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European Technical Assessment

**ETA-08/0122
of 04.03.2026**

English version prepared by ZAG

General Part

**Technical Assessment Body issuing the
European Technical Assessment:**

ZAG

**Trade name of the construction
product**

**SPEKTRA thermal insulation system /
FASADEX EPS fasadni sustav /
ZVEZDA toplotno izolacioni sistem EPS /
COLOR thermal insulation system EPS /
MEGAFAS EPS fasadni sustav /
EFFECTA EPS fasadni sustav**

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

**04: External Thermal Insulation Composite
Systems with rendering (ETICS) for the
use as external insulation to walls of
buildings**

Manufacturer

**KANSAI HELIOS Slovenija d.o.o.
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**This European Technical Assessment
contains**

**22 pages including 2 Annexes which form an
integral part of this assessment**

**This European Technical Assessment is
issued in accordance with Article 95(4) of
Regulation (EU) 2024/3110, on the basis of**

**EAD 040083-01-0404,
edition October 2024**

This version replaces

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Specific parts

1. Technical description of the product

1.1 General

This product is an ETICS (External Thermal Insulation Composite System) with rendering - a kit comprised of components which are factory-produced by the manufacturer or component suppliers. The ETICS manufacturer is ultimately responsible for all components of the ETICS specified in this ETA.

The ETICS kit is comprised of a prefabricated insulation product of expanded polystyrene (EPS) which may be:

- purely bonded,
- bonded with supplementary mechanical fittings or
- mechanically fixed with supplementary adhesive.

The methods of fixing and the relevant components are specified in the tables below. The insulation product is faced with a rendering system consisting of one or more layers (applied on-site), one of which contains reinforcement. The rendering is applied directly to the insulating panels, without any air gap or disconnecting layer.

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

1.2 Composition of the kit

1.2.1 Composition of the ETICS

The ETICS is comprised of the following: adhesive or mechanical fixings (anchors), insulation core, base coat reinforced with glass fibre mesh, key coat applied on the base coat, finishing coat and ancillary materials. The components (**bold text**) are given in Tables 1 through 7, while the compositions of the approved system are presented in Tables 8 through 14.

Table 1: ETICS components - Insulation product.

Components (see § 3. for further description, characteristics and performances of the components)	
EPS Insulation products	Thickness (mm)
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	≤ 300 mm
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	≤ 300 mm
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	≤ 320 mm

Table 2: ETICS components - Adhesives.

Components (see § 3. for further description, characteristics and performances of the components)	
Adhesives	Coverage (kg/m ²)
SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S dry mix cement-based adhesive requiring addition of ~24 % water (6 l water /25 kg powder). Bulk density from 1.30 to 1.40 kg/dm ³ .	4– 5 (powder)
ZVEZDA FASAKRIL PRIME/ COLOR ADHESIVE EPS dry mix cement-based adhesive requiring addition of 22 % to 24 % water (5,5 l to 6 l water /25 kg powder). Bulk density from 1.30 to 1.40 kg/dm ³ .	4– 5 (powder)
FASADEX Chromoterm – dry mix cement-based adhesive requiring addition of ~24 % water (6 l water /25 kg powder). Bulk density from 1.25 to 1.40 kg/dm ³ .	4– 5 (powder)
SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white dry mix cement-based adhesive requiring addition of ~30 % water (7,5 l water /25 kg powder). Bulk density from 0.90 to 1.00 kg/dm ³ .	3 – 4 (powder)
FASADEX Chromoterm White dry mix cement-based adhesive requiring addition of ~24 % water (6 l water /25 kg powder). Bulk density from 1.25 to 1.40 kg/dm ³ .	4 - 5 (powder)

Table 3: ETICS components - Anchors.

Components (see § 3. for further description, characteristics and performances of the components)
EJOT Ejoterm STR U, Ejotherm NTK U, SDM-T plus, SDF-K plus, H1 ECO
BRAVOLL PTH-KZ 60/8, PTH 60/8, PTH-S, RS-H, RS-Z, PTH-SX, Plate anchor TTH 10/60-L _a
Hilti SDK-FV 8, D 8-FV
Fischer termoz 8 U, termoz 8 UZ, termoz 8 SV, termoz PN 8, termoz CN 8, termoz CN 8 R, termoz CNplus 8, termoz CS 8 termofix CF 8, FIF-PN
Leskovec Plastično pritrdilo PP, Pritrdilno sidro PSK
WKRET-MET LTX 8, LMX 8, LMX 10, LTX 10, LFM 8, LFM 10, LFN 10
KOELNER KI-10, KI-10M, KI-10N, KI-10NS, TFIX-8M
KEW TSD-V8, TSD-V, TSBD 8
STRELA Udarna pričvrtnica TS-8

Table 4: ETICS components – Base coats.

Components (see § 3. for further description, characteristics and performances of the components)		
Base coats	Coverage (kg/m ²)	Thickness (mm)
SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S dry mix cement based base coat powder requiring addition of ~ 24 % water (6 l water /25 kg powder). It consists of aggregates, cement, polymer binders, special additives. Bulk density from 1.30 to 1.40 kg/dm ³ .	6 (powder)	max. (dry): 5 min. (dry): 3
ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS dry mix cement based base coat powder requiring addition of ~ 24 % water (6 l water /25 kg powder). It consists of aggregates, cement, polymer binders, special additives. Bulk density from 1.30 to 1.40 kg/dm ³ .	5 – 7 (powder)	max. (dry): 5 min. (dry): 3
FASADEX Chromoterm dry mix cement-based adhesive requiring addition of ~24 % water (6 l water /25 kg powder). Bulk density from 1.25 to 1.40 kg/dm ³ .	~ 6 (powder)	max. (dry): 5 min. (dry): 3
FASADEX Chromoterm White dry mix cement-based adhesive requiring addition of ~24 % water (6 l water /25 kg powder). Bulk density from 1.25 to 1.40 kg/dm ³ .	~ 6 (powder)	max. (dry): 5 min. (dry): 3

Table 5: ETICS components – Reinforcement.

