

EUROPEAN TECHNICAL ASSESSMENT

ETA 20/0394**Version 01****Date of issue: 2020-04-21**

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Technical Assessment Body issuing the European Technical Assessment: UBAtc.
UBAtc has been designated according to Article 29 of Regulation (EU) No 305/2011
and is member of EOTA (European Organisation for Technical Assessment)

Trade name of the construction product:

SILENTWALL

Product family to which the construction product belongs:

Acoustic and thermal insulation products

Manufacturer:

RECTICEL INSULATION SAS
Z.I. - 7 boulevard de la Chanterie
49124 Saint-Bartélemy-d'Anjou
France

Manufacturing plant(s):

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Website:

www.recticelinsulation.com

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

European Assessment Document (EAD): 040831-01-1201

This ETA replaces

ETA 17/1045, issued on 26 January 2018 by CSTB

This European Technical Assessment contains:

7 pages, with 1 annex which forms an integral part of this ETA



**European Organisation
for Technical Assessment**

Legal bases and general conditions

- 1 This European Technical Assessment is issued by UBAtc (Union belge pour l'Agrément technique de la construction, i.e. Belgian Union for technical Approval in construction), in accordance with:
 - Regulation (EU) No 305/2011¹ of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC
 - Commission Implementing Regulation (EU) No 1062/2013² of 30 October 2013 on the format of the European Technical Assessment for construction products
 - European Assessment Document (EAD) : 040831-01-1201
- 2 Under the provisions of Regulation (EU) No 305/2011, UBAtc is not authorized to check whether the provisions of this European Technical Assessment are met once the ETA has been issued.
- 3 The responsibility for the conformity of the performances of the products with this European Technical Assessment and the suitability of the products for the intended use remains with the holder of the European Technical Assessment.
- 4 Depending on the applicable Assessment and verification of constancy of performance (AVCP) system, (a) notified body(ies) may carry out third-party tasks in the process of assessment and verification of constancy of performance under this Regulation once the European Technical Assessment has been issued.
- 5 This European Technical Assessment allows the manufacturer of the construction product covered by this ETA to draw up a declaration of performance (DoP) for the construction product.
- 6 CE marking should be affixed to all construction products for which the manufacturer has drawn up a declaration of performance (DoP).
- 7 This European Technical Assessment is not to be transferred to other manufacturers, agents of manufacturers, or manufacturing plants other than those indicated on page 1 of this European Technical Assessment.
- 8 The European Technical Assessment holder confirms to guarantee that the product(-s) to which this assessment relates, is/are produced and marketed in accordance with and comply with all applicable legal and regulatory provisions, including, without limitation, national and European legislation on the safety of products and services. The ETA-holder shall notify the UBAtc immediately in writing of any circumstance affecting the aforementioned guarantee. This assessment is issued under the condition that the aforementioned guarantee by the ETA-holder will be continuously observed.
- 9 According to Article 11(6) of Regulation (EU) No 305/2011, when making a construction product available on the market, the manufacturer shall ensure that the product is accompanied by instructions and safety information in a language determined by the Member State concerned which can be easily understood by users. These instructions and safety information should fully correspond with the technical information about the product and its intended use which the manufacturer has submitted to the responsible Technical Assessment Body for the issuing of the European Technical Assessment.
- 10 Pursuant to Article 11(3) of Regulation (EU) No 305/2011, manufacturers shall adequately take into account changes in the product-type and in the applicable harmonised technical specifications. Therefore, when the contents of the issued European Technical Assessment do not any longer correspond to the product-type, the manufacturer should refrain from using this European Technical Assessment as the basis for their declaration of performance (DoP).
- 11 All rights of exploitation in any form and by any means of this European Technical Assessment is reserved for UBAtc and the ETA-holder, subject to the provisions of the applicable UBAtc regulations.
- 12 Reproduction of this European Technical Assessment including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of UBAtc. In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European Technical Assessment.
- 13 Subject to the application introduced, this European Technical Assessment is issued in English and may be issued by the UBAtc in its official languages. The translations correspond fully to the English reference version circulated in EOTA.
- 14 This European Technical Assessment was first issued by UBAtc on 21 April 2020 and replaces ETA 17/1045, issued on 26 January 2018 by CSTB.

¹ OJEU, L 88 of 2011/04/04

² OJEU, L 289 of 2013/10/31

Technical Provisions

1 Technical description of the product

1.1 General

This ETA is being issued for the products specified on the cover page, on the basis of agreed data/information, deposited with the UBAtc, which identifies the products that have been assessed and judged. Changes to the product/production process, which could result in the deposited data/information being incorrect, should be notified to the UBAtc before the changes are introduced. The UBAtc will decide whether or not such changes affect the ETA and, if so, whether further assessment/alterations to the ETA, shall be necessary.



