 and 2.0 mm	2.5 ÷ 4.5	depending on aggregate grain size
	ATLAS CERMIT WN Dry mix to be mixed with water before use, weight ratio 100 : (21 ÷ 24) Texture "smooth", aggregate grain size: 1.0 mm	2.5 ÷ 3.0	min. 1.0 mm
	ATLAS CERMIT BA-M Dry mix to be mixed with water before use, weight ratio 100 : (24 ÷ 26) Texture "smooth", aggregate grain size: 1.5 mm	3.0	min. 1.5 mm
	<ul style="list-style-type: none"> Silicone rendering coats: 		
	SILICONE RENDER IN ATLAS (TYNK SILIKONOWY IN ATLAS) Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm	2.2 ÷ 3.5	min. 1.5 mm
	SILICONE RENDER ATLAS (TYNK SILIKONOWY ATLAS) Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5 and 2.0 mm Texture "rustic", aggregate grain size: 2.0 mm	2.2 ÷ 3.5	depending on aggregate grain size
	SILICONE-SILOXANE RENDER ATLAS (TYNK SILIKONOWO-SILOKSANOWY ATLAS) Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5 and 2.0 mm Texture "rustic", aggregate grain size: 2.0 mm	2.2 ÷ 3.5	depending on aggregate grain size
	ATLAS SILKON BA Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5 and 2.0 mm Texture "rustic", aggregate grain size: 1.5 and 2.0 mm	2.2 ÷ 3.5	depending on aggregate grain size

Rendering coats	<ul style="list-style-type: none"> Silicate rendering coats: 		
	SILICATE RENDER ATLAS (TYNK SILIKATOWY ATLAS) Delivered ready-mixed. Texture "spotted", aggregate grain size: 1.5 mm	2.5	min. 1.5 mm
	TYNK HYDROFILOWY ATLAS Delivered ready-mixed. Texture "spotted", aggregate grain size: 1.5 mm	2.5	min. 1.5 mm
	<ul style="list-style-type: none"> Silicone-silicate rendering coats: 		
	SILICONE-SILICATE RENDER ATLAS (TYNK SILIKONOWO-SILOKSANOWY ATLAS) Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5 and 2.0 mm Texture "rustic", aggregate grain size: 2.0 mm	2.2 ÷ 3.5	depending on aggregate grain size
	<ul style="list-style-type: none"> Acrylic rendering coats: 		
	ATLAS CERMIT Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5; 2.0 and 3.0 mm Texture "rustic", aggregate grain size: 2.0 and 3.0 mm	2.5 ÷ 4.5	depending on aggregate grain size
	ATLAS CERMIT N-100 Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.0 mm	2.0	min. 1.0 mm
	ACRYLIC RENDER ATLAS (TYNK AKRYLOWY ATLAS) Delivered ready-mixed. Texture "smooth", aggregate grain size: 1.5 mm Texture "spotted", aggregate grain size: 1.5; 2.0 and 3.0 mm Texture "rustic", aggregate grain size: 2.0 and 3.0 mm	2.5 ÷ 4.5	depending on aggregate grain size
	<ul style="list-style-type: none"> Mosaic rendering coats: 		
	Mosaic render ATLAS DEKO M Delivered ready-mixed. Texture "mosaic", aggregate grain size: 0.2 ÷ 2.0 mm	1.5 ÷ 5.5	depending on aggregate grain size
Priming agents	<ul style="list-style-type: none"> Primer beneath silicate paint ATLAS (optional) Priming agent for priming mineral rendering coats beneath paints, delivered ready-to-use. 	0.05 ÷ 0.20	-
	<ul style="list-style-type: none"> Primer beneath silicone paint ATLAS (optional) Priming agent for priming mineral rendering coats beneath paints, delivered ready-to-use. 	0.05 ÷ 0.20	-
Paint coatings (paints)	<ul style="list-style-type: none"> Façade silicate paint ATLAS SALTA S (optional) used with mineral, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.17 ÷ 0.22 (l/m ²)	-
	<ul style="list-style-type: none"> Façade polysilicate paint ATLAS (optional) used with mineral, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.17 ÷ 0.22 (l/m ²)	-
	<ul style="list-style-type: none"> Façade hydrophilic paint ATLAS (optional) used with mineral, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.17 ÷ 0.22 (l/m ²)	-
	<ul style="list-style-type: none"> Façade silicone paint ATLAS SALTA (optional) 	0.15 ÷ 0.25	-

	used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed.	(l/m ²)	
Paint coatings (paints)	<ul style="list-style-type: none"> • Façade silicone paint ATLAS (optional) used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Façade silicone paint ATLAS SALTA N (optional) used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Façade nano-silicone paint ATLAS SALTA (optional) used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Façade silicone-siloxane paint ATLAS (optional) used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Façade acrylic paint ATLAS SALTA E (optional) used with mineral and acrylic rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Façade nano-silicone paint ATLAS SALTA N PLUS (optional) used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Façade silicone-ceramic paint ATLAS (optional) used with mineral, acrylic, silicone, silicate and silicone-silicate rendering coats, delivered ready-mixed. 	0.15 ÷ 0.25 (l/m ²)	-
	<ul style="list-style-type: none"> • Silicone impregnating agent ATLAS BEJCA (optional) used with mineral rendering coats, delivered ready-mixed. 	0.20 ÷ 0.25 (l/m ²)	-

2. INTENDED PRODUCT USE

2.1 Determination of intended use

The ATLAS ETICS set of products is intended for thermal insulation of external walls of newly erected buildings and buildings already in use (refurbishment).

2.2. Range and conditions of use

Thermal insulation sets are installed on vertical walls. They can also be applied on horizontal or inclined facades if not exposed to atmospheric conditions.

Set of products, covered by this National Technical Assessment, is designed for use on substrates made of masonry elements (bricks, blocks, stone, etc.) or concrete (installed on-site or in form of prefabricates), with or without plasters.

Thermal insulation sets are made of non-loadbearing building elements and do not affect stability of walls which they are fixed to. But, they can affect their durability by improving protection against atmospheric conditions. They are not designed to provide airtightness of a building structure.

Application of thermal insulation consists in fixing a layered set to existing walls, from the outside. The set consists of polystyrene (EPS) as a thermal insulation material, reinforced layer (base coat) made of an adhesive mortar and reinforcing mesh, priming mass, rendering coat and optional façade paint, as listed in Table 1. Polystyrene boards should be fixed to substrate with an adhesive mortar (bonded surface not less than 40%) or an adhesive mortar and mechanical fixings (bonded surface not less than 40%).

The use of set covered by this National Technical Assessment should follow technical designs prepared for particular objects. The design should include:

- Polish standards (incl. PN-EN ISO 13788:2013) and building regulations, in particular regulation of the Minister of Infrastructure of 12 April 2012 on technical conditions for buildings and their location (Journal of Laws of 2019, item 1065 with further changes),
- decisions of this National Technical Assessment,
- ITB instruction no. 447/2009,
- ITB Technical Conditions of Execution and Acceptance of Building Projects: Part C, Book 8, Warsaw 2020,

and determine at least:

- mode of substrate preparation,
- type and thickness of polystyrene boards,
- type, number and distribution of mechanical fixings, if used,
- mode of processing of particular façade elements (window and door reveals, balconies, plinths, expansion joints and other).

