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European Technical Assessment

ETA-09/0282
of 11.11.2025

General part

Technical Assessment Body issuing the European Technical Assessment

Österreichisches Institut für Bautechnik (OIB)
Austrian Institute of Construction Engineering

Trade name of the construction product

FASSATHERM PLUS

Product family to which the construction product belongs

External Thermal Insulation Composite Systems with rendering for the use as external insulation to walls of buildings

Manufacturer

FASSA SRL
Via Lazzaris, 3
31027 Spresiano (TV)
ITALY

Manufacturing plant

Plants of
FASSA SRL
See Annex 6

This European Technical Assessment contains

23 pages incl. 6 Annexes

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

European Assessment Document (EAD)
040083-00-0404 "External Thermal Insulation Composite Systems (ETICS) with renderings"

This European Technical Assessment replaces

European Technical Assessment ETA-09/0282 of 18.12.2017

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Specific part

1. Technical description of the product

This product is an ETICS (External Thermal Insulation Composite System) with rendering - a kit comprising components which are factory-produced by the manufacturer or component suppliers. It's made up on site from these. The ETICS manufacturer is ultimately responsible for the ETICS.

The ETICS kit comprises a prefabricated insulation product of mineral wool (MW) mechanically fixed onto a wall with supplementary adhesive. The methods of fixing and the relevant components are specified in Annex 1.

The insulation product is faced with a rendering system consisting of one base and finishing coat (site applied), the base coat contains reinforcement. The rendering system 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 ...) for connection to adjacent building elements (apertures, corners, parapets...). 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 a part of the kit.

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

The performances in Section 3 can only be assumed if the ETICS is used in accordance with the specifications and under the boundary conditions specified in Annexes 2 to 5.

The verifications and assessment methods on which this ETA is based lead to the assumption of a working life of the ETICS of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as a means for choosing the right products relating to the assumed economically reasonable working life of the works.

For use, maintenance and repair, 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 localized damaged areas due to accidents,
- the aspect maintenance with products compatible with the ETICS (possibly after washing or ad hoc preparation).

Necessary repairs are to be carried out as soon as the need has been identified. The information on use, maintenance and repair is given in the manufacturer's technical documentation.

It is the responsibility of the manufacturer to ensure that this information is made known to the concerned people.

Essential characteristic	Performance
between adhesive and mineral wool (MW) insulation	- Thickness [mm] of the used adhesives - Minimal value [kPa], rupture type: Initial state (dry conditions)
Minimal bonded surface area	≥ 80 kPa: 100 %
Wind load resistance of ETICS pull-through test of fixing static foam block test	- R_{panel} [kN/fixing], see Annex 4 - R_{joint} [kN/fixing], see Annex 4 - Plate diameter of anchor ≥ 60 mm, - plate stiffness ≥ 0.3 [kN/mm ²] - load resistance of the anchor plate ≥ 1,0 [kN]
Tensile strength perpendicular to the faces in dry conditions (MW-EN 13162) Standard mineral wool lamellas Standard mineral wool slabs	$\sigma_{mt} \geq 80$ kPa (bonded ETICS) $\sigma_{mt} \geq 7,5$ kPa (mechanically fixed with supplementary adhesive)
Shear strength of the ETICS MW slabs MW lamellas	$5 \leq f_{rk} \leq 80$ kPa ≥ 80 kPa
Render strip tensile test	see Annex 4 crack width w_{rk} [mm]
Bond strength after ageing finishing coat tested on the rig finishing coat not tested on the rig	see Annex 4 Minimal value/ average[kPa], rupture type Minimal value/ average [kPa], rupture type
Tensile strength of the glass fibre mesh in the as-delivered state Standard mesh Reinforced mesh	see Annex 4 Average [N/mm] Average [N/mm]
Residual tensile strength of the glass fibre mesh after aging Standard mesh Reinforced mesh	see Annex 4 Average [N/mm] Average [N/mm]
Relative residual tensile strength of the glass fibre mesh after aging Standard mesh Reinforced mesh	see Annex 4 Average [%] Average [%]
Elongation of the glass fibre mesh in the as-delivered state Standard mesh Reinforced mesh	see Annex 4 Average [N/mm] Average [N/mm]
Elongation of the glass fibre mesh after aging Standard mesh Reinforced mesh	see Annex 4 Average [%] Average [%]