Components (see § 3. for further description, characteristics and performances of the components)
Reinforcement
GLASS FIBRE MESH
SPEKTRA / FASADEX / ZVEZDA meshes (glass fibres meshes with grit size between 3.5 and 4.7 mm and surf. mass ≥ 145 g/m ²)

Table 6: ETICS components – Key coats.

Components (see § 3. for further description, characteristics and performances of the components)	
Key coats	Coverage (l/m²)
SPEKTRA UNI GRUND / FASADEX grund - addition of max. 10 wt. % water. Density from 1.58 to 1.60 kg/dm ³ .	≈ 0.2
ZVEZDA FASAKRIL GRUND / COLOR grund - addition of max. 10 wt. % water- Density from 1.58 to 1.60 kg/dm ³ .	≈ 0.2

Table 7: ETICS components – finishing coats.

Components (see § 3. for further description, characteristics and performances of the components)		
Finishing coats	Coverage (kg/m²)	Thickness (mm)
SPEKTRA Plaster Silicone 1.5/2.0/2.5 / FASADEX silikonška žbuka 1.5/2.0/2.5 Ready to use paste based on silicone and acrylic binder, aggregates, additives. Density of about 1.90 kg/dm ³ .	2.5 to 3.5 (paste)	Regulated by particle size
SPEKTRA Plaster Acryl 1.5/2.0/2.5 / FASADEX akrilatna žbuka 1.5/2.0/2.5 Ready to use paste, based on acrylic binder, aggregates, additives. Density of about 1.90 kg/dm ³ .	2.5 to 3.5 (paste)	
ZVEZDA FASAKRIL AKRILNI MALTER 1.5/2.0 / COLOR Plaster Acryl 1.5/2.0 Ready to use paste, based on acrylic binder, aggregates, additives. Density of about 1.90 kg/dm ³ .	2.5 to 3.0 (paste)	
SPEKTRA Plaster Self-Clean 1.5/2.0/2.5 / FASADEX NANO žbuka 1.5/2.0/2.5 Ready to use paste, based on acrylic binder, aggregates, additives. Density of about 1.90 kg/dm ³ .	2.5 to 3.5 (paste)	
SPEKTRA Plaster Acryl Light 1.5/2.0 / FASADEX LIGHT akrilatna žbuka 1.5/2.0 Ready to use paste based on acrylic binder, aggregates, additives. Density of about 1.70 kg/dm ³ .	2.0 to 2.5 (paste)	
SPEKTRA Plaster Mineral 1.5/2.0/3.0 / FASADEX mineralna žbuka 1.5/2.0/3.0 Mineral lime-cement finishing render (in powder form). Density from 1.29 to 1.45 kg/dm ³ .	3.0 to 4.0 (paste)	
SPEKTRA Plaster Decor Silicone 4.0 / FASADEX DECO silikonška žbuka 4.0 Ready to use paste, based on silicone binder, aggregates, additives. Density from 1.50 to 1.70 kg/dm ³ .	4.5 to 5.5 (paste)	
SPEKTRA Plaster Decor Acryl 4.0 / FASADEX DECO akrilatna žbuka 4.0 Ready to use paste, based on acrylic binder, aggregates, additives. Density from 1.75 to 1.95 kg/dm ³ .	4.5 to 5.5 (paste)	

1.2.1.1 Lists of compatible components for ETICS

The Tables from 8 to 14 present the list of compatible components of various ETICS, excluding meshes, key coats and anchors. The applicable anchors are apart from those specified in the ETA, also the anchors with the same or larger plate diameter and/or the same or higher plate stiffness/load resistance can be applied. However, the recommended values for plate diameter ≥ 60 mm, a stiffness ≥ 0.6 kN/mm, and a load resistance ≥ 1.0 kN.

Note: The finishing coat granulations are excluded from the below sections.

Table 8: List of compatible ETICS components for bonded ETICS 1.

Thermal insulation	Base coat	Key coat	Finishing coat
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	SPEKTRA UNI GRUND / FASADEX grund	SPEKTRA Plaster Silicone / FASADEX silikonška žbuka SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka SPEKTRA Plaster Mineral / FASADEX mineralna žbuka SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	FASADEX Chromoterm		

Table 9: List of compatible ETICS components for bonded ETICS 2.

Thermal insulation	Base coat	Key coat	Finishing coat
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	FASADEX Chromoterm White	SPEKTRA UNI GRUND / FASADEX grund	SPEKTRA Plaster Silicone / FASADEX silikonška žbuka SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100			

Table 10: List of compatible ETICS components for bonded ETICS 3.

Thermal insulation	Base coat	Key coat	Finishing coat
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	ZVEZDA FASAKRIL UNI / COLOR ADHESIVE EPS	ZVEZDA FASAKRIL GRUND / COLOR grund	ZVEZDA FASAKRIL AKRILNI MALTER / COLOR Plaster Acryl
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100			

Table 11: List of compatible ETICS components for ETICS 1 with supplementary mechanical fixings – anchors or fixed with supplementary adhesive

Thermal insulation	Base coat	Key coat	Finishing coat
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	SPEKTRA UNI GRUND / FASADEX grund	SPEKTRA Plaster Silicone / FASADEX silikonška žbuka SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka SPEKTRA Plaster Mineral / FASADEX mineralna žbuka SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	FASADEX Chromoterm		

Table 12: List of compatible ETICS components for ETICS 2 with supplementary mechanical fixings – anchors or fixed with supplementary adhesive

Thermal insulation	Base coat	Key coat	Finishing coat
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	FASADEX Chromoterm White	SPEKTRA UNI GRUND / FASADEX grund	SPEKTRA Plaster Silicone / FASADEX silikonška žbuka SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100			

Table 13: List of compatible ETICS components for ETICS 3 with supplementary mechanical fixings – anchors or fixed with supplementary adhesive

