

Notified Body number: 2018

TEST REPORT No. 152 SŠF/13 A en
Date: 19 of November 2013

Page (pages)

1 (5)

Determination of the airborne sound reduction index

(test name)

Test method: *LST EN ISO 10140-2:2010 Acoustics – Laboratory measurement of sound insulation of building elements. Part 2: Measurements of airborne sound insulation (ISO 10140-2:2010); LST EN ISO 10140-1:2010 Part 1: Application rules for specific products (ISO 10140-1:2010); LST EN ISO 10140-4:2010 Part 4: Measurement procedures and requirements (ISO 10140-4:2010); LST EN ISO 10140-5:2010 Part 5: Requirements for test facilities and equipment (ISO 10140-5:2010).*

(number of normative document or test method, description of test procedure, test uncertainty)

Specimen description: Soundproof door. Dimensions width 890 mm, height 2050 mm. Profiles: frame (laminated pine) – 92×42 mm; leaf – 62 mm thickness: external and internal door leaf from MDF (6 mm) and particle board (10 mm); heat insulation (mineral wool Paroc 30 mm). Sealing: Silicon seal T104/8, Fire seal 2x20 (TP2102020N). Hinges: ABLOY NTR 110-30TSS ZN, Abloy NTR 110-30TSS (PKU, PKE, CR). Lock: ASSA 565.

(identification of the specimen)

Customer: Põltsamaa Uksetehas OÜ, Riia 136a, EE-51014 Tartu, Estonia

(name and address of enterprise)

Manufacturer: Põltsamaa Uksetehas OÜ, Riia 136a, EE-51014 Tartu, Estonia

(name and address of enterprise)

Test result:

Name of quantity, unit	Test method	Test result
Weighted sound reduction index $R_w(C; C_{tr}; C_{100-5000}; C_{tr,100-5000})$, dB	LST EN ISO 717-1:2013*	36 (0;-2; 0;-2;) dB
Note. The testing are carried out in purpose for conformity assessment of the product according to LST EN 14351-:2006+A1:2010 *Flexible scope of accreditation		

Test place: Science Laboratory of Building Thermal Physics, Institute of Architecture and Construction of Kaunas University of Technology

(name of the test laboratory)

Specimen delivery date: 2013-11-19 Test date: 2013-11-19

Sampling: The test specimen sampled by customer. Order description N^o152/13 2013-10-29

Additional information: Application 2013-10-31, drawing

(any deviations, complementary tests, exceptions and any information related with particular test)

Annex: 1 - Measurement results, 2 - Schematic view of the test, 3 - Cross section of the specimen

(the numbers of the annexes should be pointed out)

Technical manager:

(approves the test results)

Tested by:

(technically responsible for testing)

(signature)

(signature)

J. Ramanauskas

(n., surname)

V. Dikavičius

(n., surname)

S. P.

Validity – the named data and results refer exclusively to the tested and described specimens.
Notes on publication – no part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the Science Laboratory of Building Thermal Physics.

Notified Body number: 2018

Science laboratory of building
thermal physics

2 (5)

Installation of the sample and measurement

Sample has been installed into the hole (2100×910 mm) of the dividing wall between two reverberating chambers by workers of the laboratory. The installation of the specimen is described on the drawing in Annex 2. The airborne sound reduction index has been determined by using the precision integrated noise spectra meter, positional microphone and loudspeaker.

Methods and equipment

The airborne sound reduction index R was determined in accordance with requirements of LST EN ISO 10140-1:2010 [1], LST EN ISO 10140-2:2010 [2], LST EN ISO 10140-4:2010 [3], LST EN ISO 10140-5:2010, [4]. Weighted sound reduction index R_w was determined in accordance with requirements LST EN ISO 717-1:2013 [5].

The thickness of the reverberating chamber's walls is 0,25m. The thickness of the covering masonry shell is 0,38m. The dimensions of the floor of sound chamber are 4,9x4,8m, height – 3,5÷3,0m (the coming down by steps ceiling). The dimensions of the floor of the sound receiving chamber are 4,8x4,3m, height – 3,5÷3,0m (the coming down by steps ceiling). The chamber's volumes are 80 and 68,56m³.