ATLAS ETICS thermal insulation sets applied on non-flammable substrates (minimum reaction to fire class A2-s3, d0 acc. to PN-EN 13501-1:2019) have been classified according to norm PN-B-02867:2013 in regard to fire spread as fire retardant.

Thermal insulation of buildings with ATLAS ETICS system should be executed by professional entrepreneurs, take into account guidance of the Applicant for this National Technical Assessment. Ambient temperature during application and setting of adhesive mortars ATLAS HOTER U2 and ATLAS HOTER U2-B should be from +10 up to +35°C, adhesive mass ATLAS STOPTER K-100 – from +5 up to +30°C, and for other products included in ATLAS ETICS set - from +3 up to +30°C. During installation of thermal insulation systems intervals between application of particular layers should be followed according to producer's manual.

3. PRODUCT PERFORMANCES AND METHODS USED FOR THEIR EVALUATION

3.1 Performances of thermal insulation sets ATLAS ETICS

Performances of insulation sets ATLAS ETICS are given in tables 2 ÷ 16.

Table 2. Thermal insulation sets ATLAS ETICS with reinforced layer made of mortars ATLAS GRAWIS U and ATLAS GRAWIS U PRO.

Item	Essential characteristics	Performance	Method of assessment
1	2	3	4
1	Water absorption (capillary action) after 1 hour, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat 	<ul style="list-style-type: none"> < 0.15 < 0.50 	EAD 040083-00-0404
2	Water absorption (capillary action) after 24 hours, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat 	<ul style="list-style-type: none"> < 0.50 < 0.70 	
3	Adhesion of the top coat to polystyrene, MPa, testing of samples: <ul style="list-style-type: none"> in laboratory conditions after ageing after frost resistance cycles 	<ul style="list-style-type: none"> ≥ 0.08 ≥ 0.08 ≥ 0.08 	
4	Frost resistance of the top coat	No damage: cracking, scores, debonding and blistering	
5	Impact resistance, after ageing, category	III	
6	Relative diffusion resistance (with paint or without paint), m:	≤ 0.30	
7	Algae growth susceptibility	acc. to Table 13	
8	Thermal insulation (thermal resistance and heat transfer coefficient)	acc. to Attachment D	EAD 040083-00-0404
9	Adhesive mortar adhesion to concrete and thermal insulation material	acc. to Tables 14&16	
10*	Classification in the extent of fire spread through external walls when exposed to fire from the façade side	Fire retardant	PN-B-02867:2013

* Fire classification refers to thermal insulation sets used on non-flammable substrates (at least reaction to fire class A2-s3,d0 acc. to PN-EN 13501-1:2010)

Table 3. Thermal insulation sets ATLAS ETICS with reinforced layer made of mortar ATLAS HOTER U2.

Item	Essential characteristics	Performance	Method of assessment
1	2	3	4
1	Water absorption (capillary action) after 1 hour, kg/m ² : <ul style="list-style-type: none"> reinforced layer 	< 0.15	EAD 040083-00-0404



	<ul style="list-style-type: none"> top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS hydrophilic render top coat with ATLAS acrylic render 	<p>< 0.30</p> <p>< 0.30</p> <p>< 0.30</p> <p>< 0.30</p> <p>< 0.30</p> <p>< 0.30</p> <p>< 0.30</p> <p>< 0.30</p>	
2	Water absorption (capillary action) after 24 hours, kg/m ² : <ul style="list-style-type: none"> reinforced coat top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS hydrophilic render top coat with ATLAS acrylic render 	<p>< 0.50</p> <p>< 0.70</p> <p>< 0.70</p> <p>< 0.70</p> <p>< 0.70</p> <p>< 0.70</p> <p>< 0.70</p> <p>< 0.70</p> <p>< 0.70</p>	
3	Adhesion of the top coat to polystyrene, MPa, testing of samples: <ul style="list-style-type: none"> in laboratory conditions after ageing after frost resistance cycles 	<p>≥ 0.08</p> <p>≥ 0.08</p> <p>≥ 0.08</p>	EAD 040083-00-0404
4	Frost resistance of the top coat	No damage: cracking, scores, debonding and blistering	
5	Impact resistance, after ageing, category <ul style="list-style-type: none"> top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS hydrophilic render top coat with ATLAS acrylic render 	<p>III*</p> <p>III*</p> <p>III*</p> <p>III*</p> <p>III****/II***/I**</p> <p>III****/II***/I**</p> <p>III*</p> <p>III*</p>	
6	Impact resistance, after ageing, J	acc. to Table 4	p. 3.2.1
7	Resistance to hailstorm	acc. to Table 5	PN-EN 1358:2012
8	Relative diffusion resistance (with paint or without paint), m:	≤ 0.60	EAD 040083-00-0404
9	Algae growth susceptibility	acc. to Table 13	PN-EN 15458:2014 (on samples subject to leaching)
10	Thermal insulation (thermal resistance and heat transfer coefficient)	acc. to Attachment D	
11	Adhesive mortar adhesion to concrete and thermal insulation material	acc. to Table 14	EAD 040083-00-0404
12*****	Classification in the extent of fire spread through external walls when exposed to fire from the façade side	Fire retardant	PN-B-02867:2013
*set with boards EPS TR80 or TR100 and single mesh layer **set with boards EPS TR80 or TR100 and double mesh layer ***set with boards EPS TR100 and single mesh layer ****set with boards EPS TR80 and single mesh layer *****Fire classification refers to thermal insulation sets used on non-flammable substrates (at least reaction to fire class A2-s3,d0 acc. to PN-EN 13501-1:2010)			

Table 4. Resistance to impact after ageing – thermal insulation set ATLAS ETICS with reinforced layer made of mortar ATLAS HOTER U2 .

Item	Top coat with reinforced layer made of mortar ATLAS HOTER U2			Impact resistance*
	Reinforcing mesh	Priming mass	Rendering top coat	
1	2	3	4	5
1	ATLAS 150	ATLAS SILKON ANX	Silicone render ATLAS/ Silicone-siloxane render ATLAS	20J
*set with boards EPS TR100				

Table 5. Resistance to hailstorm – thermal insulation set ATLAS ETICS with reinforced layer made of mortar ATLAS HOTER U2 .

Item	Top coat with reinforced layer made of mortar ATLAS HOTER U2			Resistance to hailstorm*
	Reinforcing mesh	Priming mass	Rendering top coat	
1	2	3	4	5
1	ATLAS 150	ATLAS SILKON ANX	Silicone render ATLAS/ Silicone-siloxane render ATLAS	6 m/s
1	ATLAS 150	ATLAS SILKON ANX	Silicone render ATLAS IN	5 m/s
*set with boards EPS TR100				

Table 6. Thermal insulation sets ATLAS ETICS with reinforced layer made of mortar ATLAS HOTER U2-B.