3.4 Protection against noise (BWR 5)

3.4.1 Airborne sound insulation of ETICS

No performance assessed

3.4.2 Dynamic stiffness of the thermal insulation product

No performance assessed

3.4.3 Air flow resistance and thermal transmittance of ETICS

No performance assessed

3.5 Energy economy and heat retention (BWR 6)

3.5.1 Thermal resistance and thermal transmittance of ETICS

Thermal resistance $R_{Render} = 0,02 \text{ m}^2\cdot\text{K/W}$

Thermal resistance $R_{ETICS} = 1,00 \text{ m}^2\cdot\text{K/W}$

Calculation:

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

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

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

ΔU correction term of the thermal transmittance for mechanical fixing devices

$$U = \frac{1}{R_{ETICS} + R_{render} + R_{substrate} + R_{se} + R_{si}}$$

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

where:

$R_{insulation}$ insulation thickness / thermal conductivity coefficient [$\text{m}^2\cdot\text{K/W}$]

$R_{Render} = 0,02 \text{ m}^2\cdot\text{K/W}$

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

R_{se} external surface thermal resistance [$\text{m}^2\cdot\text{K/W}$].

R_{si} internal surface thermal resistance [$\text{m}^2\cdot\text{K/W}$]

$$\Delta U = \chi_P \times n + \sum \Psi_i \times l_i \quad [\text{m}^2\cdot\text{K/W}]$$

where:

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

= 0,002 [W/K] for anchors with a plastic screw/nail, stainless steel screw/nail with the head covered by at least 15 mm plastic material, or with a minimum 15 mm air gap at the head of the screw/nail

= 0,004 [W/K] for anchors with a galvanized carbon steel screw/nail with the head covered by at least 15 mm plastic material or a minimum 15 mm air gap at the head of the screw/nail

0.008 [W/K] for all other anchors (worst case)

n number of anchors per m^2 . In case of $n > 16$, the U_c calculation does not apply.

Ψ_i inear thermal transmittance value of the profile [$\text{W}/\text{m}\cdot\text{K}$]

l_i length of the profile per m^2

The influence of thermal bridges may also be calculated as described in EN ISO 10211. In case of there are more than 16 pieces of anchors per m^2 the declared χ_P shall not be used. In such case calculation according to EN ISO 10211 shall be used.

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

According to EAD 040083-00-0404 the applicable European legal act is: 97/556/EC as amended by 2001/596/EC.

Table 4: AVCP-system

Product(s)	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 Österreichisches Institut für Bautechnik.

Issued in Vienna, on 11.11.2025
by Österreichisches Institut für Bautechnik

The original document is signed by

Thomas Rockenschaub
Managing Director

Annex 1

1.1 Composition of the ETICS

	Components	Coverage (kg/m²)	Thickness (mm)
Insulation materials with associated methods of fixing	Bonded ETICS (partially or fully bonded. National application documents shall be taken into account)		
	➤ Insulation product 1: Standard mineral wool (lamellas)	/	50 to 240
	➤ Insulation product 2 and 3: Standard mineral wool (slabs)	/	50 to 240
	➤ Adhesives:		
	- A 96 Baukleber: white cement, lime sand, additives	3,0 to 6,0 (powder)	/
	- AL 88 Baukleber: white cement, sand, polystyrene, additives	3,0 to 6,0 (powder)	/
Insulation materials with associated methods of fixing	Mechanically fixed ETICS with anchors and supplementary adhesive		
	➤ Insulation product 1: Standard mineral wool (lamellas)	/	50 to 240
	➤ Insulation product 2 and 3: Standard mineral wool (slabs)	/	50 to 240
	➤ Adhesives:		
	- A 96 white cement, lime sand, additives	3,0 to 6,0 (powder)	/
	- AL 88 white cement, sand, polystyrene, additives	3,0 to 6,0 (powder)	/
	➤ Anchors: Anchors with valid ETA according to ETAG 014 or EAD 330196-00-0604	/	/
Base coat	- A 96 white cement, lime sand, additives	3,0 to 6,0 (powder)	3,5 to 7,0
	- AL 88 white cement, sand, polystyrene, additives	3,0 to 6,0 (powder)	5,0 to 10,0
Glass fibre mesh	➤ Standard glass fibre mesh: - FASSANET 160 mesh size between 3,80 mm and 4,15 mm	/	/
Key coat	- FASSIL F 328 mineral fixing foundation, stabilized potassium silicate with particular binders	0,10 to 0,15 (liquid)	/
	- FA 249 particular alkali resistant dispersion of synthetic resins	0,03 to 0,05 (liquid)	/
	- FS 412 water-based primer composed of special acrylsilicone resins	0,10 to 0,15 (liquid)	/
	- FX 526 water-based primer composed of special acrylic-siloxane resins	0,10 to 0,15 (liquid)	/