1.2 Description of the construction product

The construction product is made of bonded foam, based on recycled polyurethane flakes. The construction product is supplied in the form of rolls and/or slabs and contains a mixture of different materials such as PU foam flakes (recyclates) and fibres.

The bonded foam is typically composed of:

- Recycled polyurethane: $(80 \pm 5)\%$ (recyclates)
- Polyester low-melting fibres: $(20 \pm 5)\%$ (this material comes from raw material sourcing but can be recycled from production of the bonded foam)

By 'recyclates' is meant: production and end-of-life waste having undergone recovery operations.

The assessed product is a slab with a nominal density of 80 kg/m³, a nominal thickness of 40 mm and has no facings.

The glue referred to in this ETA, is not covered by this ETA.

2 Specification of the intended use(s) in accordance with the applicable EAD

2.1 Intended uses

The bonded foam is intended to be used as acoustic and thermal insulation for internal lining and partition applications and shall be installed in accordance with the manufacturer's installation manual.

The product shall only be installed in areas where it is not exposed to wetting, weathering, condensation, wind or compression load.

The product shall be protected from precipitation, wetting or weathering during transport, storage and installation.

This European Technical Assessment does not cover the complete or finished insulation system. National design specifications and codes of practice and regulations apply.

2.2 Working life/Durability

The provisions made in this ETA are based on the assumed working life of the bonded foam for an intended use of 25 years when installed in the works, provided that the bonded foam is subject to appropriate installation.

The indications given as to the working life of the construction product cannot be interpreted as a guarantee either given by the product manufacturer or by the UBAtc, but are regarded only as means for expressing the expected economically reasonable working life of the product.

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

3.1 Mechanical resistance and stability (BWR1)

Not applicable.

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire

Classification according to EN 13501-1 and the mounting and fixing rules given in EN 15715.

The table below specifies the reaction to fire class that applies for the bonded foam in function of its end use application.

No performance was assessed for the bonded foam as such.

End use application	Reaction to fire class
Substrate: all types of substrate (including combustible types, e.g. particle board).	B-s1, d0
Surface product: all non-combustible mineral surface products of Euro classes A1 and A2 with a minimal thickness of 12 mm.	
Fixing: the bonded foam is bonded between the surface product and the substrate, using Recticel glue for acoustic insulation boards.	

3.3 Hygiene, health and the environment (BWR 3)

3.3.1 Content, emission and/or release of dangerous substances

The following scenarios for the intended use are applicable:

- IA2: Product with indirect contact to indoor air
- IA3: Product with no contact to indoor air
- S/W3: Product with no contact to soil-, ground- and surface water

Assessment of the release of VOC and SVOC according to the relevant parts of the EN ISO 16000 series of standards and according to CEN/TS 16516. The classification criteria for VOC and SVOC, as stated in EOTA TR 034 are taken into account.

The correspondence with the limit values specified in the following Member State's regulation, as declared by the manufacturer, has been verified by UBAtc by means of representative sampling and testing.

Belgium Belgian Royal Decree of 4/05/2014		
Compound	CAS no	Limit values [µg/m³]
R	-	≤ 1
TVOC	-	≤ 1000
TSVOC	-	≤ 100
Carcinogenic substances of categories 1A and 1B	-	≤ 1
Acetaldehyde	75-07-0	≤ 200
Toluene	108-88-3	≤ 300
Formaldehyde	50-00-0	≤ 100

France - Emission class A+ Decree 2011-321 of March 2011 and Order of 19 April 2011		
Compound	CAS no	Limit values for emission class A+ [µg/m³]
Formaldehyde	50-00-0	< 10
Acetaldehyde	75-07-0	< 200
Toluene	108-88-3	< 300
Tetrachloroethylene	127-18-4	< 250
Xylene	1330-20-7	< 200
1,2,3-Trimethylbenzene	95-63-6	< 1000
1,4-Dichlorobenzene	106-46-7	< 60
Ethylbenzene	100-41-4	< 750
2-Butoxyethanol	111-76-2	< 1000
Styrene	100-42-5	< 250
TVOC	-	< 1000
Benzene	71-43-2	< 1
Trichloroethylene	79-01-6	< 1
DBP, Dibutylphthalate	84-74-2	< 1
DEHP, Diethylhexylphthalate	117-81-7	< 1

3.4 Safety and accessibility in use (BWR 4)

Not applicable.