Item	Essential characteristics	Performance	Method of assessment	
1	2	3	4	
1	Water absorption (capillary action) after 1 hour, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS silicate and ATLAS hydrophilic render top coat with ATLAS acrylic render 	<ul style="list-style-type: none"> < 0.15 < 0.30 < 0.30 < 0.30 < 0.30 < 0.30 < 0.30 < 0.30 < 0.30 	EAD 040083-00-0404	
2	Water absorption (capillary action) after 24 hours, kg/m ² : <ul style="list-style-type: none"> reinforced coat top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS silicate and ATLAS hydrophilic render top coat with ATLAS acrylic render 	<ul style="list-style-type: none"> < 0.50 < 0.85 < 0.85 < 0.85 < 0.85 < 0.85 < 0.85 < 0.85 < 0.85 		
3	Adhesion of the top coat to polystyrene, MPa, testing of samples: <ul style="list-style-type: none"> in laboratory conditions after ageing after frost resistance cycles 	<ul style="list-style-type: none"> ≥ 0.08 ≥ 0.08 ≥ 0.08 		
4	Frost resistance of the top coat	No damage: cracking, scores, debonding and blistering		
5	Impact resistance, after ageing, category <ul style="list-style-type: none"> top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS silicate and ATLAS hydrophilic render top coat with ATLAS acrylic render 	<ul style="list-style-type: none"> III* III* III* III* III* III* III****/II***/I**/II***** I**/II*** III* 		
8	Relative diffusion resistance (with paint or without paint), m:	≤ 0.30		
9	Algae growth susceptibility	acc. to Table 13		PN-EN 15458:2014 (on samples subject to leaching)
10	Thermal insulation (thermal resistance and heat transfer coefficient)	acc. to Attachment D		EAD 040083-00-0404
11	Adhesive mortar adhesion to concrete and thermal insulation material	acc. to Table 14		

12*****	Classification in the extent of fire spread through external walls when exposed to fire from the façade side	Fire retardant	PN-B-02867:2013
<p>*set with boards EPS TR80 or TR100 and single mesh layer ** set with boards EPS TR100 and single mesh layer *** set with boards EPS TR100 and single mesh layer ****set with boards EPS TR100 and double mesh layer ***** set with boards EPS TR80 and double mesh layer *****Fire classification refers to thermal insulation sets used on non-flammable substrates (at least reaction to fire class A2-s3,d0 acc. to PN-EN 13501-1:2010</p>			

Table 7. Thermal insulation sets ATLAS ETICS with reinforced layer made of mortar ATLAS ROKER U.

Item	Essential characteristics	Performance	Method of assessment	
1	2	3	4	
1	Water absorption (capillary action) after 1 hour, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS CERMIT WN render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS silicate and ATLAS hydrophilic render 	<ul style="list-style-type: none"> < 0.10 < 0.25 < 0.25 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 	EAD 040083-00-0404	
2	Water absorption (capillary action) after 24 hours, kg/m ² : <ul style="list-style-type: none"> reinforced coat top coat with ATLAS CERMIT render top coat with ATLAS CERMIT BA-M render top coat with ATLAS CERMIT WN render top coat with ATLAS silicone render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone IN render top coat with ATLAS silicone-silicate render top coat with ATLAS silicate and ATLAS hydrophilic render 	<ul style="list-style-type: none"> < 0.30 < 0.50 < 0.50 < 0.22 < 0.20 < 0.20 < 0.20 < 0.15 < 0.17 		
3	Adhesion of the top coat to polystyrene, MPa, testing of samples: <ul style="list-style-type: none"> in laboratory conditions after ageing after frost resistance cycles 	<ul style="list-style-type: none"> ≥ 0.08 ≥ 0.08 ≥ 0.08 		
4	Frost resistance of the top coat	No damage: cracking, scores, debonding and blistering		
5	Impact resistance, after ageing, category	III		
8	Relative diffusion resistance (with paint or without paint), m:	acc. to Table 8		
10	Thermal insulation (thermal resistance and heat transfer coefficient)	acc. to Attachment D		
11	Adhesive mortar adhesion to concrete and thermal insulation material	acc. to Table 14		
12*	Classification in the extent of fire spread through external walls when exposed to fire from the façade side	Fire retardant		PN-B-02867:2013

*Fire classification refers to thermal insulation sets used on non-flammable substrates (at least reaction to fire class A2-s3,d0 acc. to PN-

EN 13501-1:2010

Table 8. Relative diffusion resistance of top coat.

Item	Top coat			Relative diffusion resistance, m
	Priming mass	Rendering coat	Paint coat (paint and impregnating agent)	
1	2	3	4	5
1	ATLAS CERPLAST	ATLAS CERMIT	ATLAS SALTA/ Silicone paint ATLAS	≤ 0.30
2			ATLAS SALTA N/Nano-silicone paint ATLAS/Silicone-siloxane paint ATLAS	≤ 0.28
3			ATLAS SALTA S/Polysilicate paint ATLAS/Hydrophilic paint ATLAS	≤ 0.26
4	ATLAS CERPLAST	ATLAS CERMIT WN	-	≤ 0.50
5			ATLAS BEJCA	≤ 1.00
6	ATLAS SILKAT ASX	Silicate render ATLAS/ Hydrophilic render ATLAS	ATLAS SALTA/ Silicone paint ATLAS	≤ 0.34
7			ATLAS SALTA N/Nano-silicone paint ATLAS/Silicone-siloxane paint ATLAS	≤ 0.33
8			ATLAS SALTA S/Polysilicate paint ATLAS/Hydrophilic paint ATLAS	≤ 0.35
9	ATLAS SILKON ANX	Silicone render ATLAS/ Silicone-siloxane render ATLAS	ATLAS SALTA/ Silicone paint ATLAS	≤ 0.60
10			ATLAS SALTA N/Nano-silicone paint ATLAS/Silicone-siloxane paint ATLAS	≤ 0.50
11	ATLAS SILKON ANX	Silicone render ATLAS IN	ATLAS SALTA/ Silicone paint ATLAS	≤ 0.60
12			ATLAS SALTA N/Nano-silicone paint ATLAS/Silicone-siloxane paint ATLAS	≤ 0.50
13	ATLAS SILKON ANX	Silicone-silicate render ATLAS	ATLAS SALTA/ Silicone paint ATLAS	≤ 0.51
14			ATLAS SALTA N/Nano-silicone paint ATLAS/Silicone-siloxane paint ATLAS	≤ 0.55
15			ATLAS SALTA S/Polysilicate paint ATLAS/Hydrophilic paint ATLAS	≤ 0.58

Table 9. Thermal insulation sets ATLAS ETICS with reinforced layer made of mortars ATLAS HOTER U, ATLAS HOTER U White, ATLAS STOPTER K-20 and ATLAS STOPTER K-50.