	Components	Coverage (kg/m ²)	Thickness (mm)
Finishing coat	<ul style="list-style-type: none"> ➤ Ready to use paste – silicate binder: <ul style="list-style-type: none"> - FASSIL R 336 particle size 1,0/1,5/2,0/3,0 mm 	2,0 to 4,2	Regulated by particle size
	<ul style="list-style-type: none"> ➤ Ready to use paste – silicon resin: <ul style="list-style-type: none"> - RSR 421 particle size 1,0/1,5/2,0/3,0 mm 	2,0 to 4,2	
	<ul style="list-style-type: none"> ➤ Ready to use paste – synthetic resin: <ul style="list-style-type: none"> - RTA 549 particle size 1,0/1,5/2,0/3,0 mm 	2,0 to 4,2	
	<ul style="list-style-type: none"> ➤ Ready to use paste – acrylic-siloxane resin: <ul style="list-style-type: none"> - RX 561 particle size 1,0/1,5/2,0 mm/3,0 mm 	2,0 to 3,4	

1.2 Characteristics of insulation material

Description and characteristics	MW lamellas	MW slabs
	bonded ETICS	mechanically fixed ETICS
Reaction to fire EN 13501-1	Euroclass A1 - Thickness: 50 to 240 mm - Density: 70 to 130 kg/m ³	
Thermal resistance	Defined in the CE marking in reference to EN 13162	
Thickness (mm) / EN 823	MW-EN 13162 – T5	
Water absorption / EN 1609	≤ 0,5 kg/m ²	
Water vapour diffusion resistance factor (μ) / EN 12086	≤ 2	
Tensile strength Perpendicular to the faces in dry conditions (kPa) / EN 1607	≥ 80 (MW-EN 13162 – TR80)	≥ 7,5 (MW-EN 13162 – TR 7,5, TR10, TR15 and TR80)
Shear strength / EN 12090	≤ 0,02	-
Shear modules / EN 12090	≥ 1,0	-

Annex 2

Safety in case of fire (BWR 2)

2.1 Reaction to fire

Configurations	Organic content	Flame retardant content	Euroclass according to EN 13501-1
Base coat according to Annex 1	≤ 5,0 %	no flame retardant	A2-s1, d0
MW slabs	Euroclass A1 - Thickness: 50 mm to 240 mm - Density: 70 to 130 kg/m ³		
Anchors	-	-	
Rendering system Base coat with finishing coat and compatible key coat in Annex 1.1			
Primers according to Annex 1	≤ 12,0 %	no flame retardant	
Finishing coat according to Annex 1	≤ 9,4 %		

2.2 Facade fire performance

No performance assessed

2.3 Propensity to undergo continuous smouldering of ETICS

No performance assessed

Annex 3

Hygiene, health and the environment (BWR 3)

3.1 Water absorption (capillarity test) Base coat and Rendering System

A96: (base coat) and finishing coats indicated in Annex 1	Average water absorption [kg/m ²]	
	after 1h	after 24h
A 96	0.193	0.474
A 96 + FASSIL R336 2.0 mm	0.038	0.122
A 96 + RSR 421 2.0 mm	0.022	0.034
A 96 + RTA 549 2.0 mm	0.023	0.111
A 96 + RX 561 3.0 mm	0.03	0,01
A 96 + RTA 549 3.0 mm	0.07	0.02