Thermal insulation	Base coat	Key coat	Finishing coat
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	ZVEZDA FASAKRIL UNI / COLOR ADHESIVE MORTAR EPS	ZVEZDA FASAKRIL GRUND / COLOR grund	ZVEZDA FASAKRIL AKRILNI MALTER / COLOR Plaster Acryl
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100			

Table 14: List of compatible ETICS components for ETICS 4 with supplementary mechanical fixings – anchors or fixed with supplementary adhesive - **to be used for the plinth of the building only!**

Thermal insulation	Base coat	Key coat	Finishing coat
XPS-EN13164-T3-CS(10\Y)300-DS(70,90)-DLT(2)5-TR600-WL(T)1,5-FTCD1-MU50	SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	SPEKTRA UNI GRUND / FASADEX grund	SPEKTRA Plaster Mosaic / Fasadex mozaik žbuka

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

2.1 Intended use

This ETICS is intended for use as external insulation of buildings' walls according to the EC decision 96/603/EC as amended. The walls are made of masonry (bricks, blocks, stones ...) or concrete (cast on site or as prefabricated panels) with a reaction to fire classification A1 or A2-s1, d0 according to EN 13501-1 and a minimum density of 820 kg/m³. The ETICS is designed to give the wall to which it is applied satisfactory thermal insulation.

The ETICS is made of non-load bearing construction elements. It does not contribute directly to the stability of the wall on which it is installed, but it can contribute to durability by providing enhanced protection from the effect of weathering.

The ETICS can be used on new or existing (retrofit) vertical walls. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation.

The ETICS is not intended to ensure the air-tightness of the building structure.

The choice of the method of fixing depends on the characteristics of the substrate shall be done in accordance with national instructions.

2.2 Manufacturing

The European Technical Assessment is issued for the ETICS on the basis of agreed data/information, deposited with the Zavod za gradbeništvo Slovenije (ZAG), which identifies the ETICS that has been assessed and judged. Changes to the ETICS or production process, which could result in the deposited data/information being incorrect should be notified to ZAG before the changes are introduced. ZAG will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

2.3 Design and installation

The installation instructions including special installation techniques and provisions for the qualification of the personnel are given in the manufacturer's technical documentation. Design, installation and execution of ETICS are to be in conformity with national documents. Such documents and the level of their implementation in Member States' legislation are different.

Therefore, the assessment and declaration of performance are done taking into account general assumptions introduced in the § 1.1 and § 1.2 of the EAD 040083-01-0404, which summarizes how information introduced in the ETA and related documents is intended to be used in the construction process and gives advice to all parties interested when normative documents are missing.

2.4 Packaging, transport and storage

The information on packaging, transport and storage is given in the manufacturer's technical documentation. It is the responsibility of the manufacturer(s) to ensure that this information is made know to the concerned people.

2.5 Use, maintenance and repair

The provisions made in this European Technical Assessment (ETA) are based on an assumed intended working life of at least 25 years, provided that the conditions laid down in sections: 2.2 (Manufacturing), 2.3 (Design and installation), 2.4 (Packaging, transport and storage), 2.5 (Use, maintenance and repair), are met. The indications given as to the working life cannot be interpreted as a guarantee given by the manufacturer or the Assessment Body, but should only be regarded as a means for choosing the appropriate products in relation to the expected economically reasonable working life of the works.

The finishing coat shall normally be maintained in order to fully preserve the ETICS performance. Maintenance includes at least:

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

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

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

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

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

The identification testing of the ETICS components and the performance of the kit and the assessment for the intended use of this ETICS according to the Essential Requirements were carried out in compliance with the EAD 040083-01-0404: External Thermal Insulation Composite Systems (ETICS) with Rendering; edition October 2024.

3.1 Mechanical resistance and stability (BWR 1)

Not relevant.

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire (§ 2.2.1.1 of EAD 040083-01-0404)

The assessment of reaction to fire is based on two tests EN 13823 and EN ISO 1716. Selected rendering system is the one including finishing coat with maximum organic content, established.

For the SBI test this ETICS is mounted directly to a calcium silicate substrate (A2-s1, d0) with a minimum density of 820 kg/m³. The installation of the ETICS was carried out by the manufacturer, following the manufacturer's specifications (instruction sheet) using a single

layer of the glass fiber mesh all over the test specimen (no overlapping glass fiber mesh). Test specimens were prefabricated and did not include any joints. The panel edges were rendered. Anchors were not included in the tested ETICS as they have no influence on the test result. The results and assessment of the ETICS are given in the Table 15.

Table 15: Reaction to fire of the ETICS.

Configurations	Maximum declared organic content of the rendering system	Declared flame retardant content of the rendering system	Thickness (mm)	Reaction to fire class acc. to SIST EN 13501-1
See configurations in cl. 1.2.1, Tables 8, 9, 10, 11, 12	≤ 10 %	0 %	≤ 80	B – s1, d0
See configuration in clause 1.2.1, Table 13	≤ 12 %	0 %	≤ 320	B – s1, d0
See configuration in clause 1.2.1, Table 14	≤ 7 %	0 %	≤ 180	C – s1, d0

Note: A European reference fire scenario has not yet been laid down for façade systems. In some Member States, the classification of ETICS according to EN 13501-1:2007+A1:2009 might not be sufficient for the use in façades. Additional assessment of ETICS according to national provisions (e.g. on the basis of a large-scale test) might be necessary to comply with Member State regulations, until the existing European classification system has been completed.

The test results cover arrangements with insulations material of a lower thickness and density as well as render systems (binder types) with lower organic content (i.e. all render systems, mentioned in this ETA).

3.2.2 Reaction to fire of thermal insulation material (§ 2.2.1.2 of EAD 040083-01-0404)

The density of the thermal insulation materials was determined according to the EN 1602 considering requirements of EN 13163. Assessment is based on small flame testing according to EN 11925-1. Results are given in the Table 16.

Table 16: Reaction to fire of the thermal insulation materials.