Item	Essential characteristics	Performance	Method of assessment
1	2	3	4
1	Water absorption (capillary action) after 1 hour, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat 	<p>< 0.10</p> <p>< 0.50</p>	EAD 040083-00-0404
2	Water absorption (capillary action) after 24 hours, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat 	<p>< 0.35</p> <p>< 0.70</p>	
3	Adhesion of the top coat to polystyrene, MPa, testing of samples: <ul style="list-style-type: none"> in laboratory conditions after ageing after frost resistance cycles 	<p>≥ 0.08</p> <p>≥ 0.08</p> <p>≥ 0.08</p>	
4	Frost resistance of the top coat	No damage: cracking, scores, debonding and blistering	
5	Impact resistance, after ageing, category <ul style="list-style-type: none"> top coat with mineral renders top coat with silicate renders top coat with silicone renders top coat with ATLAS silicone-silicate renders top coat with ATLAS acrylic renders top coat with mosaic renders 	<p>III</p> <p>II</p> <p>III*/II*/I***</p> <p>II</p> <p>III</p> <p>II</p>	
6	Relative diffusion resistance (with paint or without paint), m:	≤ 0.30	
7	Algae growth susceptibility	acc. to Table 13	PN-EN 15458:2014 (on samples subject to leaching)
8	Thermal insulation (thermal resistance and heat transfer coefficient)	acc. to Attachment D	EAD 040083-00-0404
9	Adhesive mortar adhesion to concrete and thermal insulation material	acc. to Tables 14	
10****	Classification in the extent of fire spread through external walls when exposed to fire from the façade side	Fire retardant	PN-B-02867:2013

*set with boards EPS R100 and silicone render ATLAS SILKON BA
** set with boards EPS TR100 and silicone renders ATLAS SILICONE RENDER, ATLAS SILICONE-SILOXANE RENDER, ATLAS SILICONE IN RENDER
*** set with boards EPS TR100, double mesh layer and silicone renders ATLAS SILICONE RENDER, ATLAS SILICONE-SILOXANE RENDER
**** Fire classification refers to thermal insulation sets used on non-flammable substrates (at least reaction to fire class A2-s3,d0 acc. to PN-EN 13501-1:2010)

Table 10. Thermal insulation sets ATLAS ETICS with reinforced layer made of mortar
ATLAS STOPTER K-100.

Item	Essential characteristics	Performance	Method of assessment
1	2	3	4
1	Water absorption (capillary action) after 1 hour, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat 	< 0.15 < 0.30	EAD 040083-00-0404
2	Water absorption (capillary action) after 24 hours, kg/m ² : <ul style="list-style-type: none"> reinforced layer top coat 	< 0.50 < 0.85	
3	Adhesion of the top coat to polystyrene, MPa, testing of samples: <ul style="list-style-type: none"> in laboratory conditions after ageing after frost resistance cycles 	≥ 0.08 ≥ 0.08 ≥ 0.08	
4	Frost resistance of the top coat	No damage: cracking, scores, debonding and blistering	
5	Impact resistance, after ageing, category <ul style="list-style-type: none"> top coat with ATLAS silicone render top coat with ATLAS silicone IN render top coat with ATLAS silicone-siloxane render top coat with ATLAS silicone-silicate render 	II*/I** II***/II****/I** II*/I* I*/I**	
6	Impact resistance, after ageing, J	acc. to Table 11	p. 3.2.1
7	Resistance to hailstorm	acc. to Table 12	PN-EN 1358:2012
8	Relative diffusion resistance (with paint or without paint), m:	≤ 0.75	EAD 040083-00-0404
9	Algae growth susceptibility	acc. to Table 13	PN-EN 15458:2014 (on samples subject to leaching)
10	Thermal insulation (thermal resistance and heat transfer coefficient)	acc. to Attachment D	EAD 040083-00-0404
11	Adhesive mortar adhesion to concrete and thermal insulation material	acc. to Tables 15	
12*****	Classification in the extent of fire spread through external walls when exposed to fire from the façade side	Fire retardant	PN-B-02867:2013

*set with boards EPS TR80 or TR100 and single mesh layer
** set with boards EPS TR80 or TR100 and double mesh layer
*** set with boards EPS TR100 and single mesh layer
****set with boards EPS TR180 and single mesh layer
*****Fire classification refers to thermal insulation sets used on non-flammable substrates (at least reaction to fire class A2-s3,d0 acc. to PN-EN 13501-1:2010)

Table 11. Resistance to impact – thermal insulation set ATLAS ETICS with reinforced layer made of mortar ATLAS STOPTER K-100 .

Item	Top coat with reinforced layer made of mortar ATLAS STOPTER K-100		Impact resistance
	Reinforcing mesh	Rendering top coat	
1	2	3	4
1	ATLAS 150	Silicone render ATLAS/ Silicone-siloxane render ATLAS	20J*
2	2 X ATLAS 150		30J*
3	ATLAS 150 + SSA-1111-340-SM		140J*/120J**
4	ATLAS 150	ATLAS silicone render IN	20J*
5	2 X ATLAS 150		30J*/30J**
6	ATLAS 150 + SSA-1111-340-SM		120J*/120J**
7	2 X ATLAS 150	ATLAS silicone-silicate render	70J*/30J**
8	ATLAS 150 + SSA-1111-340-SM		120J*/120J**
*set with boards EPS TR100 **set with boards EPS TR80			

Table 12. Resistance to hailstorm – thermal insulation set ATLAS ETICS with reinforced layer made of mortar ATLAS STOPTER K-100 .

Item	Top coat with reinforced layer made of mortar ATLAS STOPTER K-100		Resistance to hailstorm*
	Reinforcing mesh	Rendering top coat	
1	2	3	4
1	ATLAS 150 + SSA-1111-340-SM	Silicone render ATLAS/ Silicone-siloxane render ATLAS	30 m/s
1	ATLAS 150	Silicone render ATLAS IN	22 m/s
*set with boards EPS TR100			

Table 13. Algae growth susceptibility of products for application of top coats of thermal insulation sets ATLAS ETICS.

Item	Products for application of top coat of ATLAS ETICS sets	Algae growth susceptibility
1	2	3
1	Silicone-silicate render ATLAS	0 – non-susceptible to algae growth
2	Silicate render ATLAS/Hydrophilic render ATLAS	0 – non-susceptible to algae growth
3	Acrylic render ATLAS	0 – non-susceptible to algae growth
4	Silicone render ATLAS IN	0 – non-susceptible to algae growth
5	Silicone render ATLAS/Silicone-siloxane render ATLAS	0 – non-susceptible to algae growth
6	Façade Silicone paint ATLAS SALTA/silicone paint ATLAS	0 – non-susceptible to algae growth
7	Façade Silicone paint ATLAS SALTA N/nano-silicone paint ATLAS/silicone-siloxane paint ATLAS	1 – reduces algae development
8	Façade silicate paint ATLAS SALTA S/polysilicate paint ATLAS/hydrophilic paint ATLAS	1 – reduces algae development

Table 14. Adhesion of adhesive mortars to concrete and thermal insulation material, part 1.

Item	Properties	Performance							Method of assessment	
		ATLAS GRAWIS S	ATLAS GRAWIS U	ATLAS GRAWIS S PRO	ATLAS GRAWIS U PRO	ATLAS HOTER S	ATLAS HOTER U	ATLAS HOTER U white		
1	2	3	4	5	6	7	8	9	8	
1	Adhesion of mortar to concrete, MPa: - in air-dry condition - after 48 h of immersion in water and 2 h of drying - after 48 h of immersion in water and 7 days of drying				≥ 0.25 ≥ 0.08					EAD 040083-00-0404
2	Adhesion of mortar to white and graphite EPS, MPa: - in air-dry condition after 28 days - after 48 h of immersion in water and 2 h of drying - after 48 h of immersion in water and 7 days of drying				≥ 0.08 ≥ 0.03 ≥ 0.08					

Table 14. Adhesion of adhesive mortars to concrete and thermal insulation material (EPS), part 2.