3.5 Protection against noise (BWR 5)

3.5.1 Airflow resistance

Assessment according to EN ISO 9053-1.

Performance: $R_s = 417 \text{ Pa.s/m}$

3.5.2 Sound absorption

Assessment according to EN 13165, clause 4.3.10, and according to EN ISO 354 and EN ISO 11654.

Measuring setup according to type A-mounting as described in EN ISO 354, Annex B.

Performance: $\alpha_w = 0,65$

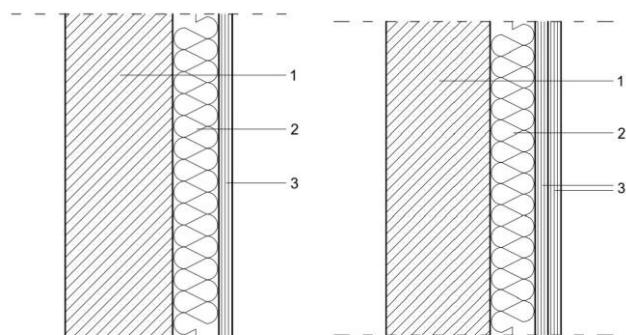
3.5.3 Airborne sound insulation

Assessment according to EN ISO 10140-2 and EN ISO 10140-5 and classification of the results according to EN ISO 717-1.

The assessed constructions consisted in a 100 mm thick wall made of aerated concrete blocks, to which bonded foam thickness 40 mm was glued, and covered with a single and a double layer of 12,5 mm thick plasterboard (also glued). See figure 1.

The following glue was used: Glue for acoustic insulation boards by Recticel Insulation.

Figure 1: The assessed constructions for airborne sound insulation



- 1: 100 mm aerated concrete blocks (density ca. 64 kg/m³)
2: 40 mm bonded foam
3: 12,5 mm plasterboard (density ca. 12,5 kg/m²)

The weighted sound reduction index, ΔR_w , = 9 dB for the variant with 1 plasterboard.

The weighted sound reduction index, ΔR_w , = 14 dB for the variant with 2 plasterboards.

3.6 Energy economy and heat retention (BWR 6)

3.6.1 Tensile strength perpendicular to faces

Assessment according to EN 13165, clause 4.3.5, and according to EN 1607.

Performance: TR40 (≥ 40 kPa)

3.6.2 Geometry

3.6.2.1 Length and width

Assessment according to EN 13165, clause 4.2.2, and according to EN 822.

Tolerances on length and width:

Dimensions (mm)	Tolerances (mm)
< 1000	± 5
1000 to 2000	$\pm 7,5$
2001 to 4000	± 10

3.6.2.2 Thickness

Assessment according to EN 13165, clause 4.2.3, and according to EN 823.

Performance: T2 (40 ± 2 mm)

3.6.2.3 Squareness

Assessment according to EN 13165, clause 4.2.4, and according to EN 824.

Performance: deviation from squareness on length and width, $S_b, \leq 5$ mm/m

3.6.2.4 Flatness

Assessment according to EN 13165, clause 4.2.5, and according to EN 825.

The deviation from flatness, $S_{max}, \leq 5$ mm (surface area $\leq 0,75$ m²) and ≤ 10 mm (area $> 0,75$ m²).

3.6.3 Density

Assessment according to EN 13165, clause E.7, and according to EN 1602.

Performance: (80 ± 5) kg/m³

3.6.4 Water vapour transmission

No performance assessed.

3.6.5 Dimensional stability

Assessment according to EN 1603.

Test conditions: 23°C / 50% relative humidity.

Performance: DS(N)2 ($\Delta \epsilon_{l,b} \pm 0,2\%$)

3.6.6 Water absorption

No performance assessed.

3.6.7 Thermal conductivity

Assessment according to EN 12667.

The declared thermal conductivity is determined on the basis of the statistical value of thermal conductivity, $\lambda_{90/90}$.

The declared thermal conductivity is given at a mean temperature of 10°C and with a moisture content equal to the one in equilibrium with air at 23°C and relative humidity of 50%.

Performance: $\lambda_D = 0,037$ W/m.K

3.7 Sustainable use of natural resources (BWR 7)

Not applicable.

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

For the products covered by EAD 040831-01-1201, the applicable European legal act is Decision³ 1999/91/EC of the European Commission for thermal insulating products, as amended by Decision⁴ 2001/596/EC of 8 January 2001 and Commission Delegated Regulation (EU) 2016/364⁵. The systems to be applied has been specified in the table below.