Designation code of the Insulation products	Density (kg/m³)	Classification according to EN 13501-1
EPS EN 13163-T2-L2-W2-S2-P4-DS (70,-) 1-DS(N)2-BS100-TR100	15 to 18	E
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	15 to 18	E
XPS-EN13164-T3-CS(10\Y)300 DS(70,90)-DLT(2)5-TR600- WL(T)1,5-FTCD1-MU50	30 to 35	E

3.2.3 Façade fire performance (§ 2.2.2 of EAD 040083-01-0404)

No performance assessed.

3.2.4 Propensity to undergo continuous smouldering (§ 2.2.3 of EAD 040083-01-0404)

No performance assessed.

3.3 Hygiene, health and the environment (BWR 3)

3.3.1 Content, emission and/or release of dangerous substances - leachable substances (§ 2.2.4.1 of EAD 040083-01-0404)

No performance assessed.

3.3.2. Water absorption of the base coat and the rendering system (§ 2.2.5.1 of EAD 040083-01-0404)

Presented water absorptions results shall be applicable also to smooth and trowelled finishing coats of available granulations. The water absorptions of the ETICS are given in the Tables 17 to 21.

Table 17: Water absorption of ETICS.

Base coat	Finishing coats	Water absorption	
		after 1 hour (kg/m ²)	after 24 hours (kg/m ²)
SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	no finishing coat	0.040	0.210
	SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	0.024	0.369
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	0.003	0.073
	SPEKTRA Plaster Mineral / FASADEX mineralna žbuka	0.008	0.342
	SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	0.009	0.154
	SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonska žbuka	0.080	0.119

Table 18: Water absorption of ETICS.

Base coat	Finishing coats	Water absorption	
		after 1 hour (kg/m ²)	after 24 hours (kg/m ²)
FASADEX Chromoterm	no finishing coat	0.038	0.299
	SPEKTRA Plaster Silicone / FASADEX silikonska žbuka	0.010	0.147
	SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	0.052	0.456
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	0.003	0.073
	SPEKTRA Plaster Mineral / FASADEX mineralna žbuka	0.008	0.342

Table 19: Water absorption of ETICS.

Base coat	Finishing coats	Water absorption	
		after 1 hour (kg/m ²)	after 1 hour (kg/m ²)
FASADEX Chromoterm White	no finishing coat	0.007	0.150
	SPEKTRA Plaster Silicone / FASADEX silikonska žbuka	0.010	0.130
	SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	0.020	0.226
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	0.008	0.086
	SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	0.019	0.171

Table 20: Water absorption of ETICS.

Base coat	Finishing coats	Water absorption	
		after 1 hour (kg/m ²)	after 1 hour (kg/m ²)
SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	no finishing coat	0.022	0.314
	SPEKTRA Plaster Mosaic / Fasadex mozaik žbuka	0.019	0.172

Table 21: Water absorption of ETICS.

Base coat	Finishing coats	Water absorption	
		after 1 hour (kg/m ²)	after 1 hour (kg/m ²)
ZVEZDA FASAKRIL UNI / COLOR ADHESIVE EPS	ZVEZDA FASAKRIL AKRILNI MALTER / COLOR Plaster Acryl	0.040	0.210

3.3.3 Water absorption of the thermal insulation product (§ 2.2.5.2 of EAD 040083-01-0404)

The water absorption of thermal insulation materials was determined according to the EN 1609 (Method A) Results are given in the Table 22.

Table 22: Water absorption of thermal insulation materials.

Designation code of the Insulation products	Water adsorption (kg/m ²)
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	< 0,5
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	< 0,5
XPS-EN13164-T3-CS(10\Y)300 DS(70,90)-DLT(2)5-TR600- WL(T)1,5-FTCD1-MU50	< 0,5

3.3.4 Watertightness of the ETICS: Hygrothermal behaviour (§ 2.2.6 of EAD 040083-01-0404)

Hygrothermal cycles have been performed on a rig in hygrothermal chamber. During testing the defects from § 2.2.6 of the EAD 040083-01-0404 were not detected. **ETICS is assessed as resistant to hygrothermal cycles.**

3.3.5 Watertightness of the ETICS: Freeze-thaw behaviour (§ 2.2.7 of EAD 040083-01-0404)

For the rendering systems the water absorptions all the water absorptions are below 0.5 kg/m² after 24 hours. **All configurations of the ETICS are assessed as freeze / thaw resistant.**

3.3.6 Impact resistance (§ 2.2.8 of EAD 040083-01-0404)

Resistance to hard body impacts of ETICS are given in tables below. Presented results shall be applicable to smooth and trowelled finishing coats. The results were obtained on finest granulation. It can be safely assumed that impact performance obtained on coarser finishing coats would be at least equal or better. The results are given in the Tables 23 to 27.

Table 23: Impact resistance of the ETICS.

Insulation product	Base coat	Finishing coat	Category (I)
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	SPEKTRA Plaster Silicone / FASADEX silikonška žbuka	B _{10,w} B _{3,w}
		SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka	B _{10,w} B _{3,w}
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	No finishing coat	A _{10,w} A _{3,w}
		SPEKTRA Plaster Silicone / FASADEX silikonška žbuka	C _{10,HWT} C _{3,HWT}
		SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka	C _{10,HWT} C _{3,HWT}
		SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	A _{10,w} A _{3,w}

Table 24: Impact resistances of the ETICS.

Insulation product	Base coat	Finishing coat	Category (I)
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	FASADEX Chromoterm White	No finishing coat	A _{10,w} A _{3,w}
		SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka	B _{10,w} B _{3,w}
		SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	A _{10,w} A _{3,w}

Table 25: Impact resistances of the ETICS.

Insulation product	Base coat	Finishing coat	Category (I)
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	FASADEX Chromoterm	No finishing coat	B _{10,w} B _{3,w}
		SPEKTRA Plaster Silicone / FASADEX silikonška žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka	A _{10,w} A _{3,w}
		SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	A _{10,w} A _{3,w}

Table 26: Impact resistance of the ETICS.