Item	Properties	Performance					Method of assessment
		ATLAS HOTER U2-B	ATLAS HOTER U2	ATLAS ROKER U	ATLAS STOPTER K-20	STOPTER K-50	
1	2	3	4	5	6	7	8
1	Adhesion of mortar to concrete, MPa: - in air-dry condition - after 48 h of immersion in water and 2 h of drying - after 48 h of immersion in water and 7 days of drying			≥ 0.25 ≥ 0.08 ≥ 0.25			EAD 040083-00-0404
2	Adhesion of mortar to white and graphite EPS, MPa: - in air-dry condition after 28 days - after 48 h of immersion in water and 2 h of drying - after 48 h of immersion in water and 7 days of drying			≥ 0.08 ≥ 0.03 ≥ 0.08			

Table 15. Adhesion of adhesive mortars to thermal insulation material (EPS).

Item	Properties	Performance	Method of assessment
		ATLAS STOPTER K-100	
1	2	3	4
1	Adhesion of mortar to white and graphite EPS, MPa: - in air-dry condition after 28 days - after 48 h of immersion in water and 2 h of drying - after 48 h of immersion in water and 7 days of drying	≥ 0.08 ≥ 0.03 ≥ 0.08	

Table 16. Adhesion to concrete and thermal insulation material (EPS).

Item	Properties	Performance		Method of assessment
		ATLAS GRAWIS U/ ATLAS GRAWIS U PRO	ATLAS GRAWIS S/ ATLAS GRAWIS S PRO	
1	2	3	4	5
1	Adhesion of adhesive mortar to concrete, average value after 24 h in laboratory conditions, MPa	≥ 0.25	≥ 0.25	EAD 040083-00-0404
2	Adhesion of adhesive mortar to polystyrene, average value after 24 h in laboratory conditions, MPa	≥ 0.08	≥ 0.08	

3.2. Range and conditions of use

Tests should be performed with methods listed in tables 2 ÷ 16 and in point 3.2.1.

3.2.1. Check of top coat impact resistance.

The test of top coat impact resistance is performed in accordance to EAD 040083-00-0404, with a steel ball of mass 2.04 kg – in case of impact energy 20 ÷ 50 J or 3.48 kg – in case of impact energy 70 ÷ 140 J, with impact made by throwing the ball with energy listed in tables 4 and 11.

4. PACKAGING, TRANSPORTATION, STORAGE AND PRODUCT LABELLING

Products included in the set for installation of external thermal insulation of walls ATLAS ETICS can be transported by any means of transport, in a way protecting packages against mechanical damage, according to producers instruction.

Products included in the set should be stored in dry aired rooms, away from heaters, in a way ensuring safety of storage and keeping constant technical performance.

Product labelling should conform to the regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the system of declaration of building materials performance and system of their labelling with a construction mark (Journal of Laws of 2016, item 1966 with further changes).

The labelling with a construction mark should be assisted with the following data:

- two last numbers of a year, when the construction mark was placed on the construction

product for the first time,

- name and address of the manufacturer or identification mark allowing unequivocal determination of the manufacturer's name and address,
- name and type marking of the construction product,
- number and year of publication of the National Technical Assessment, according to which the performance is declared (ITB-KOT-2020/1616 edition 1),
- number of the National Declaration of Performance,
- level and class of the declared performance,
- name of the assessment body, which participated in assessment and verification of constancy of construction product performance,
- address of web site of the manufacturer, if national declaration of performance is published there.

Together with the national declaration of performance one should deliver or publish in particular cases a safety data sheet and/or information on hazardous substances present in the construction product, which are listed in the articles 31 or 33 of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.

Moreover, labelling of the construction product forming a hazardous mixture according to REACH regulation, should conform to Regulation (EC) No 1616/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

4. ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

5.1. National system of assessment and verification of constancy of performance

According to the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the mode of declaration of construction materials performance and mode of their labelling with a construction mark (Journal of Laws of 2016, item 1966 with further changes) the 2+ system of assessment and verification of constancy of performance is in use.

5.2. Test of type

Performance, assessed in point 3, form the test of product type until change of raw materials, components, production lines or processing plant occurs.

5.3. Factory production control

The manufacturer should provide implemented system of production control at a processing plant. Any elements of this system, requirements and decisions, accepted by the manufacturer, should be systematically documented in a form of rules and procedures and should include test reports. Factory production control should be adjusted to the technology of production and should allow continuation of the declared performance of the product in its mass production.

Factory control of production includes specification and check of raw materials and components, control and testing of the manufacturing process and check-up (acc. to point 5.4), led by the manufacturer in accordance to a set plan of tests and according to rules and procedures set in the factory production control documentation.

The results of the factory production control should be systematically registered. The records should confirm that products meet the criteria of assessment and verification of constancy of performance. Particular products and products batches and production details related to them must be available for complete identification and recreation.

5.4. Check-up

5.4.1 Program of check-up. The program includes:

- a) ongoing testing,
- b) periodic testing.

5.4.2. Ongoing testing. Ongoing testing include check of:

- a) adhesive mortars, masses for application of reinforced layer, rendering mortars and masses, priming agents and façade paints with regard to:
 - external appearance,
 - volume density or bulk density,
- b) fiberglass mesh with regard to:
 - mesh size,
 - mesh width,
 - mass per unit area.

5.4.3. Periodic testing. Periodic testing include check of:

- a) adhesive mortars and masses for application of reinforced layers with regard to:
 - ash content,

- adhesion to concrete (applies to adhesive mortars) and to polystyrene,
- dry matter content (applies to masses for application of reinforced layer),

b) rendering masses and mortars with regard to:

- dry matter content (applies to rendering mass),
- ash content,

c) priming masses for renders, primers, façade paints with regard to:

- dry matter content,
- ash content,

d) fiberglass meshes with regard to:

- ash content,
- breaking force and relative elongation, along warp and weft,

e) thermal insulation systems with regard to the degree of fire spreading through walls when exposed to fire from the façade side.

5.5. Frequency of tests

On-going tests should be conducted in accordance with a test plan, but not less frequently than for each batch of products. The product batch size should be specified in the factory production control documentation.

Periodic tests should be carried out at least once every 3 years.

6. INSTRUCTION

6.1. National Technical Assessment ITB-KOT-2020/1616 edition 1 is a positive assessment of the main performances of the set for application of thermal insulation system ATLAS ETICS which, according to the intended use resulting from the Assessment decision, influence fulfilment of basic requirements for construction objects, where the products is to be used.

6.2. National Technical Assessment ITB-KOT-2020/1616 edition 1 is not a document authorising labelling the product with a construction mark.

According to Act on construction materials of 16 April 2004 with further changes (Journal of Laws of 2020, item 215 with further changes) set of products, which this National Technical Assessment refers to, can be marketed on the domestic market if the manufacturer performs assessment and verification of constancy of performance, issues national declaration of performance acc. to. National Technical Assessment ITB-KOT-2020/1616 edition 1 and labelled the products with a construction mark according to current regulations.

6.3. National Technical Assessment ITB-KOT-2020/1616 edition 1 does not affect rights resulting from regulations on industrial property protection, in particular the Act of 30 June 2000 –

Industrial property act (Journal of Laws of 2020, item 286 with further changes). Providing these rights is the responsibility of the users of this ITB National Technical Assessment.

6.4 By issuing this National Technical Assessment ITB does not bear responsibility for any violation of exclusive or acquired rights.

6.5. National Technical Assessment does not release the manufacturer from responsibility for proper products quality, and installers from responsibility for their appropriate application.