AL 88: (base coat) and finishing coats indicated in Annex 1	Average water absorption [kg/m ²]	
	after 1h	after 24h
AL 88	0.228	0.492
AL 88 + RX 561 2.0 mm	0.070	0.430
AL 88 + FASSIL R336 2.0 mm	0.037	0.218
AL 88 + RSR 421 2.0 mm	0.029	0.108
AL 88 + RTA 549 2.0 mm	0.010	0.132

3.2 Water tightness

The tested systems passed the tests without defects and can be seen as watertight.

3.3 Freeze-thaw performance

Testing of freeze/thaw cycles not necessary, because water absorption is < 0,5 kg/m².

3.4 Impact resistance

Mineral wool slabs

(base coat) and finishing coats indicated in Annex 1	mesh:		
A 96	Single standard layer		
A 96 + FASSIL R 336 1.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 36 mm	Presence of cracks: no (3 J) yes (10 J)	Category II
A 96 + FASSIL R 336 1.5 to 3.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	Category I
A 96 + RSR 421 2.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 45 mm	Presence of cracks: no (3 J) yes (10 J)	Category II
A 96 + RSR 421 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 45 m	Presence of cracks: no (3 J) yes (10 J)	Category II
A 96 + RTA 549 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 18 mm	Presence of cracks: no (3 J) yes (10 J)	Category II

(base coat) and finishing coats indicated in Annex 1	mesh:		
AL 88	Single standard layer		
AL 88 + RSR 421 2.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RSR 421 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RTA 549 2.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RTA 549 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RX 561 1.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RX 561 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA

(base coat) and finishing coats indicated in Annex 1	mesh:		
AL 88	Double standard layer		
AL 88 + FASSIL R 336 2.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + FASSIL R 336 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RSR 421 2.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RSR 421 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RTA 549 2.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RTA 549 1.0 and 1.5 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RX 561 1.0 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA
AL 88 + RX 561 1.0 to 3 mm	Maximum impact diameter: 3 J: 0 mm 10 J: 0 mm	Presence of cracks: no (3 J) no (10 J)	NPA

3.5 Water vapour permeability ETICS

Equivalent air thickness of the				system
base coat		finishing coat		
A 96	5 mm	RTA549	2 mm	0.27
		RSR 421	2 mm	0.46
		R 336	2 mm	0.28
		RX 561	3 mm	0.28
AL 88	5 mm	RTA549	2 mm	0.39
		RSR 421	2 mm	0.34
		R 336	2 mm	0.21
		RX 561	2 mm	0.28

Equivalent air thickness of primer (optional)		Water vapour permeability of the primer
FASSIL F 328	0,1 mm	NPA
FA 249	0,1 mm	NPA
FS 412	0,1 mm	NPA
FX 526	0,1 mm	NPA

Equivalent air thickness of primer (optional)	Water vapour resistance factor
MW slabs	MU1
MW lamellas	MU1

Annex 4

4 Safety and accessibility in use (BWR 4)

4.1 Render strip tensile test

Base coat	direction	No. of cracks	W
A 96	warp	17	0.15 < W < 0.20 mm
	weft	18	0.10 < W < 0.15 mm
AL 88	warp	16	0.10 < W < 0.15 mm
	weft	16	0.10 < W < 0.15 mm

4.2 Bond strength between base coat and insulation product

Insulation product: Mineral wool slabs		Conditioning		
		Initial state [MPa]	After hygrothermal cycles [MPa]	After the freeze/thaw test
A 96	Average	0,020 100% T1	0,014 100% T1	No test performed because freeze/thaw cycles not necessary
	Minimal value	0,016	0,008	
AL 88	Average	0,010 100% T1	0,011 100% T1	
	Minimal value	0,007	0,008	