Table 1: System of assessment and verification of constancy of performance applicable to the products covered by EAD 040831-01-1201

Product(s)	Intended use(s)	Level(s) or class(es) (reaction to fire)	System(s) of assessment and verification of constancy of performance ⁽¹⁾
Thermal insulation products	Any	-	3
	For uses subject to reaction to fire regulations	(A1, A2, B, C)*	1
		(A1, A2, B, C)**, D, E	3
		(A1 to F)***, NPD****	4

⁽¹⁾ Systems 1, 3 and 4: see Regulation (EU) N° 305/2011, Annex V

* 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).

** Products/materials not covered by footnote (*).

*** 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, as amended).

**** 'No performance declared' in accordance with Regulation (EU) N° 305/2011, Article 6(f).

5 Technical details necessary for the implementation of the AVCP system

5.1 Tasks of the manufacturer – Factory production control

5.1.1 General

The manufacturer shall establish, document and maintain a FPC system to ensure that the products are placed on the market conform to the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded.

5.1.2 Equipment

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

5.1.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

5.1.4 Non-conforming products

In the event of any non-conformity of any product, that product shall be placed into quarantine and action taken to rectify the cause of the non-conformity. Products may not subsequently be dispatched until the problem has been resolved.

5.1.5 Tests and frequencies

All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. This production control system ensures that the product is in conformity with the European Technical Assessment (ETA).

5.2 Tasks of the notified body - Assessment of the performance of the construction product

Assessment tests have been conducted under the responsibility of the assessment body (UBAtc) in accordance with EAD 040831-01-1201.

The assessment results should be used for the purpose of assessment of the performance of the construction product in accordance with Regulation (EU) N° 305/2011, Annex V.

³ OJEU, L 29 of 1999/02/03

⁴ OJEU, L 209 of 2001/08/02

⁵ OJEU, L 68 of 2016/03/15

Annex I: Reference documents

EAD 040831-01-1201	Factory-made bonded foam to be used as acoustic and thermal insulation	EN 13165	Thermal insulation products for buildings - Factory made rigid polyurethane foam (PU) products - Specification
EN 822	Thermal insulating products for building applications - Determination of length and width	EN 13501-1	Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
EN 823	Thermal insulating products for building applications - Determination of thickness	EN 15715	Thermal insulation products - Instructions for mounting and fixing for reaction to fire testing - Factory made products
EN 824	Thermal insulating products for building applications - Determination of squareness	EN ISO 354	Acoustics - Measurement of sound absorption in a reverberation room
EN 825	Thermal insulating products for building applications - Determination of flatness	EN ISO 717-1	Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation
EN 1602	Thermal insulating products for building applications - Determination of the apparent density	EN ISO 9053-1	Acoustics - Determination of airflow resistance - Part 1: Static airflow method
EN 1603	Thermal insulating products for building applications - Determination of dimensional stability under constant normal laboratory conditions (23°C/50% relative humidity)	EN ISO 10140-2	Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation
EN 1607	Thermal insulating products for building applications - Determination of tensile strength perpendicular to faces	EN ISO 10140-5	Acoustics - Laboratory measurement of sound insulation of building elements - Part 5: Requirements for test facilities and equipment
EN 12667	Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance	EN ISO 11654	Acoustics - Sound absorbers for use in buildings - Rating of sound absorption
		EN ISO 16000	Indoor air

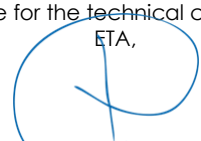
NOTE: The editions of reference documents given above are those which have been adopted by the UBAtc for its specific use when establishing this ETA. When new editions become available, these supersede the editions mentioned only when confirmed by the UBAtc. UBAtc asbl is a non-profit organization according to Belgian law. It is a Technical Assessment Body notified by the Belgian notifying authority, the Federal Public Services Economy, SMEs, Self-Employed and Energy, on 17 July 2013 in the framework of Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC and is member of the European Organisation for Technical Assessment, EOTA (www.eota.eu).

This European Technical Assessment has been issued by UBAtc asbl, in Sint-Stevens-Woluwe, on the basis of the technical work carried out by the Assessment Operator, BCCA.

On behalf of UBAtc asbl,


Peter Wouters,
director

On behalf of the Assessment Operator, BCCA,
responsible for the technical content of the
ETA,


Benny De Blaere,
director general

The most recent version of this European Technical Assessment may be consulted on the UBAtc website (www.ubadc.be).