

**Acoustics Laboratory**

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**TEST REPORT**

No AL-A-003/17

20 Juny 2017

Valid for the tested object only

Page 1 ( 3 )

1. CUSTOMER: JSC "Ergolain projektai", A. Tumeno str. 4, LT-01990, Vilnius, Lithuania.
2. MANUFACTURER: JSC "Ergolain baldai", Kužiai, LT-80262 Šiaulių r. Lithuania.
3. PRODUCT: Acoustic panels for wall and ceilings, thickness 35, 70 and 120 mm, erected in the modular system;
4. SAMPLES SELECTED: 23 January 2017. Full information about samples was presented in sampling letter dated 23 January 2017 issued by customer.
5. RECEIVING DATE: 03 April 2017. Acoustic panels for modular system (19 panels of 35 mm thickness, 09 panels of 70 mm thickness and 09 panels of 120 mm thickness) were selected by the client and supply to arrange the tested 10,8 m<sup>2</sup> surface specimen.
6. TESTING DATE: From 15 May 2017 till 19 May 2017.
7. TESTING LOCATION: 210 m<sup>3</sup> volume reverberation room, Linkmenu 28, Vilnius.
8. TESTS WERE CARRIED OUT IN ACCORDANCE WITH:  
LST EN ISO 354:2004 "Measurement of sound absorption in a reverberation room (ISO 354:2003)";  
LST EN ISO 11654:1998 "Acoustics - Sound absorbers for use in buildings - Rating of sound absorption (ISO 11654:1997)".
9. TESTS RESULTS:

**Test Results for different thickness Acoustics panels for walls and ceilings in modular system**

Characteristics	Applied Testing Method	Obtained values
Sound absorption coefficients measured in 1/3 octave band from 100 to 5000 Hz, $\alpha_s$	LST EN ISO 354:2004	In Annex 1 table
Practical sound absorption coefficient $\alpha_p$ calculated in 1/1 octave band from 125 to 4000 Hz,	LST EN ISO 11654:1998	In Annex 2 table
Weighted sound absorption coefficient, $\alpha_w$	LST EN ISO 11654:1998	0,85 ()
Class of the sound absorption	LST EN ISO 11654:1998	B

10. OTHER INFORMATION:

10.1. Expanded uncertainty with coverage factor 2 and the confidence level 95 % for a single number rating  $\alpha_w$  is  $\pm 0,05$ ;

10.2. Deviations from EN standards: there are no;

11. ANNEX: Complete test results according to LST EN ISO 354:2004 and rating calculated according to LST EN ISO 11645:1998 on 2 pages.

Head of Acoustics Laboratory

Technically responsible for the tests



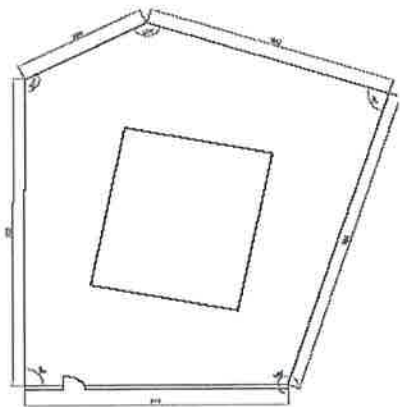
Dr. A.Jagniatinskis

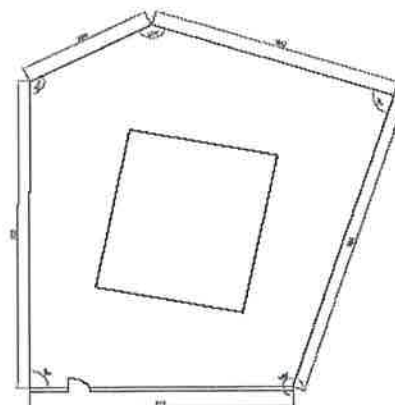
Dr. B. Fiks

# Sound absorption coefficient according to LST EN ISO 354:2004

## Sound absorption measured in the reverberation room

Manufacturer:	UAB "Ergolain baldai"	Measurements date:	2017-05-19
Client:	UAB "Ergolain projektai"		
Sample identification:	Acoustics panels for wall and ceiling, thickness 35, 70 and 120 mm		
Specimen description:	A modular sistem of the different thickness acoustic panels, as shown in picture		
Specimen area:	10,8 m <sup>2</sup>		
Sample erected by:	Laboratory staff		
Specimen mounting:	Type "A" on the room floor		
Facility:	5-angle reverberation room		
Test room volume:	210 m <sup>3</sup>		
Number of diffusing elements:	5		
Area of room boundaries:	215 m <sup>2</sup>		
	Empty	With specimen	
Temperature in the test room:	15 °C	15 °C	
Relative humidity in the test room:	64 %	65 %	
Measurement method:	Applying MLS as specified in the 7.3;		
Decay evaluation range:	20 dB as specified in the 7.4.1;		