Insulation product: Mineral wool lamellas		Conditioning		
		Initial state [MPa]	After hygrothermal cycles [MPa]	After the freeze/thaw test
A 96	Average	0,020 100% T1	0,061 100% T1	No test performed because freeze/thaw cycles not necessary
	Minimal value	0,016	0,006	
AL 88	Average	0,011 100% T1	0,065 100 T1	
	Minimal value	0,009	0,008	

Type 1 cohesive rupture in insulation product
 Type 2 cohesive rupture in adhesive
 Type 1/2 rupture between insulation product and adhesive

4.3 Bond strength between adhesive and substrate

Substrate: Concrete		Conditioning		
		Initial state [MPa]	48 hrs. immersion in water and 2 hrs. drying [MPa]	48 hrs. immersion in water and 7 days drying [MPa]
A 96	Average	0,87 100% T2	0,61 100% T2	0,72 100% T2
	Minimal value	0,78	0,53	0,67
AL 88	Average	0,89 100% T2	0,61 100% T2	0,73 100% T2
	Minimal value	0,72	0,55	0,67

Type 1 cohesive rupture in insulation product
 Type 2 cohesive rupture in adhesive
 Type 1/2 rupture between insulation product and adhesive

4.4 Bond strength between adhesive and insulation product

Insulation product: Mineral wool slabs		Conditioning		
		Initial state [MPa]	48 hrs. immersion in water and 2 hrs. drying [MPa]	48 hrs. immersion in water and 7 days drying [MPa]
A 96	Average	0,019 100% T1	0,004 100% T1	0,008 100% T1
	Minimal value	0,016	0,077	0,007
AL 88	Average	0,018 100% T1	0,004 100% T1	0,008 100% T1
	Minimal value	0,017	0,079	0,007

Insulation product: Mineral wool lamellas		Conditioning		
		Initial state [MPa]	48 hrs. immersion in water and 2 hrs. drying [MPa]	48 hrs. immersion in water and 7 days drying [MPa]
A 96	Average	0,073 100% T1	0,061 100% T2	0,072 100% T2
	Minimal value	0,069	0,53	0,067
AL 88	Average	0,075 100% T1	0,061 100% T2	0,073 100% T2
	Minimal value	0,065	0,55	0,067

- Type 1 cohesive rupture in insulation product
- Type 2 cohesive rupture in adhesive
- Type 1/2 rupture between insulation product and adhesive

4.5 Fixing strength (transverse displacement)

No performance assessed.

4.6 Wind load resistance

The following failure loads only apply to the listed combination of component characteristics and the characteristics of the insulation product. All anchors which shall be used are shown in the control plan and the declaration of performance.

4.6.1 Safety in use of mechanically fixed ETICS using anchors

Anchors for which the following failure loads apply	Trade name	Anchors with valid ETA acc. to EAD 330196-01-0604 or EAD 330965-01-0601		
	Plate diameter (mm)	≥ Ø 60		
Characteristics of the insulation product panels for which the following failure loads apply	Thickness (mm)	50		
	Tensile strength perpendicular to the face (kPa)	≥ TR7.5 panels / ≥ TR80 lamellas		
Failure load [kN]	Anchors not placed at the panel joints (pull through test)*	R _{panel}	Minimum: Average:	≥ 0,40 ≥ 0,45
	Anchors placed at the panel joints (pull through test)*	R _{joint}	Minimum: Average:	≥ 0,40 ≥ 0,40
	Anchors not placed at the panel joints after ageing of 28d (pull through test)*	R _{panel}	Minimum: Average:	≥ 0,40 ≥ 0,45
	Static foam block test*	F _{Dowel}	Minimum: Average:	≥ 0,40 ≥ 0,40
* according to EAD 040083-00-0404 clause 2.2.14.2				

The above given loads apply for all anchors if they meet the following criteria:

- valid ETA acc. to EAD 330196-01-0604 or EAD 330965-01-0601
- plate stiffness of anchors ≥ 0,3 kN/mm
- load resistance of anchor plate ≥ 1,0 kN
- anchors mounted on the insulation panel surface or with the minimal residual thickness of the insulation product as stated above

The wind load resistance of the ETICS R_d is calculated as follow:

$$R_d = (R_{panel} + \eta_{panel} + R_{joint} \times \eta_{joint}) / \gamma$$

where:

- η_{panel}: number (per m²) of anchors not placed at the panel joint
- η_{joint}: number (per m²) of anchors placed at the panel joint
- γ: national safety factor

4.6.2 Safety in use of mechanically fixed ETICS using profiles

No performance assessed.

