itecons

Rua Pedro Hispano, s/n
3030-289 Coimbra

Tel: (+351) 239 79 89 49
itecons@itecons.uc.pt
www.itecons.uc.pt

Designated according to Article 29 of Regulation (EU) No 305/2011

Member of EOTA
www.eota.eu

European Technical Assessment

ETA 21/0743
of 03/09/2021

English version prepared by Itecons

General Part

Technical Assessment Body issuing the European Technical Assessment: Itecons - Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade	
Trade name of the construction product	MUTE
Product family to which the construction product belongs	Thermal insulation products. Composite insulating kits/systems Product area code: 04
Manufacturer	Acustekpro, Soluções Técnicas de Isolamento, Lda. Lugar de Assilhó, lote 1, S/N 3850-295 Albergaria-a-Velha Portugal
Manufacturing plant	Acustekpro, Soluções Técnicas de Isolamento, Lda. Lugar de Assilhó, lote 1, S/N 3850-295 Albergaria-a-Velha Portugal
This European Technical Assessment contains	6 pages
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 040036-00-0501 – *Mineral Pre-Coated Ceiling Panels*

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

Specific parts

1. Technical description of the product

The kit MUTE is a seamless acoustic ceiling composed by mineral wool (MW) panels covered with acoustic plaster. The plaster is applied on site and may be coloured.

The kit components are:

- MUTE mineral wool - mineral wool panels with CE Marking (EN 13162):
  - Thickness = 20 mm / 40 mm;
  - Reaction to fire = A2-s1,d0.
- MUTE acoustic plaster - synthetic plaster:
  - Form – powder, dry;
  - Density = 75-80 kg/m^3;
  - Solubility in water = 0.12.

The kits assessed are listed in Table 1.

Table 1 – Configurations of the kit MUTE

MUTE ref.	Components	Thickness
MUTE 20	MUTE mineral panel	20 mm
	MUTE acoustic plaster – 1st layer	2 - 3 mm
	MUTE acoustic plaster – 2nd layer	2 - 3 mm
MUTE 40	MUTE mineral multi-layered panel	40 mm
	MUTE acoustic plaster – 1st layer	2 - 3 mm
	MUTE acoustic plaster – 2nd layer	2 - 3 mm

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

2.1. Intended use

The kit MUTE is intended to be glued or screwed to a solid base (substrate) as sound absorbing material for ceiling. The assessment performed considers only applications in dry rooms (class A according to EN 13964) and in any type of buildings.

The provisions made in this European Technical Assessment are based on an assumed working life of 25 years as minimum according to the EAD, provided that the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a mean for choosing the right product in relation to the expected economically reasonable working life of the works.

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

The assessment of the kit MUTE according to the Basic Work Requirements (BWR) was carried out in compliance with EAD 040036-00-0501. The characteristics of the components shall correspond to the respective values laid down in the technical documentation of this ETA, checked by Itecons.

3.1. Performance of the assembled system (kit)

3.1.1. Mechanical resistance and stability (BWR 1)

Not relevant.

3.1.2. Safety in case of fire (BWR 2)

3.1.2.1. Reaction to fire

The reaction to fire was tested according to ISO 1182:2010 and EN 13823:2010+A1:2014 and classified according to EN 13501-1:2007+A1:2009. The kit MUTE meets the requirements of class A2-s1, d0.

3.1.3. Hygiene, health and the environment (BWR 3)

3.1.3.1. Content, emission and/or release of dangerous substances

The emission of volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) was assessed according to EN 16516:2017. The loading factor considered was L = 0.4 m^2/m^3. The results are presented in Table 1.

Table 1: Emissions of volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) after 28 days of exposure

Compound	CAS	Concentration ($\mu g/m^3$)	Compound	CAS	Concentration ($\mu g/m^3$)
1,1,2,2-Tetrachloroethane	79-34-5	< 5	Cyclohexane	110-82-7	< 5
1,1,1-Trichloroethane	71-55-6	< 5	Cyclohexanone	108-94-1	< 5
1,1,2-Trichloroethane	79-00-5	< 5	Dibromochloromethane	124-48-1	< 5
1,2,4-Trichlorobenzene	120-82-1	< 5	Ethyl acetate	141-78-6	< 5
1,2,4-Trimethylbenzene	95-63-6	< 5	Ethylbenzene	100-41-4	< 5
1,2-Dibromoethane	106-93-4	< 5	Formaldehyde	50-00-0	< 2
1,2-Dichlorobenzene	95-50-1	< 5	Hexachloro-1,3-butadiene	87-68-3	< 5
1,2-Dichloroethane	107-66-2	< 5	Methyl iso-butyl ketone (MIBK)	108-10-1	< 5
1,2-Dichloropropane	78-87-5	< 5	Methyl n-butyl ketone	591-78-6	< 5
1,3,5-Trimethylbenzene	108-67-8	< 5	m-Xylene	108-38-3	< 5
1,3-Dichlorobenzene	541-73-1	< 5	n-Hepthane	142-82-5	< 5
1,4-Dichlorobenzene	106-46-7	< 5	n-Hexadecane	544-76-3	< 5
1,4-Dioxane	123-91-1	< 5	n-Hexane	110-54-3	< 5
1-Ethyl-4-methyl benzene	622-96-8	< 5	o-Xylene	95-47-6	< 5
2-Butoxyethanol	111-76-2	< 5	Phenol	108-95-2	< 5
Acetaldehyde	75-07-0	< 3	p-Xylene	106-42-3	< 5
Benzene*	71-43-2	< 1	Styrene	100-42-5	< 5
Benzyl chloride	100-44-7	< 5	Tetrachloroethene	127-18-4	< 5
Bromodichloromethane	75-27-4	< 5	Tetrahydrofuran	109-99-9	< 5
Bromoform	75-25-2	< 5	Toluene	108-88-3	< 5

