



VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO

**TERMOIZOLIACIJOS MOKSLO INSTITUTAS**

(SCIENTIFIC INSTITUTE OF THERMAL INSULATION  
OF VILNIUS GEDIMINAS TECHNICAL UNIVERSITY)

**Acoustics Laboratory**

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LIETUVOS  
NACIONALINIS  
AKREDITACIJOS  
BIURAS

BANDYMAI

ISO/IEC 17025

Nr. LA. 01.028

**TEST REPORT**

**No AL - A - 001/15**

**21 January 2015**

Valid for the tested object only

Page 1 ( 3 )

- CUSTOMER: JSC "Narbutas Furniture Company", Šeškinės str. 55A, LT-07159, Vilnius, Lithuania.
- MANUFACTURER: JSC "Narbutas Furniture Company", Šeškinės str. 55A, LT-07159, Vilnius, Lithuania.
- PRODUCT: Acoustic panels modular system;
- SAMPLES SELECTED: 22 December 2014. Full information about samples was presented in sampling letter dated 22 December 2014 issued by customer.
- RECEIVING DATE: 22 December 2014. Acoustic panels modular system (06 panels of 1200x1200x70 mm size and 03 panels of 1200x1200x70 mm size) were selected by the client and supply to arrange tested specimen with 10,11 m<sup>2</sup> surface.
- TESTING DATE: From 22 December 2014 till 30 December 2014.
- TESTING LOCATION: 210 m<sup>3</sup> volume reverberation room, Linkmenu 28, Vilnius.
- 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)".
- TESTS RESULTS:

Summary of Test Results for Acoustics panels 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 calculated in 1/1 octave band from 125 to 4000 Hz, $\alpha_p$	LST EN ISO 11654:1998	In Annex 2 table
Weighted sound absorption coefficient, $\alpha_w$	LST EN ISO 11654:1998	0,65 (MH)
Class of the sound absorption	LST EN ISO 11654:1998	C

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



Dr. A.Jagniatinskis

Technically responsible for the tests

Dr. B. Fiks

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

Sound absorption measured in the reverberation room

Manufacturer: UAB "Narbutas Furniture Company"

Client: UAB "Narbutas Furniture Company"

Date of test: 2014/12/22

Sample identification: Wall and Ceiling screen panel

Specimen description: Vertical Wall and Ceiling sound absorbing screen, 40 mm thickness

Specimen area: 10,11 m<sup>2</sup>

Specimen mounting: "Type A" mounting - directly against room surface

Test room volume: 210 m<sup>3</sup>

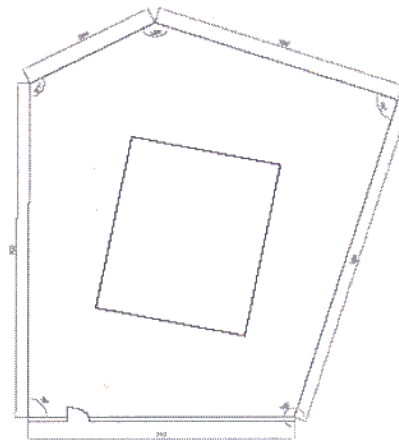
Area of room boundary: 215 m<sup>2</sup>

Temperature of test room:  
Empty with specimen  
11,2 °C , 11,9 °C

Relative humidity (Empty / with specimen):  
Empty with specimen  
54 °C , 56 °C

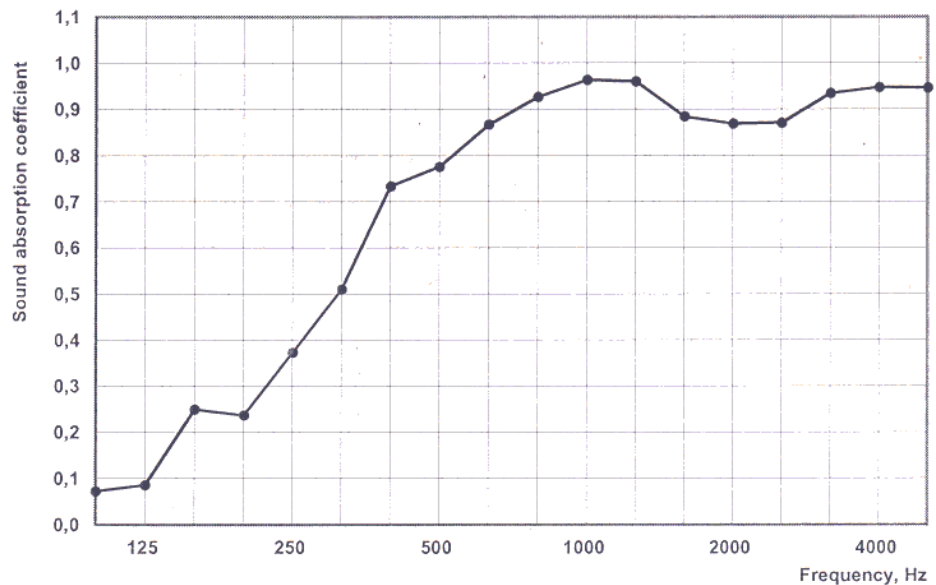
Sound signals: MLS in accordance to p. 7.3;