6.6. Validity of the National Technical Assessment can be extended for further periods, not longer than 5 years.

7. LIST OF DOCUMENTS PROCESSED IN THE ASSESSMENT

7.1. Reports, test reports, assessments, classifications.

1. 01141/20/R112NZZ. Fire classification with regard to transfer through walls with fire action from the outside. Zakład Badań Ogniwych ITB, Warsaw 2020.
2. Test report LZM00-01141/20/R113NZZ, Zakład Inżynierii Materiałów Budowlanych ITB, Warsaw 2020.
3. Test report LZM00-01141/20/R102NZZ, Zakład Inżynierii Materiałów Budowlanych ITB, Warsaw 2020.
4. Evaluation report for the assessment of ATLAS GRAWIS (ETA-16/0933) External Thermal Insulation Composite System with rendering for the use as external insulation of building walls.
5. Test report LZM01-01141/19/R97NZZ, LZM02001141/19/R97NZZ, Zakład Inżynierii Materiałów Budowlanych ITB, Warsaw 2020.
6. Reports from periodic and on-going check-ups acc. to AT-15-9090/2016. Atlas Sp. z o.o., Łódź 2018.
7. Elaboration NZM-052/2017 and letter NZM-04955R:22/RZ/16 of 27.04.2018. Zakład Inżynierii Materiałów Budowlanych ITB.
8. Test report LZM04/1141/17/R69/NZZ, LZM07-1141/17/R69NZZ, LZM08-1141/17/R69NZZ, Zakład Inżynierii Materiałów Budowlanych ITB.
9. Test reports LZM00-1141/16/R65NZZ, LZM01-1141/16/R65NZZ, LZM02-1141/16/R65NZZ, LZM03-1141/16/R65NZZ, LZM04-1141/16/R65NZZ, LZM05-1141/16/R65NZZ, LZM06-1141/16/R65NZZ, LZM07-1141/16/R65NZZ, LZM08-1141/16/R65NZZ, LZM09-1141/16/R65NZZ, LZM10-1141/16/R65NZZ, LZM11-1141/16/R65NZZ. Zakład Inżynierii Materiałów Budowlanych ITB.
10. 1141.3/16/R58NZZ, 01141.1/16/R51NP. Fire classification with regard to transfer through walls with fire action from the outside. Zakład Badań Ogniwych ITB.
11. LZM01-1141/16/R59NZZ, LZM02-1141/16/R59NZZ, LZM03-1141/16/R59NZZ, LZM06-

- 1141/16/R59NZM. Report of laboratory testing of thermal insulation systems ATLAS ETICS PLUS. Zakład Inżynierii Materiałów Budowlanych ITB.
12. LM01-1141/15/R39NZM, LM02-1141/15/R39NZM, LM03-1141/15/R39NZM, LM04-1141/15/R39NZM, LM10-1141/15/R39NZM. Testing of thermal insulation sets ATLAS ETICS. Zakład Inżynierii Materiałów Budowlanych ITB. Warsaw 2016.
13. LM04-1141/15/R39NM, LM05-1141/15/R39NM, LM07-1141/15/R39NM, LM09-1141/15/R39NM, LM11-1141/15/R39NM. Report from laboratory testing of products included in the thermal insulation system ATLAS ETICS PLUS. Zakład Inżynierii Materiałów Budowlanych ITB.
14. Specialistic opinion on the use of new reinforcing meshes in the ATLAS ETICS set. Zakład Inżynierii Materiałów Budowlanych ITB. Warsaw 2016.
15. 01141/13/R18NM (LM00-01141/13/R18NM). Assessment of suitability of ATLAS 165 mesh. Zakład Inżynierii Materiałów Budowlanych ITB. Warsaw 2013.
16. 1141/12/R14NM (LM00-1141/12/R14NM). Laboratory testing of thermal insulation systems ATLAS. Zakład Inżynierii Materiałów Budowlanych ITB. Warsaw 2012.
17. NM-3/03934/A/09. Testing of products included in the thermal insulation systems ATLAS. Part 1 & 2. Zakład Inżynierii Materiałów Budowlanych ITB. Warsaw 2010.

7.2. Norms and related documents.

PN-B-02867:2013	<i>Fire protection of buildings. Method of testing of the range of fire spread through external walls from the outside and classification.</i>
PN-EN 1097-3:2000	<i>Tests for mechanical and physical properties of aggregates. Determination of loose bulk density and voids</i>
PN-EN 13163:2016	<i>Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products – Specification.</i>
PN EN 13788:2013	<i>Hygrothermal performance of building components and building elements - Internal surface temperature to avoid critical surface humidity and interstitial condensation - Calculation methods</i>
PN-EN 13501-1:2019	<i>Fire classification of construction products and building elements - Part 1: Classification based on reaction to fire tests.</i>
AT-15-9090/2016	<i>Set of products for thermal insulation of external walls of buildings with ATLAS ETICS system.</i>
EAD 040083-00-0404	<i>External thermal insulation composite systems (ETICS) with renderings.</i>
ITB instruction no. 447/2009	<i>External thermal insulation composite system ETICS. Rules of design and application.</i>
	<i>Technical conditions for performing and accepting construction projects ITB: Part C, Book 8, Warsaw 2020.</i>

ATTACHMENTS

Attachment A. Properties of thermal insulation material.....	26
Attachment B. Fiberglass mesh properties.....	27
Attachment C. Identification properties of adhesive mortars, rendering mortars and masses, priming agents and paints.....	28
Attachment D. Thermal resistance and heat transfer coefficient.....	36

Attachment A

Table A1. Properties of polystyrene boards (EPS)

Factory-made polystyrene boards (EPS) according to norm PN-EN 13163+A1:2015 (until transition period for norm PN-EN 13163+A2:2016)	
Description, properties and assessment methods	
Reaction to fire PN-EN 13501-1+A1:2010	Class E
Thermal resistance (m²K)/W	Set at CE marking according to PN-EN 13163+A2:2016
Thickness PN-EN 823:2013	EPS-EN 13163 – T1
Length PN-EN 822:2013	EPS-EN 13163 – L2
Width PN-EN 824:2013	EPS-EN 13163 – W2
Squareness PN-EN 824:2013	EPS-EN 13163 – S5
Flatness PN-EN 825:2013	EPS-EN 13163 – P5
Surface condition	Cut surfaces (homogenous and with no “coating”)
Dimensions stability <ul style="list-style-type: none"> - Laboratory conditions PN-EN 1603:2013 - Set conditions of temperature and humidity PN-EN 1604:2013 	EPS-EN 13163 – DS(N)2 EPS-EN 13163 – DS(70,-)2
Water vapour diffusive resistance coefficient (μ) PN-EN 12086:2013	20 to 70
Tensile strength perpendicular to faces, in dry conditions PN-EN 1607:2013	EPS-EN 13163 – TR80 or EPS-EN 13163 – TR100
Bending strength, kPa PN-EN 12089:2013	≥ 75
Shear strength, kPa PN-EN 12090:2013	≥ 20

Attachment B

Table B1. Fiberglass mesh

ITEM	Commercial name	Identification and requirements
1	2	3
1	SSA-1111-340-SM	acc. to ETA-16/0526
2	ATLAS 150	acc. to Table B2
3	ATLAS 165	acc. to Table B2