Compound	CAS	Concentration (µg/m³)	Compound	CAS	Concentration (µg/m³)
Butylacetate	123-86-4	< 5	trans-1,3-Dichloropropene	10061-02-6	< 5
Carbon tetrachloride	56-23-5	< 5	Trichloroethylene*	79-01-6	< 1
Chlorobenzene	108-90-7	< 5	Bis(2-ethylhexyl)phthalate*	117-81-7	< 1
Cis-1,2-Dichloroethene	156-59-2	< 5	Dibutylphthalate*	84-74-2	< 1
Cis-1,3-Dichloropropene	10061-01-5	< 5	TSVOC	---	< 5
Cloroform	67-66-3	< 5	TVOC	---	11

* CRM - Carcinogenic, mutagenic and reprotoxic substances

3.1.4. Safety and accessibility in use (BWR 4)

3.1.4.1. Bonding strength

No performance determined.

3.1.5. Protection against noise (BWR 5)

3.1.5.1. Sound absorption

The sound absorption was assessed according to EN ISO 354:2007. The absorption coefficient, α_s, and the weighted sound absorption coefficient, α_w, were calculated according to EN ISO 11654:1997.

The assessed build-up of MUTE 20 consisted in a total area of test specimen of 11,42 m^2. The MUTE 20 was laid over a reflector pavement with a peripheric frame along outside perimeter of the test specimen, formed by laminated gypsum boards with thickness of 13 mm. The joints between mineral wool panels, between panels and the peripheric frame and between peripheric frame and the pavement on the test room were covered with reflective tape. The assembly class considered was type “A”, according to standard EN ISO 354:2007.

The results are presented in Table 2.

Table 2: Sound absorption of MUTE 20

Product	MUTE 20								
Freq. (Hz)	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**	**630**
α_s	0.07	0.06	0.09	0.20	0.23	0.42	0.60	0.71	0.87
Freq. (Hz)	**800**	**1000**	**1250**	**1600**	**2000**	**2500**	**3150**	**4000**	**5000**
α_s	0.90	0.95	0.97	1.02	0.99	1.02	0.99	0.98	1.00
α_w	0.55(MH)								

The assessed build-up of MUTE 40 consisted in a total area of test specimen of 11,42 m^2. The MUTE 40 was laid over a reflector pavement with a peripheric frame along outside perimeter of the test specimen, formed by laminated gypsum boards with thickness of 13 mm. The joints between mineral wool panels, between panels and the peripheric frame and between peripheric frame and the pavement on the test room were covered with reflective tape. The assembly class considered was type “A”, according to standard EN ISO 354:2007.

The results are presented in Table 3.

Table 3: Sound absorption of MUTE 40

Product	MUTE 40								
Freq. (Hz)	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**	**630**
α_s	0.07	0.15	0.39	0.64	0.93	0.93	0.97	0.96	0.94
Freq. (Hz)	**800**	**1000**	**1250**	**1600**	**2000**	**2500**	**3150**	**4000**	**5000**
α_s	0.90	0.96	0.92	0.95	0.94	0.92	0.94	0.95	0.89
α_w	0.95								

3.1.6. Energy economy and heat retention (BWR 6)

Not relevant.

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

According to the Decision 1998/437/EC of European Commission the system of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) applicable is 3.

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

The ETA is issued on the basis of agreed data/information, deposited at Itecons, which identifies the product that has been assessed and judged. It is the manufacturer's responsibility to make sure that all those who use the kit are appropriately informed of specific conditions laid down in this ETA.

Changes to the kit or the components or their production process should be notified to the Itecons before the changes are introduced. Itecons will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

Issued in Coimbra on 03.09.2021

By

Technical Assessment Unit of

Itecons – Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade

Andreia Gil
Senior Official

(*Technical Assessment Unit Coordinator*)

Validated document

(Administration)