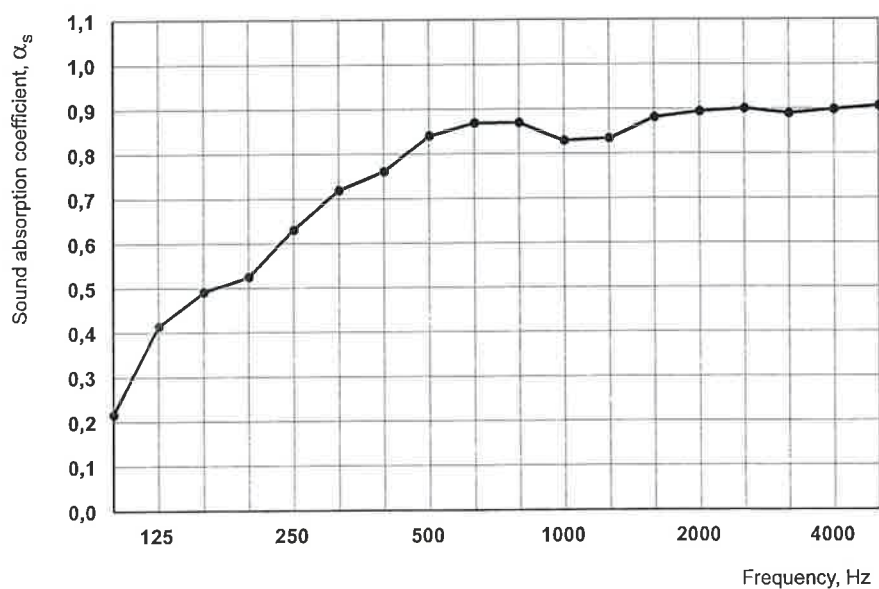





### Measured sound absorbtion coefficient in 1/3 octave bands

1 table

Frequency, Hz	$\alpha_s$ 1/3 oct.
100	0,22
125	0,41
160	0,49
200	0,53
250	0,63
315	0,72
400	0,76
500	0,84
630	0,87
800	0,87
1000	0,83
1250	0,83
1600	0,88
2000	0,89
2500	0,90
3150	0,89
4000	0,90
5000	0,91



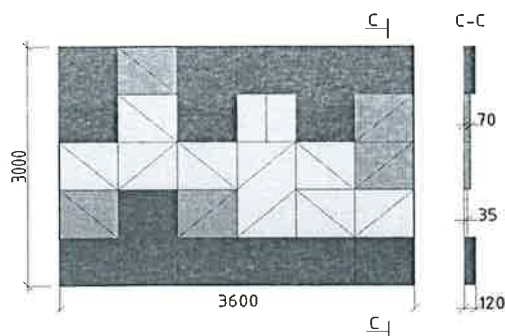
Report file:	AI-A-003_062017.xls		Vilnius Gediminas Technical University Scientific Institute of Thermal Insulation <b>Acoustics Laboratory</b> Linkmenų 28, 08217 Vilnius ph: + 370 (5) 2751145 akustika@vgtu.lt
Report Nr.	AI-A-003/2017	Annex I	
Date:	2017-06-20		
Person in charge to perform the test:		B. Fiks	

Follow-up of Test report № AI-A-003/2017

# SOUND ABSORPTION RATING BY LST EN ISO 11654:1998

Laboratory measurements of the sound absorption in the reverberation room

Manufacturer:	UAB "Ergolain baldai"	Measurements date: 2017-05-19
Client:	UAB "Ergolain projektai"	
Sample identification:	Acoustics panels for wall and ceiling, thickness 35, 70 and 120 mm	
Specimen description:	A modular sistem of the different thickness acoustic panels, as shown in picture	
Specimen area:	10,8 m <sup>2</sup>	
Sample erected by:	Laboratory staff	
Specimen mounting:	Type "A" on the room floor	
Facility:	5-angle reverberation room	
Test room volume:	210 m <sup>3</sup>	
Test room surface area:	215 m <sup>2</sup>	
	Empty	With specimen
Temperature in the test room:	15 °C	15 °C
Relative humidity in the test room:	64 %	65 %
Measurement method:	Applying MLS as specified in the 7.3;	
Decay evaluation range:	20 dB as specified in the 7.4.1;	



## Rating of sound absorption, calculated in accordance with LST EN ISO 11654:1998

Weighted sound absorption coefficient:  $\alpha_w = 0,85$  ()

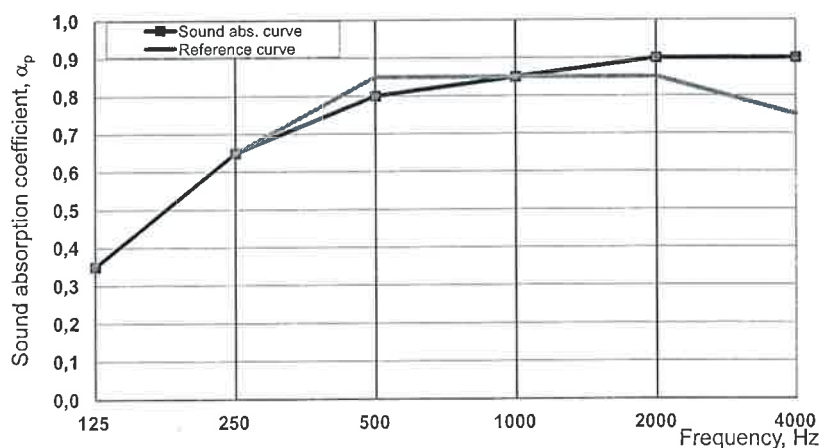
It is strongly recommended to use this single-number rating in combination with the complete sound absorption coefficient curve

Sound absorption class: **B**

## Practical sound absorption coefficient in 1/1 octave bands

2 table

Frequency, Hz	$\alpha_p$
125	0,35
250	0,65
500	0,80
1000	0,85
2000	0,90
4000	0,90



Test fail identification:	AI-A-003_062017.xls	Vilnius Gediminas Technical University
Report Nr.	AI-A-003/2017	Scientific Institute of Thermal Insulation
Date:	2017-06-20	Acoustics Laboratory
Person in charge to perform the test:	B.Fiks	Linkmenų 28, 08217 Vilnius, Lithuania
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End of Test report № AI-A-003/2017