Insulation product	Base coat	Finishing coat	Category (I)
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS	ZVEZDA FASAKRIL AKRILNI MALTER / COLOR Plaster Acryl	C _{10,HWT} C _{3,HWT}

Table 27: Impact resistance of the ETICS.

Insulation product	Base coat	Finishing coat	Category (I)
XPS-EN13164-T3-CS(10Y)300-DS(70,90)-DLT(2)5-TR600-WL(T)1,5-FTCD1-MU50	SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	SPEKTRA Plaster Mosaic / FASADEX mozaik žbuka	A10,w A3,w

3.3.7 Water vapour permeability of the rendering systems (§ 2.2.9.1 of EAD 040083-01-0404)

Water vapour permeability of rendering systems was determined according to EN 12086. They were obtained on smooth finishing coats of finer granulations and following historical data they are applicable to finishing coats of any type of finish or granulation. Results are given in the Tables 28 to 31.

Table 28: Water vapour permeability of base coat and finishing coats.

Base coat	Finishing coat	Equivalent air thickness s_d (m) / Rendering thickness (mm)
FASADEX Chromoterm	SPEKTRA Plaster Silicone / FASADEX silikonska žbuka	0.60 / 7 to 9 mm
	SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka	0.30 / 7 to 9 mm
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	0.20 / 7 to 9 mm
	SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	0.40 / 7 to 9 mm
	SPEKTRA Plaster Mineral / FASADEX mineralna žbuka	0.30 / 7 to 9 mm

Table 29: Water vapour permeability of base coat and finishing coats.

Base coat	Finishing coat	Equivalent air thickness s_d (m) / Rendering thickness (mm)
SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	SPEKTRA Plaster Silicone / FASADEX silikonska žbuka	0.10 / 7 mm
	SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka	0.30 / 8 to 9 mm
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	0.20 / 8 to 9 mm
	SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	0.40 / 8 to 9 mm
	SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	0.50 / 8 to 9 mm
	SPEKTRA Plaster Mineral / FASADEX mineralna žbuka	0.30 / 8 to 9 mm

Table 30: Water vapour permeability of base coat and finishing coats.

Base coat	Finishing coat	Equivalent air thickness s_d (m) / Rendering thickness (mm)
FASADEX Chromoterm White	SPEKTRA Plaster Silicone / FASADEX silikonska žbuka	0.50 / 8 to 9 mm
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	0.30 / 8 to 9 mm
	SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	0.20 / 8 to 9 mm
	SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonska žbuka	0.50 / 8 to 9 mm
	SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	0.50 / 8 to 9 mm

Table 31: Water vapour permeability of base coat and finishing coats.

Base coat	Finishing coat	Equivalent air thickness s_d (m) / Rendering thickness (mm)
ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS	ZVEZDA FASAKRIL AKRILNI MALTER / COLOR Plaster Acryl	0.30 / 7 mm

3.3.8 Water vapour permeability of the thermal insulation products (§ 2.2.9.2 of EAD 040083-01-0404)

The water vapour permeability of thermal insulation materials was determined according to the EN 1609 (Method A) Results are given in the Table 32.

Table 32: Water vapour permeability of the insulation materials

Designation code of the Insulation products	Water vapour resistance factor μ (m)
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-) 1-DS(N)2-BS100-TR100	≤ 60
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2- DS(70,-)1-BS100-TR150	≤ 70
XPS-EN13164-T3-CS(10\Y)300 DS(70,90)-DLT(2)5-TR600- WL(T)1,5FTCD1-MU50	50

3.4 Safety and accessibility in use (BWR 4)

3.4.1 Bond strength (§ 2.2.10.1, § 2.2.10.2, § 2.2.10.3 of EAD 040083-01-0404)

Bond strength between the concrete substrate and adhesives are given in the Table 33, and the bond strengths between the adhesives / base coats and thermal insulations are shown in the Tables 33 to 35.

Table 33: Bond strength between the concrete substrate and adhesives / base coats.

Substrate	Adhesive	Dry conditions	2 days immersion in water + 2 h drying	2 days immersion in water + 7 days drying
		$F_{A-S,min,dry}$ (kPa) $F_{A-S,mean,dry}$ (kPa)	$F_{A-S,min,2d,2h}$ (kPa) $F_{A-S,mean,2d,2h}$ (kPa)	$F_{A-S,min,2d,7d}$ (kPa) $F_{A-S,mean,2d,7d}$ (kPa)
concrete	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	420	210	600
		440	260	610
	FASADEX Chromoterm	262	82	241
		286	123	265
	SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	296	78	252
		342	88	264
	FASADEX Chromoterm White	296	73	308
		342	92	349
	ZVEZDA FASAKRIL PRIME / COLOR Iepilo EPS	420	210	600
		440	260	610

Note: The adhesive thickness for all the adhesive specimens was about 4 mm.

Table 34: Bond strength between the adhesives / base coats and thermal insulations tested in small specimens.

Thermal insulation	Adhesive	Dry conditions	2 days immersion in water + 2 h drying	2 days immersion in water + 7 days drying
		$F_{A-I,min,dry}$ (kPa) $F_{A-I,mean,dry}$ (kPa)	$F_{A-I,min,2d,2h}$ (kPa) $F_{A-I,mean,2d,2h}$ (kPa)	$F_{A-I,min,2d,7d}$ (kPa) $F_{A-I,mean,2d,7d}$ (kPa)
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	100 102	80 80	110 150
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	FASADEX Chromoterm	74 92	71 94	110 115
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	89 101	87 91	107 123
XPS-EN13164-T3-CS(10Y)300-DS(70,90)-DLT(2)5-TR600-WL(T)1,5-FTCD1-MU50	SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	181 204	149 171	157 228
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	FASADEX Chromoterm White	79 90	68 87	126 123
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	ZVEZDA FASAKRIL PRIME / COLOR ADHESIVE EPS	100 102	80 80	110 150

Table 35: Bond strength between the adhesives / base coats and thermal insulations tested on the rig.