Table B2. Properties of fiberglass mesh ATLAS 150 and ATLAS 165

Item	Properties	Requirements		Test methods
		ATLAS 150	ATLAS 165	
1	2	3	4	5
1	Width, m	1.0 ± 1 %	1.0 ± 1 %	EAD 040083-00-0404
2	Clear mesh size, mm	(4.5 X 5.0) ± 0.5	(3.7 X 3.9) ± 0.5	
3	Mass per unit area, g/m ²	150 (- 3 / + 10 %)	160 (- 3 / + 10 %)	
4	Ash content at 625 °C, %	80.1 ± 5%	80.1 ± 5%	
5	Breaking force along warp and weft, N/mm, tested on samples stored for 28 days in: - laboratory conditions - alkaline solution (1g NaOH + 4g KOH+ 0.5g Ca(OH) ₂ / 1 dm ³)	≥ 35	≥ 35	
		≥ 20 ¹⁾	≥ 20	
6	Relative elongation along warp and weft, at breaking force, %, tested on samples stored for 28 days in: - laboratory conditions - alkaline solution (1g NaOH + 4g KOH+ 0.5g Ca(OH) ₂ / 1 dm ³)	≤ 4.5	≤ 4.5	
		≤ 3.0	≤ 3.0	

¹⁾ minimum 50 % of initial strength (sample stored under laboratory conditions) and not less than 20 N/mm

Attachment C.

Table C1. Identification properties of adhesive mortars ATLAS HOTER S, ATLAS HOTER U and ATLAS HOTER U white

Item	Properties	Requirements			Test methods
		ATLAS HOTER S	ATLAS HOTER U	ATLAS HOTER U white	
1	2	3	4	5	6
1	External appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water			EAD 040083-00-0404
2	Bulk density, g/cm ³	1.4 ± 10 %	1.4 ± 10 %	1.4 ± 10 %	
3	Ash content at 450°C, %	98.6 ÷ 99.2	97.1 ÷ 98.1	97.2 ÷ 98.2	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness up to 8 mm			1)
1) metal mould of wedge shape (wedge length 160 mm, height 8 mm) is filled with mortar; the test result consists in visual evaluation of cracks after 14 days keep in laboratory conditions					

Table C2. Identification properties of adhesive mortars ATLAS HOTER U2, ATLAS HOTER U2-B and ATLAS STOPTER K-20

Item	Properties	Requirements			Test methods
		ATLAS HOTER U2	ATLAS HOTER U2-B	ATLAS STOPTER K-20	
1	2	3	4	5	6
1	External appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water			EAD 040083-00-0404
2	Bulk density, g/cm ³	1.44 ± 10 %	1.36 ± 10 %	1.40 ± 10 %	
3	Ash content at 450°C, %	93.6 ÷ 99.6	93.4 ÷ 99.94	99.3 ÷ 99.9	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness up to 8 mm			1)
1) metal mould of wedge shape (wedge length 160 mm, height 8 mm) is filled with mortar; the test result consists in visual evaluation of cracks after 14 days keep in laboratory conditions					

Table C3. Identification properties of adhesive mortars ATLAS STOPTER K-50, ATLAS GRAWIS S and ATLAS GRAWIS S PRO

Item	Properties	Requirements			Test methods
		ATLAS STOPTER K-50	ATLAS GRAWIS S	ATLAS GRAWIS S PRO	
1	2	3	4	5	6
1	External appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water			EAD 040083-00-0404
2	Bulk density, g/cm ³	1.40 ± 10 %	1.4 ± 10 %	1.4 ± 10 %	
3	Ash content at 450°C, %	98.3 ÷ 98.9	98.8 ÷ 99.4	98.8 ÷ 99.4	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness up to 8 mm			1)
1) metal mould of wedge shape (wedge length 160 mm, height 8 mm) is filled with mortar; the test result consists in visual evaluation of cracks after 14 days keep in laboratory conditions					

Table C4. Identification properties of adhesive mortars ATLAS GRAWIS U, ATLAS ROKER U and ATLAS GRAWIS U PRO

Item	Properties	Requirements			Test methods
		ATLAS GRAWIS U	ATLAS ROKER U	ATLAS GRAWIS U PRO	
1	2	3	4	5	6
1	External appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water			EAD 040083-00-0404
2	Bulk density, g/cm ³	1.25 ± 10 %	1.43 ± 10 %	1.25 ± 10 %	
3	Ash content at 450°C, %	97.8 ÷ 98.8	97.2 ÷ 98.2	97.8 ÷ 98.8	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness up to 8 mm			1)
1) metal mould of wedge shape (wedge length 160 mm, height 8 mm) is filled with mortar; the test result consists in visual evaluation of cracks after 14 days keep in laboratory conditions					

Table C5. Identification properties of adhesive mass ATLAS STOPTER K-100

Item	Properties	Requirements	Test methods
		ATLAS STOPTER K-100	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	EAD 040083-00-0404
2	Volume density, g/cm ³	1.71 ± 10 %	
3	Dry matter content, %	82.4 ± 4.0	
4	Ash content, %: - at 450°C at 900°C	86.2 ÷ 95.2 79.7 ÷ 88.7	

Table C6. Identification properties of priming masses ATLAS CERPLAST, ATLAS SILKAT ASX and ATLAS SILKON ANX

Item	Properties	Requirements			Test methods
		ATLAS CERPLAST	ATLAS SILKAT ASX	ATLAS SILKON ANX	
1	2	3	4	5	6
1	Appearance	homogeneous mass, without lumps and impurity			visual evaluation
2	Volume density, g/cm ³	1.6 ± 10 %	1.45 ± 10 %	1.5 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	67.5 ± 3.4	61.5 ± 3.1	68.6 ± 3.4	
4	Ash content, %: - at 450°C at 900°C	75.6 ÷ 83.6 61.7 ÷ 68.3	77.9 ÷ 87.5 65.1 ÷ 71.9	78.4 ÷ 86.6 63.5 ÷ 70.3	

Table C7. Identification properties of mineral rendering mortar ATLAS CERMIT

Item	Properties	Requirements	Test methods
		ATLAS CERMIT	
1	2	3	4
1	Appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water	Visual evaluation
2	Bulk density, g/cm ³	1.75 ± 10 %	EAD 040083-00-0404
3	Ash content at 450°C, %	98.5 ÷ 99.2	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C8. Identification properties of mineral rendering mortar ATLAS CERMIT WN

Item	Properties	Requirements	Test methods
		ATLAS CERMIT WN	
1	2	3	4
1	Appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water	Visual evaluation
2	Bulk density, g/cm ³	1.50 ± 10 %	EAD 040083-00-0404
3	Ash content at 450°C, %	99.2 ÷ 99.9	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C9. Identification properties of mineral rendering mortar ATLAS CERMIT BA-M

Item	Properties	Requirements	Test methods
		ATLAS CERMIT BA-M	
1	2	3	4
1	Appearance	dry mix, homogeneous, without lumps, homogeneous mass without delamination and lumps is created after processing with water	Visual evaluation
2	Bulk density, g/cm ³	1.53 ± 10 %	EAD 040083-00-0404
3	Ash content at 450°C, %	97.06 ± 4.5	
4	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C10. Identification properties of silicate rendering masses Silicate render ATLAS and Hydrophilic render ATLAS