4.7 Bond strength after aging

Mineral wool slabs

Base coat	Finishing coat	after ageing [MPa]		After freeze/thaw cycles		
		Average	100% T1			
Rendering systems: Base coat A96 + finishing coats indicated hereafter:	RTA 549	Average	0,006 100% T1	Test not required because freeze/thaw cycles not necessary		
		Minimum value	0,005			
	RSR 421	Average	0,016 100% T1			
		Minimum value	0,014			
	R 336	Average	0,021 100% T1			
		Minimum value	0,018			
	RX 561	Average	0,014 100% T1			
		Minimum value	0,012			
	Rendering systems: Base coat AL 88 + finishing coats indicated hereafter:	RTA 549	Average		0,008 100% T1	Test not required because freeze/thaw cycles not necessary
			Minimum value		0,006	
		RSR 421	Average		0,012 100% T1	
			Minimum value		0,009	
R 336		Average	0,013 100% T1			
		Minimum value	0,010			
RX 561		Average	0,004 100% T1			
		Minimum value	0,003			

Mineral wool lamellas

Base coat	Finishing coat	after ageing [MPa]		After freeze/thaw cycles		
		Average	100% T1			
Rendering systems: Base coat A96 + finishing coats indicated hereafter:	RTA 549	Average	0,074 100% T1	Test not required because freeze/thaw cycles not necessary		
		Minimum value	0,071			
	RSR 421	Average	0,023 100% T1			
		Minimum value	0,020			
	R 336	Average	0,029 100% T1			
		Minimum value	0,025			
	RX 561	Average	NPA			
		Minimum value	NPA			
	Rendering systems: Base coat AL 88 + finishing coats indicated hereafter:	RTA 549	Average		0,056 100% T1	Test not required because freeze/thaw cycles not necessary
			Minimum value		0,053	
		RSR 421	Average		0,047 100% T1	
			Minimum value		0,044	
R 336		Average	0,045 100% T1			
		Minimum value	0,041			
RX 561		Average	NPA			
		Minimum value	NPA			

Type 1 cohesive rupture in insulation product
 Type 2 cohesive rupture in adhesive
 Type 1/2 rupture between insulation product and adhesive

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4.8 Reinforcement (glass fibre mesh)

FASSANET 160	Warp direction	Weft direction	Acceptance criteria
Tensile strength in the as delivered state	43 N/mm	45 N/mm	-
Elongation in the as delivered state	3,6 %	3,9 %	-
Residual tensile strength after ageing	26 N/mm	29 N/mm	≥ 20 N/mm
Relative residual strength after ageing of the strength in the as delivered state	60 %	64 %	≥ 50 %
Elongation after ageing	2,3 %	2,6 %	-

Detailed characteristics of each glass fibre mesh given in factory control plan.

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Annex 6

Manufacturing plants

FASSA SRL, 31027 - Spresiano (Italy) Via Fornaci, 8
FASSA SRL, 25080 - Mazzano (Italy) via S. Rocco, 23
FASSA SRL, 23851 - Sala al Barro (Italy) via Giuseppe Verdi 20
FASSA SRL, 12071 - Bagnasco (Italy) via del Molino, 87
FASSA SRL, 55020 - Molazzana (Italy) Località Molino Di Sassi
FASSA SRL, 48100 - Ravenna (Italy) via del Cimitero, 131
FASSA SRL, 65026 - Popoli Terme (Italy) Strada Prov. per Vittorito snc
FASSA SRL, 70032 - Bitonto (Italy) via dei Fiordalisi, 22 Z.I.A.
FASSALUSA LDA 2495-036 - Batalha (Portugal) Zona Industrial de São Mamede
FASSA HISPANIA SL 04628 - Antas (España)Autovía del Mediterráneo, Sal. 537

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