Thermal insulation	Adhesive	On the rig after heat-water-cooling cycling
		$F_{B-I,min,HWC}$ (kPa) $F_{B-I,mean,HWC}$ (kPa)
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	> 80 190
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	FASADEX Chromoterm	-
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-TR100	FASADEX Chromoterm White	71 99
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	ZVEZDA FASAKRIL PRIME / COLOR ADHESIVE EPS	>80 190

3.4.2 Fixing strength (§ 2.2.11.1, § 2.2.11.2 of EAD 040083-01-0404)

No performance assessed.

3.4.3 Wind load resistance (§ 2.2.12.1, § 2.2.12.2, § 2.2.12.3 of EAD 040083-01-0404)

Anchors for insulation product (used as an ancillary component without contribution to resistance to wind load resistance or as a fixing device in mechanically fixed systems). Presented characteristics of the anchors / insulation systems are relevant for purely mechanically and mechanically fixed ETICS. The anchor to be used in ETICS shall be verified according to EAD 330196-01-0604.

For calculation the following equation shall be used: $R_d = (R_{\text{panel}} \times n_{\text{panel}} + R_{\text{joint}} \times n_{\text{joint}}) / \gamma$.
Where: n_{panel} is number of anchors per m^2 placed in the panel, n_{joint} is number of anchors per m^2 placed at the panel joint and γ is safety factor.

Test results are also valid for:

- **thermal insulation product of the same thermal insulation type with higher thicknesses and/or higher tensile strength perpendicular to the faces,**
- **Anchors with the same or larger plate diameter and/or the same or higher plate stiffness/load resistance (determined according to EOTA TR 026). However, the anchor's plate diameter ≥ 60 mm, plate stiffness ≥ 0.6 kN/mm and plate load resistance ≥ 1.0 kN are recommended.**

No performance assessed.

3.4.4 Tensile test of the insulation product in dry conditions

(§ 2.2.13.1 of EAD 040083-01-0404)

The tensile strength perpendiculars to the faces of thermal insulation materials were determined according to the EN 1607 on 50 mm thick specimens. Results are given in the Table 36.

Table 36: Tensile strength of insulation materials.

Designation code of the Insulation products	Tensile strength
	$\sigma_{\text{mt,min,wet}}$ [kPa] $\sigma_{\text{mt,mean,dry}}$ [kPa]
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	100 -
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	150 -
XPS-EN13164-T3-CS(10Y)300 DS(70,90)-DLT(2)5-TR600- WL(T)1,5-FTCD1-MU50	600 -

3.4.5 Shear properties of the insulation product (§ 2.2.14 of EAD 040083-01-0404)

Shear strength and modulus of the thermal insulation materials were determined according to the EN 12090 on 60 mm thick specimens. Results are given in table 37.

Table 37: Shear strength of insulation materials.

Designation code of the Insulation products	Shear modulus	Shear strength
	T_{min} [kPa] T_{mean} [kPa]	T_{min} [kPa] T_{mean} [kPa]
EPS EN 13163-T2-L2-W2-S2-P4-DS(70,-)1-DS(N)2-BS100-TR100	20 -	1000 -
EPS-EN 13163-T2-L2-W2-S2-P4-DS(N)2-DS(70,-)1-BS100-TR150	20 -	1000 -
XPS-EN13164-T3-CS(10Y)300 DS(70,90)-DLT(2)5-TR600- WL(T)1,5-FTCD1-MU50	- 150	- 2600

3.4.6 Pull-through resistance of mechanical fixing devices from profiles (§ 2.2.15 of EAD 040083-01-0404)

No performance assessed.

3.4.7 Render strip tensile test (§ 2.2.16 of EAD 040083-01-0404)

The characteristic crack widths of the basecoats at relative strain of base coat strip at 0,8 % ($\epsilon_r = 0,8\%$) are presented in the Table 38.

Table 38: The characteristic crack widths of the basecoats.

Base coat	warp direction w_{rkd} (mm)	weft direction w_{rkd} (mm)
SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	0,08	0,11
FASADEX Chromoterm	> 0.27	> 0.21
SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	> 0.22	> 0.26
FASADEX Chromoterm White	> 0.26	> 0.27
ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS	0.08	0.11

3.5 Protection against noise (BWR 5)

No performance assessed.

3.6 Energy economy and heat retention (BWR 6)

3.6.1 Thermal resistance of the ETICS (§ 2.2.20 of the EAD 040083-01-0404)

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

$$U = U_c + \chi_p \cdot n, \text{ where}$$

$\chi_p \cdot n$ has only to be taken into account if it is greater than 0.04 W/(m²·K)

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

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

χ_p : local influence of thermal bridge caused by an anchor. The values listed below can be taken into account if not specified in the anchor's ETA:

= 0.002 W/K for anchors with a stainless-steel screw covered by plastic anchors and for anchors with an air gap at the head of the screw ($\chi_p \cdot n$ negligible for $n < 20$)

= 0.004 W/K for anchors with a galvanized steel screw with the head covered by a plastic material ($\chi_p \cdot n$ negligible for $n < 10$)

= negligible for anchors with plastic nails (reinforced or not with glass fibres)

U_c: thermal transmittance of the current part of the covered wall (excluding thermal bridges) (W/ (m²·K)), determined as follows:

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

Where:

R_i is thermal resistance of the insulation product ((m²·K)/W),

R_{render} is thermal resistance of the render (about 0.02 (m²·K)/W),

R_{substrate} is thermal resistance of the substrate of the building ((m²·K)/W),

R_{se} is external superficial thermal resistance ((m²·K)/W),

R_{si} is internal superficial thermal resistance ((m²·K)/W).

3.7. Aspects of durability

3.7.1 Bond strength after ageing (§ 2.2.21.1, § 2.2.21.2 of EAD 040083-01-0404)

The bond strength (MPa) of the finishing coats after ageing were determined on hygrothermal wall and/or small specimen testing and are presented in the Tables 39 to 43.

Table 39: Bond strength after ageing.