Item	Properties	Requirements		Test methods
		Silicate render ATLAS	Hydrophilic render ATLAS	
1	2	3	4	5
1	Appearance	homogeneous mass, without lumps and impurity	homogeneous mass, without lumps and impurity	visual evaluation
2	Volume density, g/cm ³	1.85 ± 10 %	1.85 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	81.4 ± 4.1	81.4 ± 4.1	
4	Ash content, %: - at 450°C - at 900°C	87.8 ÷ 99.0 56.5 ÷ 62.3	87.8 ÷ 99.0 56.5 ÷ 62.3	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C11. Identification properties of silicone rendering masses Silicone render ATLAS

Item	Properties	Requirements		Test methods
		Silicone render ATLAS		
1	2	3		4
1	Appearance	homogeneous mass, without lumps and impurity		Visual evaluation
2	Volume density, g/cm ³	1.90 ± 10 %		EAD 040083-00-0404
3	Dry matter content, %	83.4 ± 4.2		
4	Ash content, %: - at 450°C - at 900°C	86.3 ÷ 95.3 49.2 ÷ 54.4		
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain		acc. to Table C1

Table C12. Identification properties of silicone rendering masses Silicone-siloxane render ATLAS

Item	Properties	Requirements		Test methods
		Silicone-siloxane render ATLAS		
1	2	3		4
1	Appearance	homogeneous mass, without lumps and impurity		Visual evaluation
2	Volume density, g/cm ³	1.90 ± 10 %		EAD 040083-00-0404
3	Dry matter content, %	83.4 ± 4.2		
4	Ash content, %: - at 450°C - at 900°C	86.3 ÷ 95.3 49.2 ÷ 54.4		
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain		acc. to Table C1

Table C14. Identification properties of silicone rendering masses Silicone render ATLAS IN

Item	Properties	Requirements	Test methods
		Silicone render ATLAS IN	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.97 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	83.4 ± 4.2	
4	Ash content, %: - at 450°C - at 900°C	87.1 ÷ 96.3 49.7 ÷ 54.9	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C15. Identification properties of silicone rendering masses Silicone render SILKON BA

Item	Properties	Requirements	Test methods
		Silicone render SILKON BA	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.88 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	82.9 ± 4.1	
4	Ash content, %: - at 450°C - at 900°C	81.4 ÷ 90.0 50.5 ÷ 56.1	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C16. Identification properties of acrylic rendering masses ATLAS CERMIT

Item	Properties	Requirements	Test methods
		ATLAS CERMIT	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.90 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	82.9 ± 4.1	
4	Ash content, %: - at 450°C - at 900°C	85.7 ± 4.3 53.3 ± 2.8	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C17. Identification properties of acrylic rendering masses Acrylic render ATLAS

Item	Properties	Requirements	Test methods
		Acrylic render ATLAS	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.96 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	83.5 ± 4.2	
4	Ash content, %: - at 450°C - at 900°C	87.1 ÷ 96.3 49.6 ÷ 54.6	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C18. Identification properties of acrylic rendering masses ATLAS CERMIT N-100

Item	Properties	Requirements	Test methods
		ATLAS CERMIT N-100	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.93 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	83.9 ± 4.2	
4	Ash content, %: - at 450°C - at 900°C	91.5 ± 4.6 50.7 ± 2.5	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C19. Identification properties of mosaic rendering masses ATLAS DEKO M

Item	Properties	Requirements	Test methods
		Acrylic render ATLAS	
1	2	3	4
1	Appearance	homogeneous mass, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.68 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	75.3 ± 3.8	
4	Ash content, %: - at 450°C - at 900°C	84.11 ÷ 93.11 83.99 ÷ 92.99	
5	Resistance to the shrinkage crack formation	no cracks in a layer of thickness even to diameter of largest grain	acc. to Table C1

Table C20. Identification properties of priming agents Primer beneath silicate paint ATLAS and Primer beneath silicone paint ATLAS

Item	Properties	Requirements		Test methods
		Primer beneath silicate paint ATLAS	Primer beneath silicone paint ATLAS	
1	2	3	5	6
1	Appearance	homogeneous liquid, without lumps and impurity		visual evaluation
2	Volume density, g/cm ³	1.0 ± 10 %	1.0 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	13.1 ± 0.6	8.6 ± 0.4	
4	Ash content, %: - at 450°C - at 900°C	47.2 ÷ 52.2 47.1 ÷ 52.1	7.21 ÷ 8.01 6.21 ÷ 6.81	

Table C21. Identification properties of impregnating agent ATLAS BEJCA

Item	Properties	Requirements	Test methods
		ATLAS BEJCA	
1	2	3	4
1	Appearance	homogeneous liquid, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.02 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	22.53 ± 1.1	
4	Ash content, %: - at 450°C - at 900°C	11.88 ÷ 13.08 11.19 ÷ 12.39	

Table C22. Identification properties of paints silicate paint Salta S, Poli-silicate paint Atlas and Hydrophilic paint Atlas.

Item	Properties	Requirements			Test methods
		Silicone paint SALTA S	Poli-silicate paint ATLAS	Hydrophilic paint ATLAS	
1	2	3	5	6	7
1	Appearance	homogeneous liquid, without lumps and impurity			visual evaluation
2	Volume density, g/cm ³	1.44 ± 10 %	1.44 ± 10 %	1.44 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	55.5 ± 2.8	55.5 ± 2.8	55.5 ± 2.8	
4	Ash content, %: - at 450°C at 900°C	83.4 ÷ 92.2 65.3 ÷ 72.3	83.4 ÷ 92.2 65.3 ÷ 72.3	83.4 ÷ 92.2 65.3 ÷ 72.3	

Table C23. Identification properties of paints Silicone paint ATLAS SALTA and Silicone paint ATLAS

Item	Properties	Requirements		Test methods
		Silicone paint SALTA	Silicone paint ATLAS	
1	2	3	5	6
1	Appearance	homogeneous liquid, without lumps and impurity		visual evaluation
2	Volume density, g/cm ³	1.42 ± 10 %	1.42 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	57.3 ± 2.9	57.3 ± 2.9	
4	Ash content, %: - at 450°C - at 900°C	79.1 ÷ 87.5 54.9 ÷ 60.7	79.1 ÷ 87.5 54.9 ÷ 60.7	

Table C24. Identification properties of paints silicone paint Salta N, Nano-silicone paint Atlas and Silicone-siloxane paint Atlas.

Item	Properties	Requirements			Test methods
		Silicone paint SALTA N	Nano-silicone paint Atlas	Silicone-siloxane paint Atlas	
1	2	3	5	6	7
1	Appearance	homogeneous liquid, without lumps and impurity			visual evaluation
2	Volume density, g/cm ³	1.53 ± 10 %			EAD 040083-00-0404
3	Dry matter content, %	64.0 ± 3.2			
4	Ash content, %: - at 450°C - at 900°C	79.0 ÷ 87.6 50.7 ÷ 56.1			

Table C25. Identification properties of acrylic paint ATLAS SALTA E

Item	Properties	Requirements	Test methods
		ATLAS SALTA E	
1	2	3	4
1	Appearance	homogeneous liquid, without lumps and impurity	Visual evaluation
2	Volume density, g/cm ³	1.53 ± 10 %	EAD 040083-00-0404
3	Dry matter content, %	64.00 ± 3.2	
4	Ash content, %: - at 450°C - at 900°C	79.0 ÷ 87.6 50.7 ÷ 56.1	