Equipment of the measurement:

Microphone L&D (Larson & Davis) 2560 Nr.2572; Initial microphone amplifier L&D, PRM 900C Nr.3782; Precision integrated noise spectra meter and noise generator L&D, 2800 B Nr.0527; Microphone LD Nr.2546, Initial microphone amplifier PRM900C Nr.3777 calibration certificate VMC Nr.794567 AV 3.3-00-807, 2011-03-07; Calibrator of sound level LD CAL200 Nr.0712 calibration certificate VMC Nr.794566 AV 3.3-00-806, 2011-03-07

Loudspeaker	made to order
Power amplifier	made to order
Microphone positioning system	made to order
Relative humidity and temperature sensor	Testo 615, No. 3070000244Gb
Static pressure	Barometer Aneroider No. 1685

- Sources:**
- [1] *LST EN ISO 10140-1:2010 Acoustics. Measurement of sound insulation in buildings and of building elements. Part 1: Application rules for specific products (ISO 10140-1:2010).*
 - [2] *LST EN ISO 10140-2:2010 Acoustics. Measurement of sound insulation in buildings and of building elements. Part 2: Measurement of airborne sound insulation (ISO 10140-2:2010).*
 - [3] *LST EN ISO 10140-4:2010 Acoustics. Measurement of sound insulation in buildings and of building elements. Part 4: Measurement procedures and requirements (ISO 10140-4:2010).*
 - [4] *LST EN ISO 10140-5:2010 Acoustics. Measurement of sound insulation in buildings and of building elements. Part 5: Requirements for test facilities and equipment (ISO 10140-5:2010).*
 - [5] *LST EN ISO 717-1:2013 Acoustics- Rating of sound insulation in buildings and of building elements. Part 1. Airborne sound insulation (ISO 717-1:2013).*
 - [6] *LST EN 14351-1:2006+A1:2010 Windows and doors – Product standard, performance characteristics*

Distribution:	Customer	Original
	ASI, SŠFM laboratory	Original

Contact person: Vidmantas Dikavičius, tel. +370 37 350799

Validity – the named data and results refer exclusively to the tested and described specimens. Notes on publication – no part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the Science Laboratory of Building Thermal Physics.

Notified Body number: 2018

TEST REPORT No. 152 SŠF/13 A en

Date: 19 of November 2013

Annex 1 - Measurement results

Sound reduction index, R , in accordance with ISO 10140-2

(test name)

Test method: LST EN ISO 10140-1:2010, LST EN ISO 10140-2:2010, LST EN ISO 10140-4:2010, LST EN ISO 10140-5:2010

(number of normative document or test method, description of test procedure, test uncertainty)

Manufacturer: Põltsamaa Uksetehas OÜ, Riia 136a, EE-51014 Tartu, Estonia

(name and address of enterprise)

Client: Põltsamaa Uksetehas OÜ, Riia 136a, EE-51014 Tartu, Estonia

(name and address of enterprise)

Product identification: Soundproof door

(identification of the product)

Test element mounted by: Laboratory person

Description of test facility, test element and test arrangement, including reference to ISO 10140-2:2010, where applicable:

Test room identification: horizontal **Relative humidity in the test rooms:** 50,0 %

Area, S , of the test element: 1,91 m² **Static pressure:** 0,101 MPa

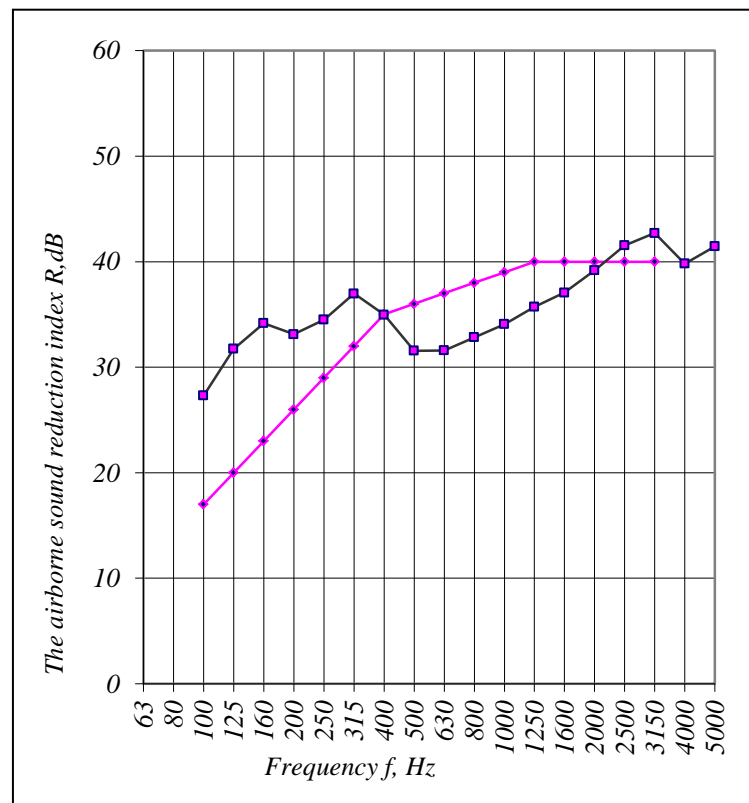
Air temperature in the test rooms: 18,0 °C **Receiving room volume:** 68,56 m³