Base coat SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S + Finishing coat	Hygrothermal ageing $F_{min,HWC}$ [kPa], $F_{mean,HWC}$ [kPa],	Small specimen ageing $F_{reder\ min,aged}$ [kPa], $F_{reder,mean,aged}$ [kPa]
SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	80, 120	
SPEKTRA Plaster Silicone / FASADEX silikonška žbuka	80, 170	
SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka	80, 140	110, 130
SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	90, 102	
SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	81, 102	
SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka	82, 103	
SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka	87, 98	

Table 40: Bond strength after ageing.

Base coat FASADEX Chromoterm + Finishing coat	Small specimen ageing $F_{reder\ min,aged}$ [kPa], $F_{reder,mean,aged}$ [kPa]
FASADEX Chromoterm	110, 115
SPEKTRA Plaster Silicone / FASADEX silikonška žbuka	82, 102
SPEKTRA Plaster Acryl / FASADEX akrilatna žbuka	82, 110
SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka	98, 113
SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka	81, 92
SPEKTRA Plaster Decor Silicone / FASADEX DECO silikonška žbuka	82, 110

Table 41: Bond strength after ageing.

Base coat FASADEX Chromoterm White + Finishing coat	Hygrothermal ageing $F_{min,HWC}$ [kPa], $F_{mean,HWC}$ [kPa],	Small specimen ageing $F_{reder\ min,aged}$ [kPa], $F_{reder,mean,aged}$ [kPa]
FASADEX Chromoterm White	71, 99	
SPEKTRA Plaster Silicone / FASADEX silikonška žbuka		99, 110
SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka		80, 98
SPEKTRA Plaster Self-Clean / FASADEX NANO žbuka		80, 91
SPEKTRA Plaster Decor Acryl / FASADEX DECO akrilatna žbuka		87, 98

Table 42: Bond strength after ageing.

Base coat SPEKTRA ADHESIVE Light / FASADEx Chromoterm Light white +	Small specimen ageing
Finishing coat SPEKTRA Plaster Mosaic / Fasadex mozaik žbuka	$F_{\text{reuder min,aged}}$ [kPa], $F_{\text{reuder,mean,aged}}$ [kPa] 86, 102

Table 43: Bond strength after ageing.

Base coat ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS +	Small specimen ageing
Finishing coat ZVEZDA FASAKRIL AKRILNI MALTER / COLOR Plaster Acryl ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS	$F_{\text{reuder min,aged}}$ [kPa], $F_{\text{reuder,mean,aged}}$ [kPa] 110, 120

The minimal bonded area S , which must exceed 40 % as the bond strength of the adhesive / substrate joint tested at dry condition exceed 75 kPa.

3.7.2 Mechanical and physical characteristic of the meshes (§ 2.2.7 of EAD 040016-01-0404)

The alkaline resistances of glass fibre mesh with 3.5 mm to 4.7 mm wide grids are presented in the Table 44.

Table 44: The tensile properties of the mesh.

Mean tensile strength of glass fibre mesh (kN/m)	SPEKTRA / FASADEx / ZVEZDA meshes	
	Warp	Weft
as received ($T_{\text{max,in}}$)	30.3	44.8
after exposure to alkalis ($T_{\text{max,m,alk}}$)	20.7	25.0
Retained tensile strength after exposure to alkalis (%)	68	56
Elongation of the glass fibre mesh (%)		
as received ($\epsilon_{\text{max,in}}$)	4.5	3.9
after exposure to alkalis ($\epsilon_{\text{max,m,alk}}$)	2.7	2.5
Retained elongation after exposure to alkalis (%)	60	69

4. Assessment and verification of constancy of performance (AVCP)

According to the decision 97/556/EC of the European Commission¹ amended by the European Commission decision 2001/596/EC, the AVCP systems (further described in Annex V to Regulation (EU) No 305/2011) **1** and **2+** apply.

Product	Intended use(s)	Level(s) or class(es) (Reaction to fire)	System(s)
External thermal insulation composite systems/kits (ETICS) with rendering	in external wall subject to fire regulations	A1 ⁽¹⁾ , A2 ⁽¹⁾ , B ⁽¹⁾ , C ⁽¹⁾	1
		A1 ⁽²⁾ , A2 ⁽²⁾ , B ⁽²⁾ , C ⁽²⁾ , D, E, (A1 to E) ⁽³⁾ , F	2+
	in external wall not subject to fire regulations	any	2+

⁽¹⁾ Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material)

⁽²⁾ Products/materials not covered by footnote (1)

⁽³⁾ Products/materials that do not require to be tested for reaction to fire (e.g. Products/materials of Classes A1 according to Commission Decision 96/603/EC)

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the Control plan deposited at the Slovenian National Building and Civil Engineering Institute (ZAG).

Issued in Ljubljana on 04. 03. 2026

Signed by:

Franc Capuder, M.Sc.

Head of Service of TAB

Annexes:

- 1) Failure loads of the anchors obtained during the »pull through« testing
- 2) Original and alternative trade names of the ETICS components