Decay evaluation range: 20 dB in accordance to p. 7.4.1;



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

Frequency Hz	$\alpha_s$
100	0,07
125	0,09
160	0,25
200	0,24
250	0,37
315	0,51
400	0,73
500	0,78
630	0,87
800	0,93
1000	0,96
1250	0,96
1600	0,88
2000	0,87
2500	0,87
3150	0,93
4000	0,95
5000	0,95



Report file:		Vilnius Gediminas Technical University Scientific Institute of Thermal Insulation Laboratory of Acoustics Linkmenų 28, LT-08217 Vilnius tel: + 370 (5) 2751145 akustika@vgtu.lt
Test Report Nr.	Annex 1	
Date:	2015 01 21	
Person in charge to perform the test	B. Fiks	

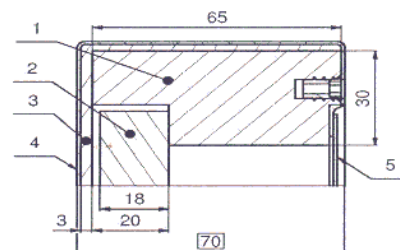
Continue of the Test report Nr. AL-A-001/15

## Sound absorption rating by LST EN ISO 11654:1998

### Laboratory measurements of the sound absorption in the reverberation room

Manufacturer: UAB "Narbutas Furniture Company"      Measurements started: 2014-12-22  
 Client: UAB "Narbutas Furniture Company"  
 Sample erected by: laboratory staff  
 Sample identification: Acoustic panels modular system      Specimen description: Vertical wall and Ceiling sound absorbing panels, 70 mm thickness specification presented on picture

Specimen area: 10,11 m<sup>2</sup>  
 Facility: 5-angle 210 m<sup>3</sup> volume reverberation room  
 Test room surface area: 215 m<sup>2</sup>  
 Temperature in the test room: Empty room 11,2 °C      with the sample 11,9 °C  
 Relative humidity in the test room: 54 %      56 %  
 Test specimen mounted: "Type A" mounting - directly against room surface  
 Reverberation time evaluation interval: 20 dB as specified in the 7.4.1 ;  
 Measurement method: applying MLS as specified in the 7.3;



1. Plywood frame
2. Acoustic fleece M100265
3. Foam 3 mm
4. Fabric
5. Interlining fabric

Reverberation time evaluation interval: 20 dB as specified in the 7.4.1 ;

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

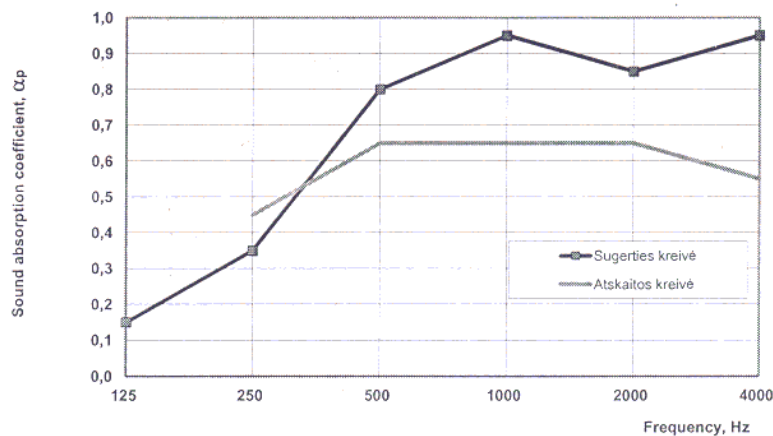
weighted sound absorption coefficient:  $\alpha_w = 0,65$  (MH)

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

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

table 2

Frequency, Hz	$\alpha_p$
125	0,15
250	0,35
500	0,80
1000	0,95
2000	0,85
4000	0,95



Sound absorption class: **C**

Test fail identification: AL-A-001_15_EN.xls	Vilniaus Gedimino Technikos Universitetas Scientific institute of Thermal Insulation <b>Acoustics Laboratory</b> Linkmenų 28, LT-08217 Vilnius, Lithuania ph: + 370 (5) 2751145      akustika@vgtu.lt
Report Nr. AL-A-001/13 Annex 2	
Data: 0	
Operator: <i>[Signature]</i> B.Fiks	

End of the Test report Nr. AL-A-001/15