Test date: 2013-11-19

Science Laboratory of Building Thermal Physics, Institute of

Name of test institute: Architecture and Construction of Kaunas University of Technology

Frequency f , Hz	R , dB 1/3 octave
50	
63	
80	
100	27,3
125	31,7
160	34,2
200	33,1
250	34,5
315	37,0
400	35,0
500	31,6
630	31,6
800	32,8
1000	34,1
1250	35,7
1600	37,1
2000	39,2
2500	41,5
3150	42,7
4000	39,8
5000	41,4



Rating in accordance with LST EN ISO 717-1:2013

$R'_w(C; C_{tr}) = 36 (0; -2)$ dB; $C_{50-3150} =$ dB; $C_{tr,50-5000} =$ dB; $C_{100-5000} = 0$ dB; $C_{tr,100-5000} = -2$ dB

Tested by:

V. Dikavičius

(technically responsible for testing)

(n., surname)

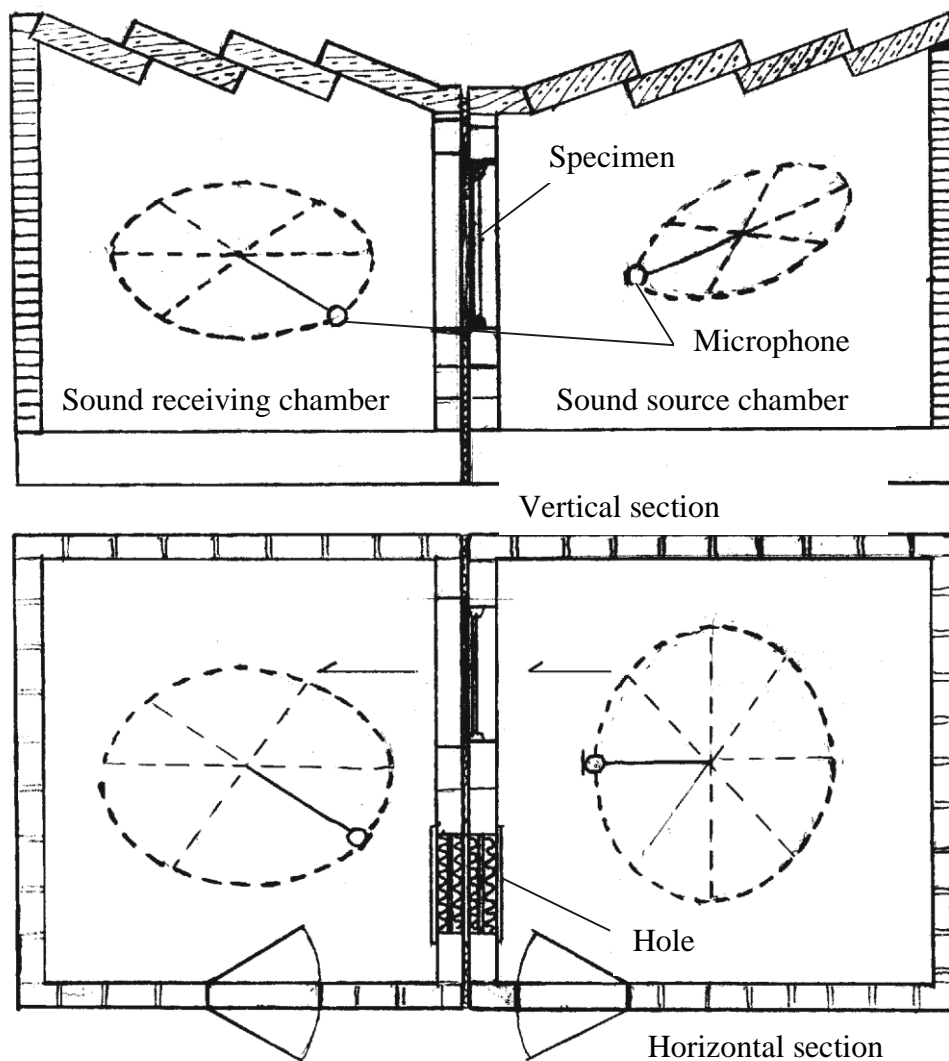
(signature)

Validity – the named data and results refer exclusively to the tested and described specimens.