Failure loads of the anchors obtained during the »pull through« testing

Description of the anchor		Description of the EPS thermal insulation product		Failure load (N)
Anchor manufacturer	Anchor	Thickness (mm)	Tensile strength (kPa)	Anchors placed in the centre of the panel minimal, average Anchors placed at the panel joints minimal, average
EJOT	NTK U, STR U, SDM-T, H1 eco	≥ 50	≥ 100	400, 430 330, 370
EJOT	SDM-T plus, SDF-K plus, NTK U	≥ 60	≥ 100	510, 520 400, 430
EJOT	STR U	≥ 80	≥ 100	550, 560 480, 500
BRAVOLL	PTH-KZ 60/8, PTH 60/8 PTH-S, RS-H, RS-Z SDM-T plus Plate anchor TTH 10/60-La	≥ 50	≥ 100	400, 430 330, 370
KEW	TSD-V8, TSBD 8, TSD-V	≥ 50	≥ 100	400, 430 330, 370
Koelner	KI-8M, KI-8M-D, KI-10, KI-10M, KI-10N, KI-10NS TFIX-8M	≥ 50	≥ 100	400, 430 330, 370
WKREȚ - MET	LFM 8, LFM 10, LFN 10 LTX 8, LMX 8, LTX 10, LMX 10	≥ 50	≥ 100	400, 430 330, 370
Fischer Fischer	Termoz 8 U, Termoz 8 ZU, Termoz 8 SV, CF 8, PN 8, CN 8, CN 8 R	≥ 50	≥ 100	400, 430 330, 370
	8 U	≥ 50	≥ 150	440, 460 400, 410
	8 UZ, 8 SV, CS 8, FIF - PN	≥ 60	≥ 100	490, 530 -, -
	8 UZ, 8 SV, CS 8, FIF - PN	≥ 80	≥ 100	-, - 560, 570
Leskovec	PP	≥ 50	≥ 100	450, 465 377, 395
	PSK	≥ 50	≥ 100	561, 589 492, 520
STRELA	Udarna pričvrtnica TS-8	≥ 50	≥ 100	657, 677 595, 632

SPEKTRA thermal insulation system / FASADEX EPS fasadni sustav / ZVEZDA toplotno izolacioni sistem EPS / COLOR thermal insulation system EPS / MEGAFAS EPS fasadni sustav / EFFECTA EPS fasadni sustav

Failure loads of the anchors obtained during the »pull through« testing

Annex 1

**of the European Technical Assessment
ETA-08/0122**

Original and alternative trade names of the ETICS components

Component	Original trade name	Alternative trade names
Adhesives	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	SPEKTRA ADHESIVE EPS FASADEX Chromoterm S
	ZVEZDA FASAKRIL PRIME / COLOR ADHESIVE EPS	ZVEZDA FASAKRIL PRIME COLOR ADHESIVE EPS Fasadex Chromoterm S Fasadex Chromoterm Fix
	SPEKTRA ADHESIVE Light / FASADEX Chromoterm Light white	SPEKTRA ADHESIVE Light FASADEX Chromoterm Light white
	FASADEX Chromoterm	-
	FASADEX Chromoterm White	-
Base coats	SPEKTRA ADHESIVE EPS / FASADEX Chromoterm S	SPEKTRA ADHESIVE EPS FASADEX Chromoterm S
	ZVEZDA FASAKRIL UNI / COLOR ADHESIVE mortar EPS	ZVEZDA FASAKRIL UNI COLOR ADHESIVE mortar EPS Fasadex Chromoterm S
	SPEKTRA ADHESIVE Light / Fasadex Chromoterm Light white	SPEKTRA ADHESIVE Light Fasadex Chromoterm Light white
	FASADEX Chromoterm	-
	FASADEX Chromoterm White	-
Key coats	SPEKTRA UNI GRUND / FASADEX grund	SPEKTRA UNI GRUND FASADEX grund
	ZVEZDA FASAKRIL GRUND / COLOR grund	ZVEZDA FASAKRIL GRUND COLOR grund Megafas grund Effecta univerzalni grund
Finishing coats	SPEKTRA Plaster Silicone 1.5/2.0/2.5 / FASADEX silikonška žbuka 1.5/2.0/2.5	SPEKTRA Plaster Silicone 1.5/2.0/2.5 FASADEX silikonška žbuka 1.5/2.0/2.5 SPEKTRA Crépi Silicone 1.5/2.0/2.5
	SPEKTRA Plaster Acryl 1.5/2.0/2.5 / FASADEX akrilatna žbuka 1.5/2.0/2.5	SPEKTRA Plaster Acryl 1.5/2.0/2.5 FASADEX akrilatna žbuka 1.5/2.0/2.5 SPEKTRA Crépi Acryl 1.5/2.0/2.5
	ZVEZDA FASAKRIL AKRILNI MALTER 1.5/2.0 / COLOR Plaster Acryl 1.5/2.0	ZVEZDA FASAKRIL AKRILNI MALTER 1.5/2.0 COLOR Plaster Acryl 1.5 / 2.0 Megafas akrilatna žbuka 1.5/2.0 Effecta akrilatna žbuka 1.5/2.0
	SPEKTRA Plaster Self-Clean 1.5/2.0/2.5 / FASADEX NANO žbuka 1.5/2.0/2.5	SPEKTRA Plaster Self-Clean 1.5/2.0/2.5 FASADEX NANO žbuka 1.5/2.0/2.5
	SPEKTRA Plaster Acryl Light / FASADEX LIGHT akrilatna žbuka 1.5/2.0	SPEKTRA Plaster Acryl Light 1.5/2.0 FASADEX LIGHT akrilatna žbuka 1.5/2.0
	SPEKTRA Plaster Mineral 1.5/2.0/3.0 / FASADEX mineralna žbuka 1.5/2.0/3.0	SPEKTRA Plaster Mineral 1.5/2.0/3.0 FASADEX mineralna žbuka 1.5/2.0/3.0
	SPEKTRA Plaster Decor Silicone 4.0 / FASADEX DECO silikonška žbuka 4.0	SPEKTRA Plaster Decor Silicone 4.0 FASADEX DECO silikonška žbuka 4.0
	SPEKTRA Plaster Decor Acryl 4.0 / FASADEX DECO akrilatna žbuka 4.0	SPEKTRA Plaster Decor Acryl 4.0 FASADEX DECO akrilatna žbuka 4.0
	SPEKTRA Plaster Mosaic / Fasadex mozaik žbuka	SPEKTRA Plaster Mosaic Fasadex mozaik žbuka

SPEKTRA thermal insulation system / FASADEX EPS fasadni sustav / ZVEZDA toplotno izolacioni sistem EPS / COLOR thermal insulation system EPS / MEGAFAS EPS fasadni sustav / EFFECTA EPS fasadni sustav

Original and alternative trade names of the ETICS components

Annex 2
of the European Technical Assessment
ETA-08/0122