Notes on publication – no part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the Science Laboratory of Building Thermal Physics.

2 Annex. Schematic view of the test

Reverberating chambers



Validity – the named data and results refer exclusively to the tested and described specimens.
Notes on publication – no part of this document may be photocopied, reproduced or translated to another language
without the prior written consent of the Science Laboratory of Building Thermal Physics.

3 Annex. Cross section of the specimen

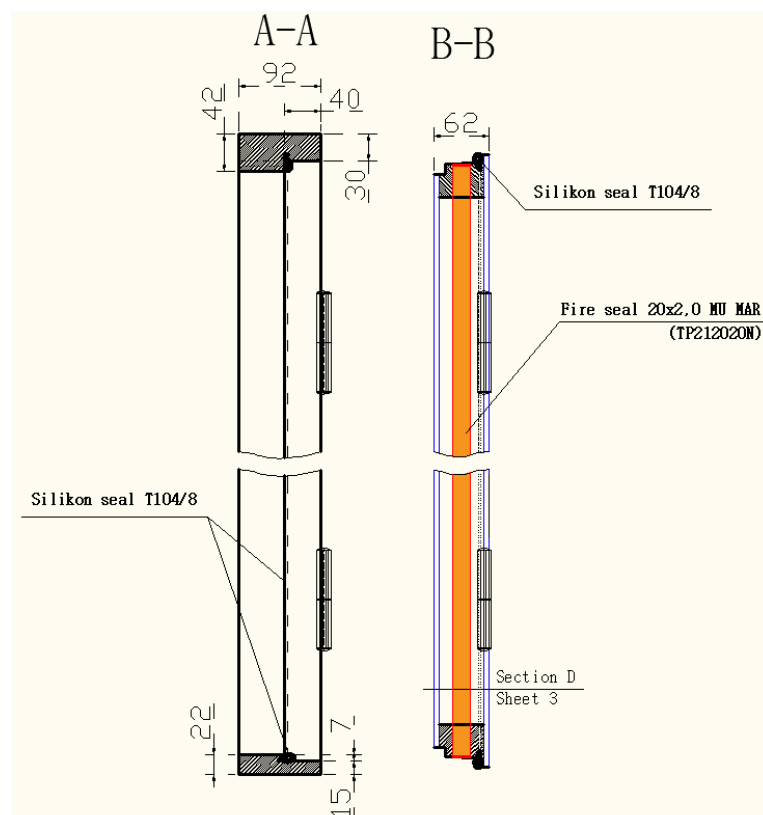
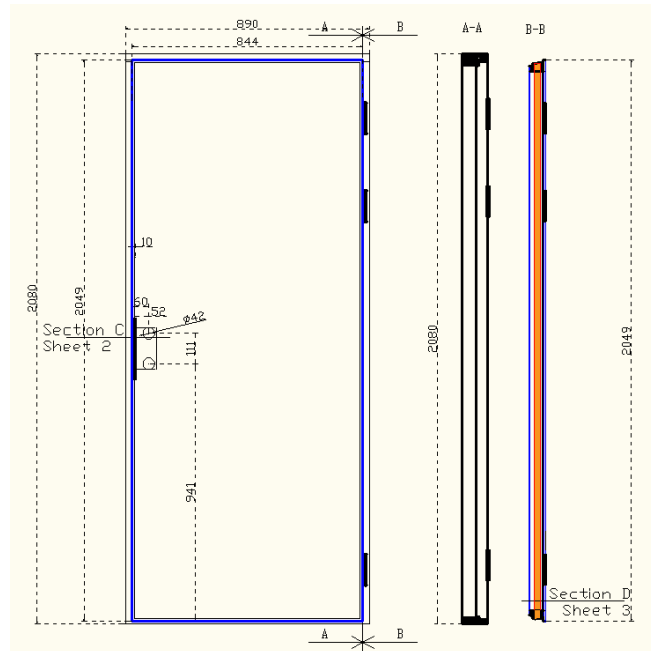


Fig 1. Cross section of door (information submitted to the customer)

Validity – the named data and results refer exclusively to the tested and described specimens.
Notes on publication – no part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the Science Laboratory of Building Thermal Physics.